

作りましょう 0.11

パラメタ方式フォントファミリ  
校とプリティプリントのソース

Tsukurimashou 0.11

Parametric Font Family  
Proofs and pretty-printed  
source code

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Proofs and pretty-printed source code for Tsukurimashou  
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## Volume III

### Other shared kanji

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**BOTT**

leftrad.mp

**LEFT**

radical.mp

**RADI**

righttrad.mp

**RIGH**

toprad.mp

**TOPR**

gradeeight.mp

**EIGH**

gradenine.mp

**NINE**

gradeten.mp

**TEN**

rare.mp

**RARE**



## bottomrad.mp

BOTT

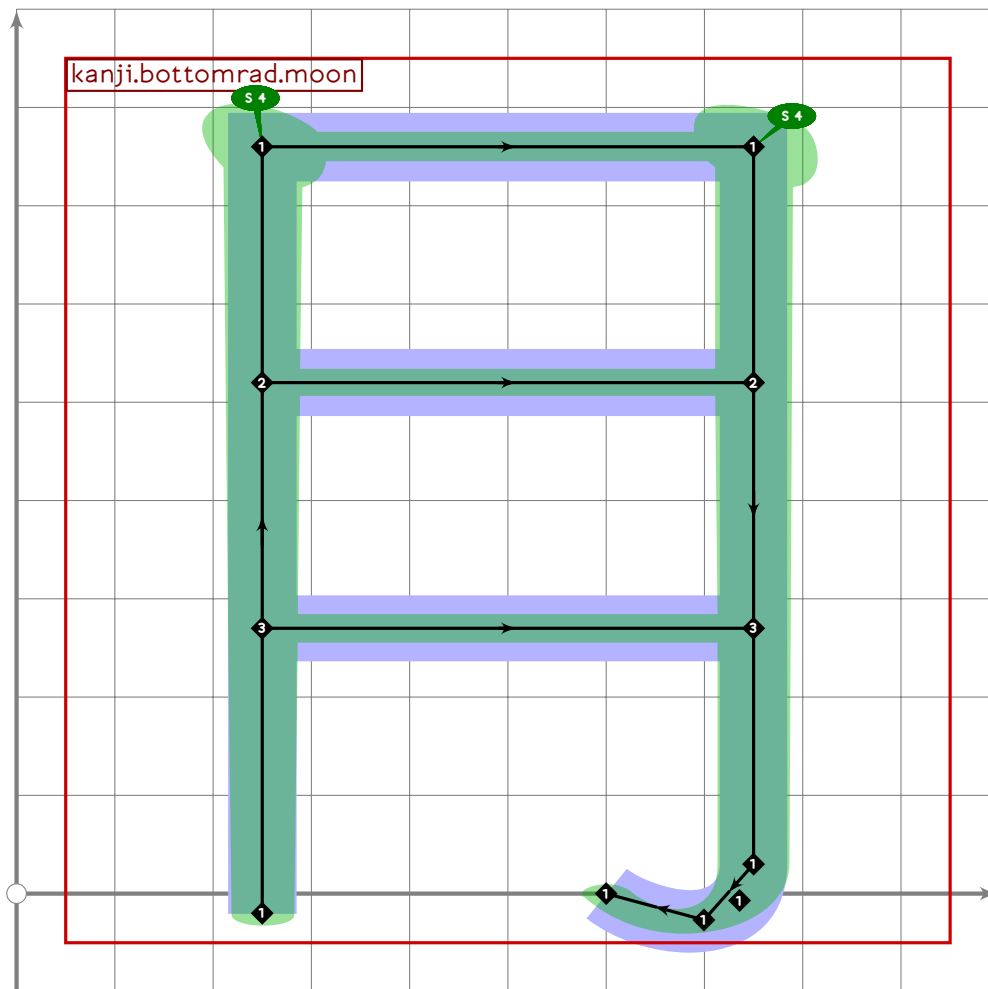
```
1 %
2 % Radicals for bottom (often special forms of other radicals)
3 % Copyright (C) 2011, 2012, 2013, 2016, 2017, 2021 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(bottomrad);
32
33
34
35 vardef kanji.bottomrad.clothes =
36   push_pbox_toexpand("kanji.bottomrad.clothes");
37   push_stroke((470,810)..tension 1.2..(340,650)..(80,510),
38     (1.7,1.7)-(1.5,1.5)-(1,1));
39   push_stroke((point 1 of get_stroke(0))-
40     (xpart point 1 of get_stroke(0),0),
41     (1.5,1.5)-(14,14));
42   push_stroke((510,80)..tension 1.2..(point 1 of get_stroke(0)).(130,-40),
43     (1,1)-(14,14)-(18,18));
44   push_stroke((540,810)..tension 1.2..(700,240)..(890,0),
45     (1,1)-(14,14)-(1.7,1.7));
46   push_stroke((820,540)..tension 1.2..(720,460)..
47     (point 0.69 of get_stroke(0)),
48     (1.7,1.7)-(14,14)-(1.2,1.2));
49   expand_pbox;
50 enddef;
51
52 vardef kanji.bottomrad.four_ticks =
53   push_pbox_toexpand("kanji.bottomrad.four_ticks");
54   push_stroke((210,750)..tension 1.2..(160,250)..(100,-30),
55     (1,1)-(1.3,1.3)-(18,18));
56   push_stroke((350,700)..tension 1.2..(390,300)..(400,-50),
57     (1,1,1)-(14,14)-(19,19));
58   push_stroke((540,750)..tension 1.2..(610,320)..(630,-40),
59     (1,1,1)-(14,14)-(19,19));
60   push_stroke((740,800)..tension 1.2..(850,360)..(890,-20),
61     (1,1,1)-(14,14)-(19,19));
62   expand_pbox;
63 enddef;
64
65 vardef kanji.bottomrad.heart =
66   push_pbox_toexpand("kanji.bottomrad.heart");
67   perl_structure:=perl_structure&"eids.softhead.u5FC3";
68   tsu_xform(identity shifted (-100,0))
69     (push_stroke((450,670),(1.6,1.6));
70     build_kanji.add_ltail(0));
```

```

71  set_boserif(0,0,10);
72  push_stroke((210,540)..tension 1.2..(130,280)..(60,150),
73    (1,1)–(1.5,1.5)–(1.8,1.8));
74  push_stroke((500,720)..tension 1.2..(570,520)..(600,270),
75    (1,1)–(1.3,1.3)–(1.6,1.6));
76  push_stroke((790,540)..tension 1.2..(880,310)..(930,130),
77    (1,1)–(1.5,1.5)–(1.8,1.8));
78  expand_pbox;
79 enddef;
80
81 vardef kanji.bottomrad.job =
82   push_pbox_toexpand("kanji.bottomrad.job");
83   push_stroke((170,-40)–(170,860)–(830,860),
84     (1.5,1.5)–(1.6,1.6)–(1.6,1.6));
85   build_kanji.add_jtail(0);
86   set_botip(0,1);
87   set_botip(0,2,1);
88   set_boserif(0,1,4);
89   set_boserif(0,2,4);
90   push_stroke((500,860)–(500,-10),(1.6,1.6)–(1.5,1.5));
91   push_stroke((170,610)–(830,610),(1.5,1.5)–(1.5,1.5));
92   push_stroke((170,350)–(830,350),(1.5,1.5)–(1.5,1.5));
93   expand_pbox;
94 enddef;
95
96 vardef kanji.bottomrad.long_kimono =
97   push_pbox_toexpand("kanji.bottomrad.long_kimono");
98   build_kanji.box((210,760),(790,540));
99   push_stroke((440,540)..tension 1.2..(330,300)..(110,80),
100     (1.6,1.6)–(1.4,1.4)–(1,1));
101   push_stroke((500,540)–(500,-20),(1.6,1.6)–(1.5,1.5));
102   push_stroke((500,380)..tension 1.2..(710,220)..(800,100),
103     (0,0,9)–(1.5,1.5)–(1,1,9));
104   push_stroke(
105     (810,410)..tension 1.2..(750,340)..(point 0.8 of get_strokep(0)),
106     (1.7,1.7)–(1.2,1.2)–(0,0,9));
107   expand_pbox;
108 enddef;

```





```

109
110 vardef kanji.bottomrad.moon =
111   push_pbox_toexpand("kanji.bottomrad.moon");
112   push_stroke((250,20)..{up}(250,760)–(750,760),
113     (1,4,1,4)–(1,6,1,6)–(1,6,1,6));
114   build_kanji.add_jtail(0);
115   set_botip(0,1,1);
116   set_botip(0,2,1);
117   set_boserif(0,1,4);
118   set_boserif(0,2,4);
119   push_stroke((250,520)–(750,520),
120     (1,5,1,5)–(1,5,1,5));
121   push_stroke((250,270)–(750,270),
122     (1,5,1,5)–(1,5,1,5));
123   expand_pbox;
124 enddef;
125
126 vardef kanji.bottomrad.shoe_sole =
127   push_pbox_toexpand("kanji.bottomrad.shoe_sole");
128   kanji.radical.wrapping;
129   expand_pbox;

```

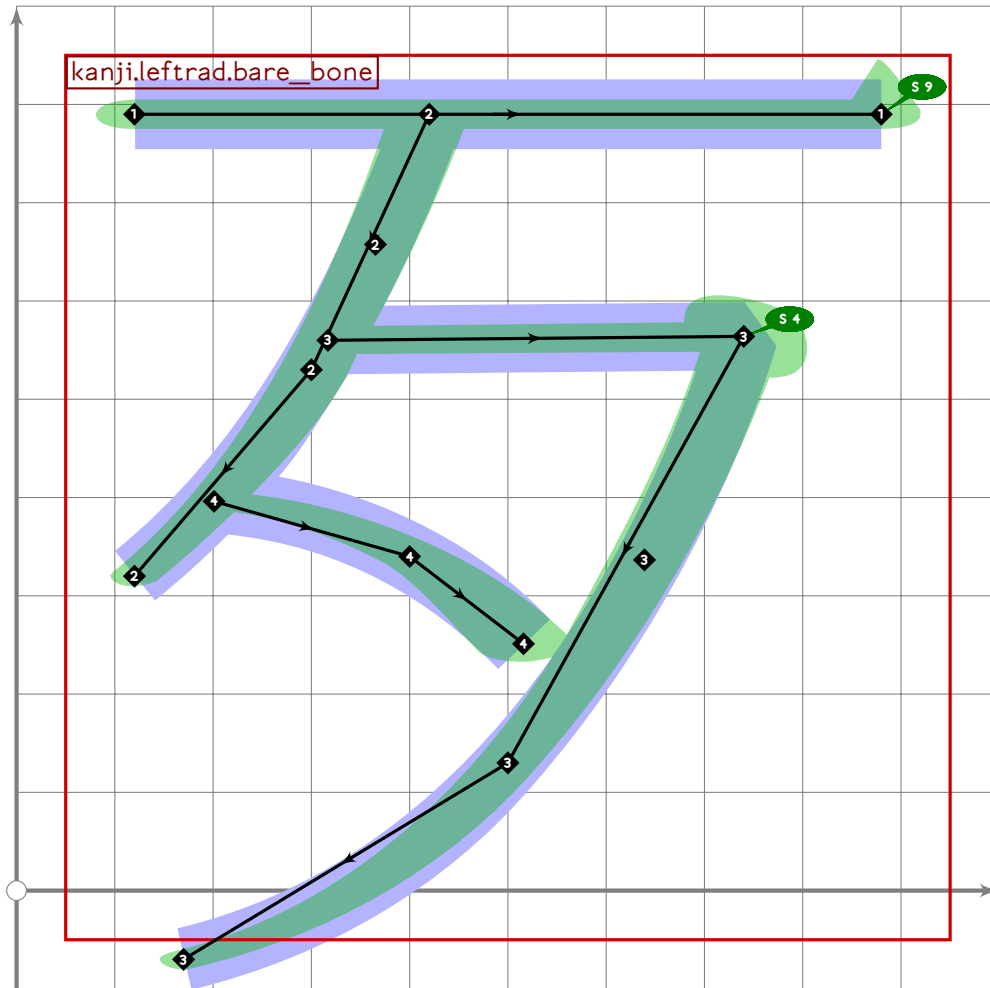
```
130 endif;
131
132 % CHISE calls this CDP-8C6C, it's part of U+5547, needed for U+9069
133 vardef kanji.bottomrad.stalk =
134   push_pbox_toexpand("kanji.bottomrad.stalk");
135   perl_structure:=perl_structure&"eids.u2FF5._1.1_";
136   kanji.radical.gmm;
137   build_kanji.sscale(xyscaled (0.65,0.82))(kanji.grtwo.old);
138   expand_pbox;
139 endif;
```

# leftrad.mp

LEFT

```
1 %
2 % Radicals for left side (often special forms of other radicals)
3 % Copyright (C) 2011, 2012, 2013, 2016, 2017, 2018, 2021 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(leftrad);
32
33
34
35 vardef kanji.leftrad.alt_person =
36   push_pbox_toexpand("kanji.leftrad.alt_person");
37   push_stroke((510,780)..(450,400)..(300,100)..(20,-90),
38     (1.6,1.6)-(1.5,1.5)-(1.3,1.3)-(0.85,0.85));
39   set_boserif(0,0,10);
40   push_stroke(
41     (point 0.8 of get_strokep(0))..tension 1.2..(640,340)..(860,40),
42     (1.2,1.2)-(1.4,1.4)-(1.6,1.6));
43   expand_pbox;
44 enddef;
45
46 vardef kanji.leftrad.arrow =
47   push_pbox_toexpand("kanji.leftrad.arrow");
48   kanji.grtwo.arrow;
49   replace_strokep(0)((point 1.6 of get_strokep(-1))..(690,200)..(850,80));
50   replace_strokeq(0)((0,0,9)-(1.5,1.5)-(1.8,1.8));
51   expand_pbox;
52 enddef;
```

LEFT



```

53
54 vardef kanji.leftrad.bare_bone =
55   push_pbox_toexpand("kanji.leftrad.bare_bone");
56   push_stroke((120,790)–(880,790),(1.6,1.6)–(1.6,1.6));
57   set_boserif(0,19);
58   push_stroke((420,790)..tension 1.2..(300,530)..(120,320),
59     (1.6,1.6)–(1.5,1.5)–(1.2,1.2));
60   push_stroke(
61     (get_stroke(0) intersectionpoint ((-infinity,560)–(infinity,560)))–
62     (740,564)..tension 1.2..(500,130)..(170,70),
63     (1.5,1.5)–(1.6,1.6)–(1.4,1.4)–(1.2,1.2));
64   set_botip(0,1,0);
65   set_boserif(0,14);
66   push_stroke(
67     (point 1.6 of get_stroke(-1))..(400,340)..(point 1.8 of get_stroke(0)),
68     (1.2,1.2)–(1.4,1.4)–(1.8,1.8));
69   replace_stroke(0)(subpath (0,1.7) of oldp);
70   expand_pbox;
71 enddef;
72
73 vardef kanji.leftrad.big =

```

```

74  push_pbox_toexpand("kanji.leftrad.big");
75  push_stroke((90,500)-(910,500),
76    (1.6,1.6)-(1.6,1.6));
77  set_boserif(0,19);
78  push_stroke((510,780){down}{(370,200){curl 0.5}{50;-20},
79    (1.6,1.6)-(14,14)-(11,11));
80  push_stroke(((60,60)+point 0.6 of get_stroke(0)).tension 11..
81    (750,190)..(860,0),
82    (0,1)-(1.3,1.3)-(1.8,1.8));
83  expand_pbox;
84  endif;
85
86  vardef kanji.leftrad.boat =
87    push_pbox_toexpand("kanji.leftrad.boat");
88    push_stroke((560,850)..tension 1.2..(500,750)..(450,700),
89      (1.6,1.6)-(14,14)-(1.2,1.2));
90    set_boserif(0,0,10);
91    push_stroke(
92      (150,0)..(260,200){dir 89.5}{(300,700)-(730,700),
93      (1.5,1.5)-(1.6,1.6)-(1.7,1.7)-(1.7,1.7));
94    build_kanji.add_jtail(0);
95    set_botip(0,2,1);
96    set_botip(0,3,0);
97    set_boserif(0,2,4);
98    set_boserif(0,3,4);
99    push_stroke((410,610)..tension 1.2..(520,540)..(560,480),
100      (1,1,1)-(14,14)-(1.7,1.7));
101    set_bosize(0,90);
102    push_stroke((110,350)..tension 1.2..(500,380)..(890,440),
103      (1.6,1.6)-(1.5,1.5)-(1,1,1));
104    push_stroke((500,300)-(500,100),
105      (1.6,1.6)-(14,14));
106    set_boserif(0,0,10);
107    set_bosize(0,90);
108    expand_pbox;
109  endif;
110
111  vardef kanji.leftrad.clothes =
112    push_pbox_toexpand("kanji.leftrad.clothes");
113    kanji.leftrad.showing;
114    push_stroke((830,400)..tension 1.2..(750,320)..(650,300),
115      (1.6,1.6)-(14,14)-(1,1));
116    set_boserif(0,0,10);
117    expand_pbox;
118  endif;
119
120  vardef kanji.leftrad.day =
121    push_pbox_toexpand("kanji.leftrad.day");

```

```

122 tsu_xform(identity shifted (0;-600) yscaled 0.62 shifted (0,600))
123   (kanji.grone.day);
124   expand_pbox;
125 enddef;
126
127 vardef kanji.leftrad.earth =
128   push_pbox_toexpand("kanji.leftrad.earth");
129   build_kanji.sscale(yscaled 0.9)
130     (build_kanji.lift_skirt(370,150+30*mincho)(kanji.grone.earth));
131   expand_pbox;
132 enddef;
133
134 vardef kanji.leftrad.eat =
135   push_pbox_toexpand("kanji.leftrad.eat");
136   kanji.grtwo.eat;
137   pop_stroke;
138   replace_strokep(-6)(subpath(0,1.75) of oldp);
139   replace_strokep(-1)
140     ((130;20)..tension 1.2..(point 0 of get_strokep(-4))..(720,80));
141   replace_strokep(0)((650,170)..tension 1.3..(720,80)..(770,-20));
142   replace_strokeq(0)((1,1)-(1.5,1.5)-(1.8,1.8));
143   expand_pbox;
144 enddef;
145
146 vardef kanji.leftrad.fire =
147   push_pbox_toexpand("kanji.leftrad.fire");
148   kanji.grone.person;
149   pop_stroke;
150   push_stroke((510,270)..tension 1.2..(750,180)..(900,60),
151     (0.9,0.9)-(1.3,1.3)-(1.8,1.8));
152   push_stroke((360,600)..(270,480)..(140,360),
153     (0.9,0.9)-(1.3,1.3)-(1.8,1.8));
154   push_stroke((860,640)..(790,550)..(680,440),
155     (1.6,1.6)-(1.4,1.4)-(1.2,1.2));
156   expand_pbox;
157 enddef;
158
159 vardef kanji.leftrad.foot =
160   push_pbox_toexpand("kanji.leftrad.foot");
161   build_kanji.box((210,730),(790,460));
162   push_stroke((500,460)-(500,40),(1.6,1.6)-(1.5,1.5));
163   push_stroke((500,250)-(850,250),(1.5,1.5)-(1.6,1.6));
164   set_boserif(0,1.9);
165   push_stroke((220,310)-(220,20),(1.6,1.6)-(1.5,1.5));
166   set_boserif(0,0,10);
167   push_stroke((100,0)..tension 1.2..(500,40)..(900,100),
168     (1.7,1.7)-(1.5,1.5)-(1,1));
169   expand_pbox;

```

```

170 enddef;
171
172 vardef kanji.leftrad.gold =
173   push_pbox_toexpand("kanji.leftrad.gold");
174   build_kanji.lift_skirt(250,120)(kanji.grone.gold);
175   replace_strokep(-6)(subpath (0,17) of oldp);
176   expand_pbox;
177 enddef;
178
179 vardef kanji.leftrad.hand =
180   push_pbox_toexpand("kanji.leftrad.hand");
181   build_kanji.sscale(xscaled 1.5)
182     (push_stroke((500,810),(1.6,1.6));
183     build_kanji.add_jtail(0);
184     set_boserif(0,0,10));
185   push_stroke((100,580)-(900,580),(1.6,1.6)-(1.6,1.6));
186   set_boserif(0,19);
187   push_stroke((120,280)..tension 1.2..(500,330)..(910,420),
188     (1.8,1.8)-(1.5,1.5)-(1.1,1.1));
189   expand_pbox;
190 enddef;
191
192 vardef kanji.leftrad.heap_big =
193   push_pbox_toexpand("kanji.leftrad.heap_big");
194   build_kanji.sscale(scaled 0.88)
195     (kanji.grthree.heap_big;
196     replace_strokep(0)(get_strokep(-6));
197     replace_strokep(0)
198       (get_strokep(-1) shifted ((point 1 of oldp)-(point 0 of oldp))
199       shifted (-500,0) xscaled 1.1 shifted (500,0));
200     replace_strokeq(0)(reverse get_strokeq(-1));
201     set_boserif(0,1,whatever));
202   expand_pbox;
203 enddef;
204
205 vardef kanji.leftrad.heart =
206   push_pbox_toexpand("kanji.leftrad.heart");
207   kanji.radical.vline;
208   push_stroke((320,630)..tension 1.2..(210,470)..(60,380),
209     (1,1)-(1.4,1.4)-(1.7,1.7));
210   push_stroke((660,660)..tension 1.2..(840,530)..(890,470),
211     (1,1)-(1.5,1.5)-(1.8,1.8));
212   expand_pbox;
213 enddef;
214
215 vardef kanji.leftrad.husband =
216   push_pbox_toexpand("kanji.leftrad.husband");
217   kanji.grfour.husband;

```

LEFT

```

218 pop_stroke;
219 push_stroke(((get_stroke(-1) intersectionpoint get_stroke(0))+(0,-40))..
220 (720,170)..(870,30),
221 (1,1,1)-(1,4,1,4)-(1,7,1,7));
222 expand_pbox;
223 enddef;
224
225 vardef kanji.leftrad.ice =
226 push_pbox_toexpand("kanji.leftrad.ice");
227 push_stroke((450,790)..tension 1.2..(600,730)..(750,650),
228 (1,1)-(1,3,1,3)-(1,9,1,9));
229 push_stroke(
230 interpath(mincho,
231 (880,350)..(810,270)..(750,210)..(600,90)..(450,0),
232 (880,480)..tension 1.2..(630,300)..{dir 180}(360,240){dir 350}..
233 (500,130)..{curl 0}(550,-20)),
234 interpath(mincho,
235 (1,4,1,4)-(1,4,5,1,4,5)-(1,5,1,5)-(1,6,1,6)-(1,7,1,7),
236 (0,8,0,8)-(1,2,1,2)-(2,1,2,1)-(1,2,1,2)-(1,9,1,9)));
237 expand_pbox;
238 enddef;
239
240 vardef kanji.leftrad.king =
241 push_pbox_toexpand("kanji.leftrad.king");
242 build_kanji.sscale(yscaled 0.9)
243 (build_kanji.lift_skirt(370,150+30*mincho)(kanji.grone.king));
244 expand_pbox;
245 enddef;
246
247 vardef kanji.leftrad.large_day =
248 push_pbox_toexpand("kanji.leftrad.large_day");
249 tsu_xform(identity shifted (0,-600) yscaled 0.75 shifted (0,600))
250 (kanji.grone.day);
251 expand_pbox;
252 enddef;
253
254 vardef kanji.leftrad.long_hair =
255 push_pbox_toexpand("kanji.leftrad.long_hair");
256 build_kanji.level(
257 kanji.grtwo.long;
258 pop_stroke;pop_stroke;pop_stroke;
259 replace_stroke(-3)((300,320)-(300,770)-(800,770));
260 build_kanji.sscale(xyscaled (0,9,0,38) shifted (0,-240))
261 (kanji.radical.mu));
262 expand_pbox;
263 enddef;
264
265 vardef kanji.leftrad.morning =

```



```

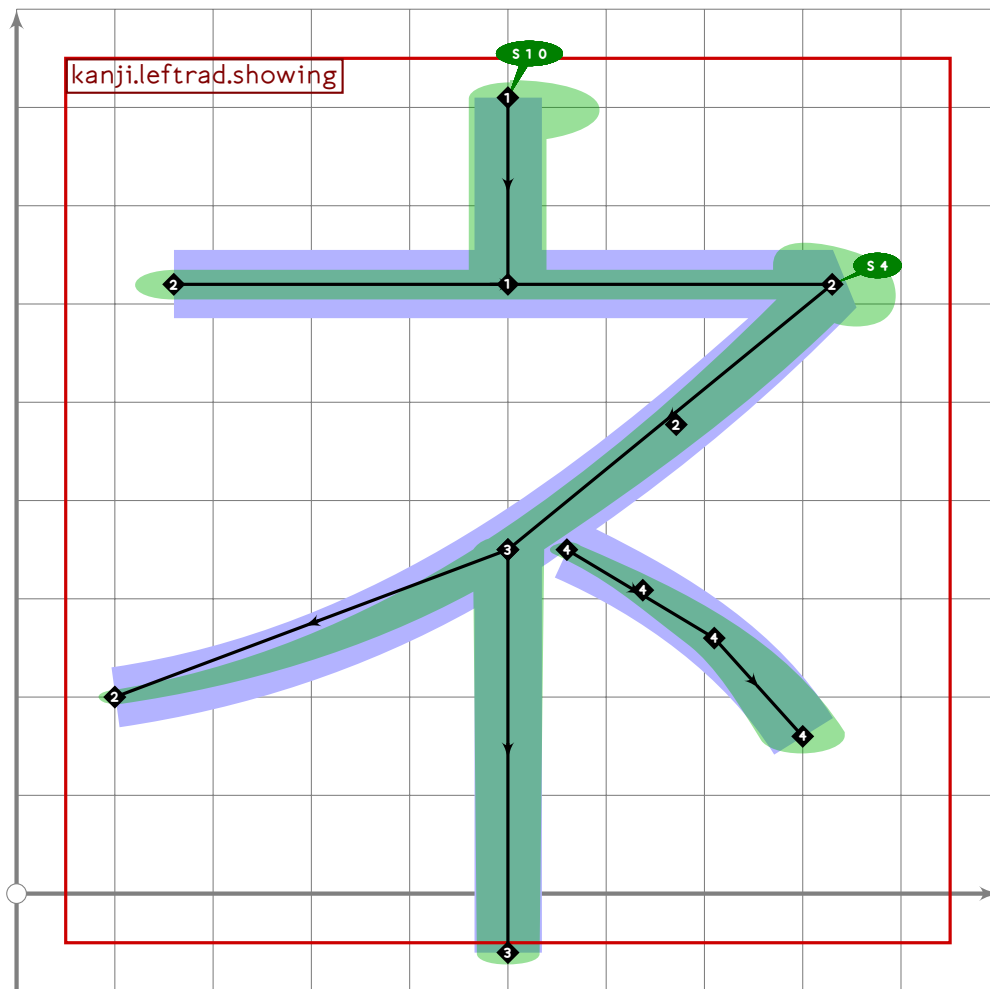
266 push_pbox_toexpand("kanji.leftrad.morning");
267 build_kanji.tb(280,40)
268   (build_kanji.tb(460,50)
269     (kanji.grone.ten)
270     (kanji.grone.day))
271   (build_kanji.sscale(xscaled 1.1)
272     (kanji.grone.ten;
273       set_boserif(-1,0,whatever)));
274 expand_pbox;
275 enddef;
276
277 vardef kanji.leftrad.mouth =
278   push_pbox_toexpand("kanji.leftrad.mouth");
279   build_kanji.box((200,700),(800,230));
280   replace_strokep(-1)((subpath (0,2) of oldp)-(0,40)+point 3 of oldp));
281   expand_pbox;
282 enddef;
283
284 vardef kanji.leftrad.person =
285   push_pbox_toexpand("kanji.leftrad.person");
286   push_stroke((900,800)..(500,520)..(0,330),
287     (1.6,1.6)-(14,14)-(0.8,0.8));
288   set_bosize(0,115);
289   set_boserif(0,0,10);
290   push_stroke(
291     (point 0.7 of get_strokep(0))..(xpart point 0.7 of get_strokep(0),-40),
292     (1.6,1.6)-(14,14));
293   set_bosize(0,115);
294   expand_pbox;
295 enddef;
296
297 vardef kanji.leftrad.request =
298   push_pbox_toexpand("kanji.leftrad.request");
299   kanji.grfour.request;
300   replace_strokep(-2)(oldp shifted (-750,-400) scaled 0.5 shifted (760,470));
301   replace_strokep(-3)((610,370)..tension 1.2..(730,270)..(850,110));
302   expand_pbox;
303 enddef;
304
305 vardef kanji.leftrad.rice =
306   push_pbox_toexpand("kanji.leftrad.rice");
307   build_kanji.level(build_kanji.tb(540,220)
308     (build_kanji.spread_legs(-200)(kanji.toprad.sparkle_two))
309     (build_kanji.lift_skirt(450,60)(kanji.leftrad.wood)));
310   replace_strokep(-3)((500,820)-(500,-30));
311   replace_strokeq(-3)((1.6,1.6)-(14,14));
312   expand_pbox;
313 enddef;

```

```

314
315 vardef kanji.leftrad.sentence =
316   push_pbox_toexpand("kanji.leftrad.sentence");
317   build_kanji.level(build_kanji.tb(580,30)
318     (kanji.radical.kettle_lid)
319     (kanji.radical.cut_the_grass;
320       replace_stroke(-1)
321         (oldp shifted (0,-400) yscaled 0.7 shifted (0,400))));
322   expand_pbox;
323 enddef;
324
325 vardef kanji.leftrad.seal =
326   push_pbox_toexpand("kanji.leftrad.seal");
327   push_stroke((770,810)..tension 1.2..(550,740)..(250,700),
328     (1,8,1,8)-(1,5,1,5)-(1,1));
329   push_stroke((250,730)-(250,0),
330     (1,6,1,6)-(1,5,1,5));
331   set_boserif(0,0,10);
332   push_stroke((250,440)-(800,440),(1,55,1,55)-(1,55,1,55));
333   set_boserif(0,1,9);
334   push_stroke((250,80)-(800,80),(1,5,1,5)-(1,5,1,5));
335   set_boserif(0,1,9);
336   expand_pbox;
337 enddef;
338
339 vardef kanji.leftrad.seven =
340   push_pbox_toexpand("kanji.leftrad.seven");
341   build_kanji.sscale(shifted (0,-300) yscaled 0.7 shifted (0,300))
342     (kanji.grone.seven);
343   set_boserif(-1,3,whatever);
344   expand_pbox;
345 enddef;

```



LEFT

```

346
347 vardef kanji.leftrad.showing =
348   push_pbox_toexpand("kanji.leftrad.showing");
349   push_stroke((500,810)-(500,620),(1.6,1.6)-(1.57,1.57));
350   set_boserif(0,0,10);
351   push_stroke((160,620)-(830,620)..tension 1.2..
352     (500,350)..(100,200),
353     (1.6,1.6)-(1.6,1.6)-(1.4,1.4)-(1,1));
354   set_botip(0,1,0);
355   set_boserif(0,1,4);
356   push_stroke((500,350)-(500,-60),(1.5,1.5)-(1.4,1.4));
357   push_stroke((560,350)..tension 1.2..(710,260)..(800,160),
358     (1,1)-(1.4,1.4)-(1.7,1.7));
359   expand_pbox;
360 enddef;
361
362 vardef kanji.leftrad.two_branch_tree =
363   push_pbox_toexpand("kanji.leftrad.two_branch_tree");
364   tsu_xform(identity shifted (0,-50))
365     (build_kanji.add_beret(kanji.leftrad.wood));
366   expand_pbox;

```

```

367 enddef;
368
369 vardef kanji.leftrad.water =
370   push_pbox_toexpand("kanji.leftrad.water");
371   kanji.leftrad.ice;
372   push_stroke((230,590)..tension 1.2..(390,530)..(540,450),
373     (1,1)–(1.3,1.3)–(1.9,1.9));
374   expand_pbox;
375 enddef;
376
377 vardef kanji.leftrad.woman =
378   push_pbox_toexpand("kanji.leftrad.woman");
379   perl_structure:=perl_structure&"eids.softhead.u5973";
380   push_stroke((100,580)–(800,580){curl 0}..(550,170)..{curl 0.3}(80,-40),
381     (1.6,1.6)–(1.6,1.6)–(1.4,1.4)–(0.94,0.94));
382   set_botip(0,1,0);
383   set_boserif(0,1,4);
384   push_stroke((450,830)..(310,510)..(140,220),
385     (1.6,1.6)–(1.6,1.6)–(1.6,1.6));
386   set_boserif(0,0,10);
387   push_stroke((point 1.75 of get_strokep(0))..(530,200)..(840,60),
388     (0.85,0.85)–(1.5,1.5)–(1.8,1.8)–(1.6,1.6));
389   replace_strokep(0)(insert_nodes(oldp)(1.5));
390   expand_pbox;
391 enddef;
392
393 vardef kanji.leftrad.wood =
394   push_pbox_toexpand("kanji.leftrad.wood");
395   perl_structure:=perl_structure&"eids.softhead.u6728";
396   push_stroke((500,780)–(500,0),
397     (1.6,1.6)–(1.6,1.6));
398   set_boserif(0,0,10);
399   push_stroke((100,580)–(830,580),
400     (1.6,1.6)–(1.6,1.6));
401   set_boserif(0,1,9);
402   push_stroke((500,580)..(250,200)..(80,70),
403     (1.6,1.6)..(1.3,1.3)..(0.9,0.9));
404   push_stroke((500,470)..(680,320)..(800,210),
405     (1.1,1.1)..(1.5,1.5)..(1.7,1.7));
406   expand_pbox;
407 enddef;

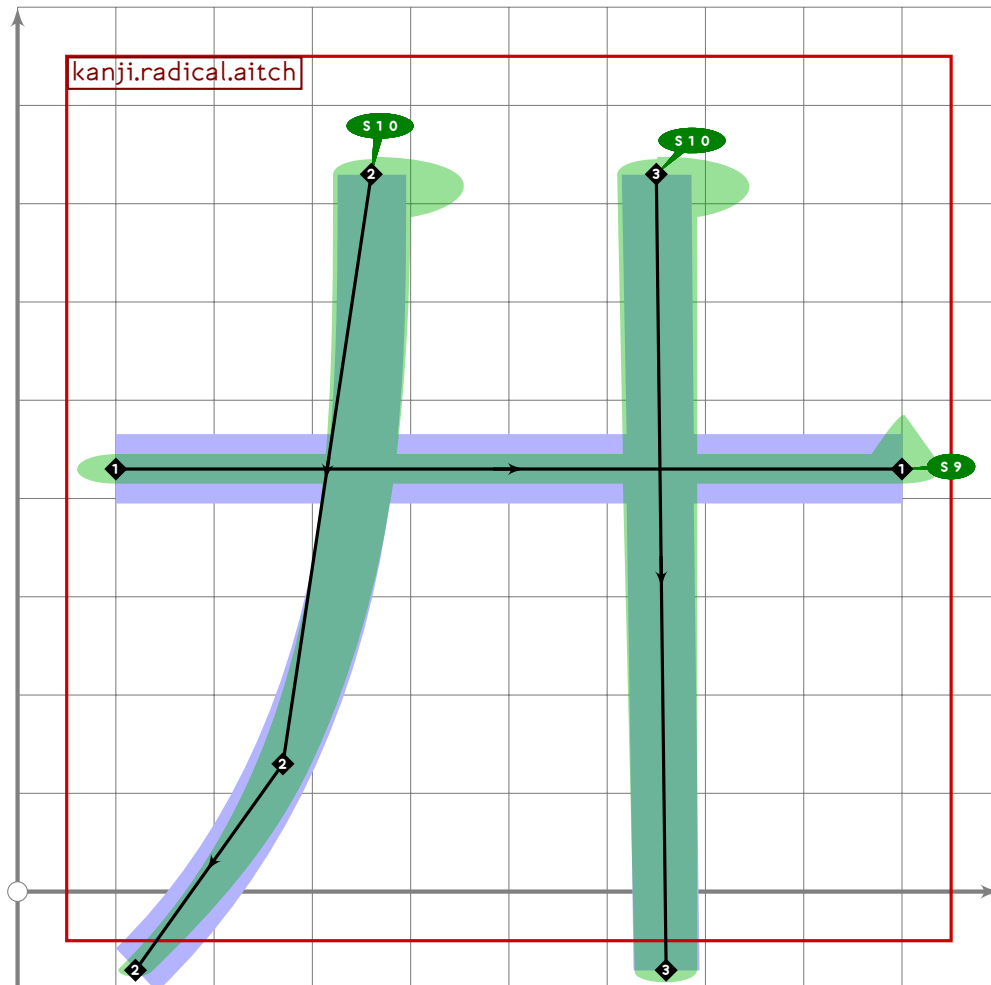
```

# radical.mp

```

1 %
2 % Radicals that are not common kanji in themselves
3 % Copyright (C) 2011, 2012, 2013, 2016, 2017, 2018, 2021 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(radical);
32
33

```



RADI

```

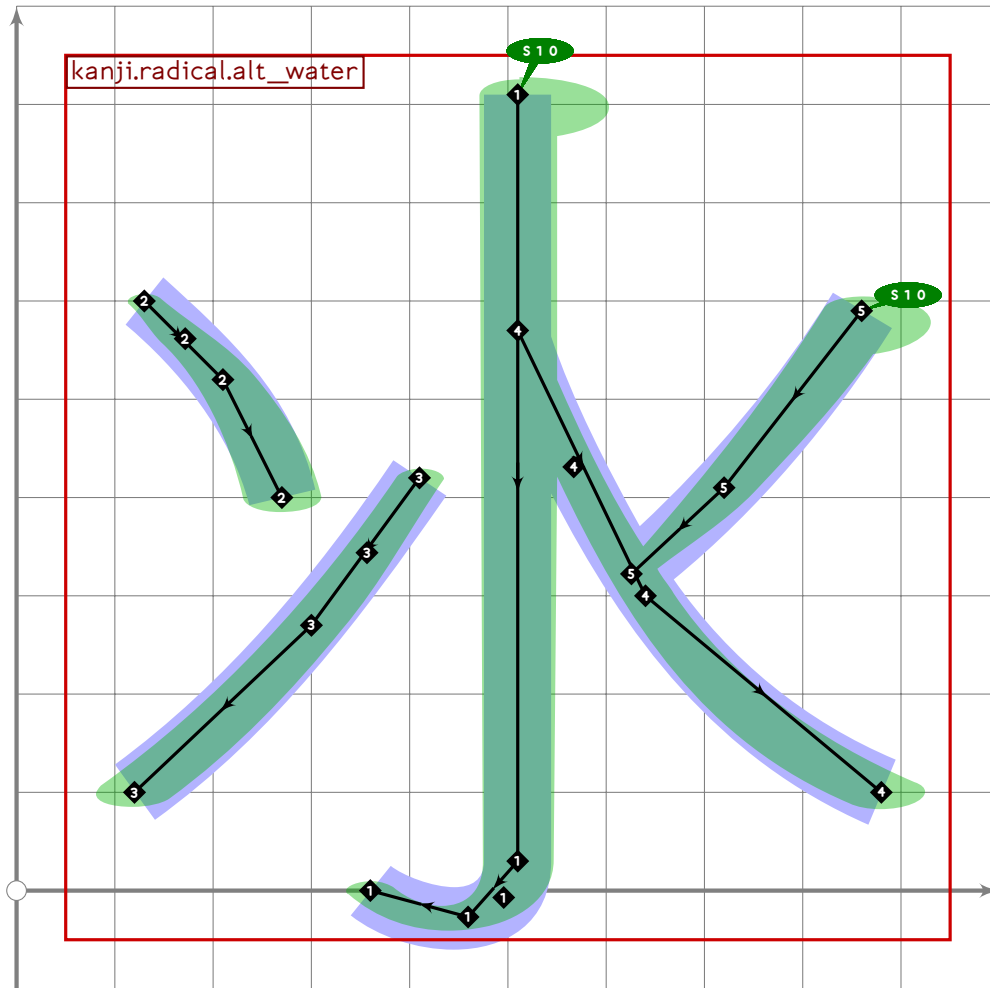
34
35 vardef kanji.radical.aitch =
36   push_pbox_toexpand("kanji.radical.aitch");
37   push_stroke((100,430)-(900,430),(1,6,1,6)-(1,6,1,6));
38   set_boserif(0,1,9);
39   push_stroke((360,730){down}..(270,130)..(120,-80),
40     (1,6,1,6)-(1,3,1,3)-(1,1));
41   set_boserif(0,0,10);
42   push_stroke((650,730)-(660,-80),(1,6,1,6)-(1,4,1,4));
43   set_boserif(0,0,10);

```

```

44  expand_pbox;
45  enddef;
46
47  vardef kanji.radical.alt_bamboo_slips =
48    push_pbox_toexpand("kanji.radical.alt_bamboo_slips");
49    kanji.radical.gmm;
50    push_stroke((383,780)–(383,0),(1,6,1,6)–(1,5,1,5));
51    push_stroke((617,780)–(617,0),(1,6,1,6)–(1,5,1,5));
52    push_stroke((150,410)–(850,410),(1,5,1,5)–(1,5,1,5));
53    expand_pbox;
54  enddef;
55
56  vardef kanji.radical.alt_compromise =
57    push_pbox_toexpand("kanji.radical.alt_compromise");
58    build_kanji.level(build_kanji.tb(540,80–30*mincho)
59      (kanji.toprad.south_paw)
60      (kanji.grone.woman));
61    expand_pbox;
62  enddef;
63
64  vardef kanji.radical.alt_dice =
65    push_pbox_toexpand("kanji.radical.alt_dice");
66    build_kanji.level(build_kanji.tb(540,80–30*mincho)
67      (kanji.toprad.south_paw)
68      (kanji.grone.wood));
69    expand_pbox;
70  enddef;
71
72  vardef kanji.radical.alt_millet =
73    push_pbox_toexpand("kanji.radical.alt_millet");
74    push_stroke((100,540)–(900,540),
75      (1,6,1,6)–(1,6,1,6));
76    set_boserif(0,1,9);
77    push_stroke((300,440)..(230,230)..(140,130)..(70,60),
78      (1,6,1,6)–(1,4,1,4)–(1,1,1,1)–(0,88,0,88));
79    set_boserif(0,0,10);
80    push_stroke((510,820)–(510,50),(1,6,1,6)–(1,5,1,5));
81    set_boserif(0,0,10);
82    push_stroke((680,740)..tension 1.3..(760,680)..(790,620),
83      (1,1)–(1,4,1,4)–(1,8,1,8));
84    push_stroke((680,430)..tension 1.3..(830,240)..(900,110),
85      (1,1)–(1,4,1,4)–(1,8,1,8));
86    expand_pbox;
87  enddef;

```



RADI

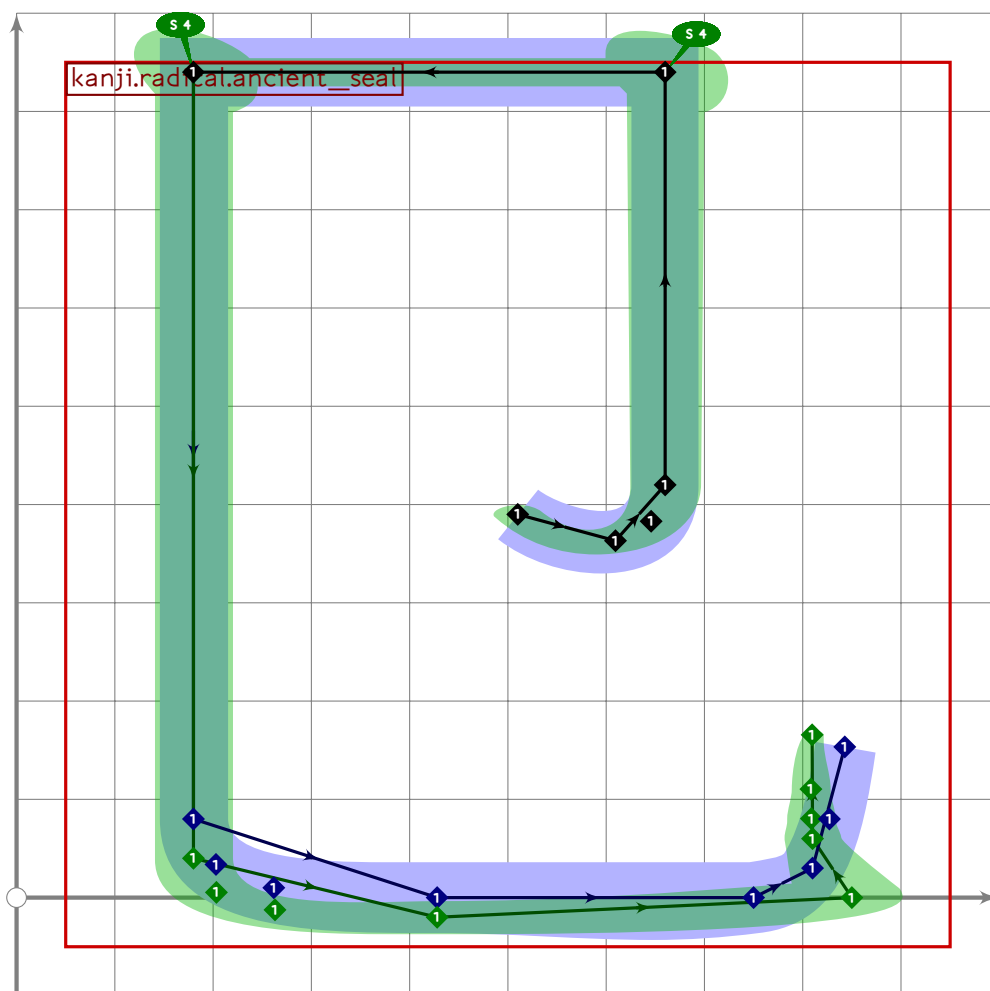
```

88
89 vardef kanji.radical.alt_water =
90   push_pbox_toexpand("kanji.radical.alt_water");
91   push_stroke((510,810),(1.6,1.6));
92   build_kanji.add_jtail(0);
93   set_boserif(0,0,10);
94   push_stroke((130,600)..tension 1.2..(210,520)..(270,400),
95     (1,1)–(14,14)–(1.6,1.6));
96   push_stroke((410,420)..tension 1.2..(300,270)..(120,100),
97     (1.2,1.2)–(14,14)–(1.6,1.6));
98   push_stroke((510,570)..tension 1.2..(640,300)..(880,100),
99     (1,1)–(1.3,1.3)–(1.7,1.7));
100   push_stroke((860,590)..(720,410)..(point 0.9 of get_stroke(0)),
101     (1.6,1.6)–(14,14)–(1,1));
102   set_boserif(0,0,10);
103   expand_pbox;
104 enddef;

```

U+353E  
tsuku.uni353E

RADI

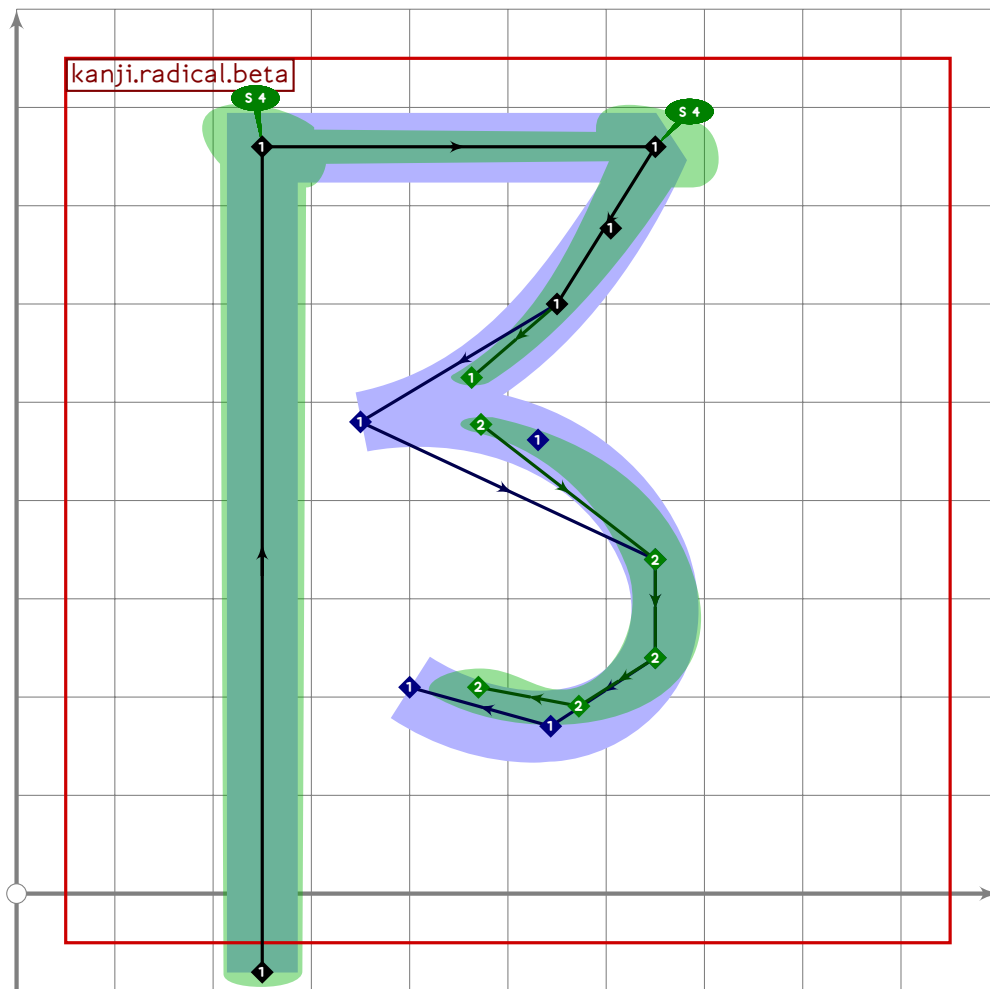


```

105
106 vardef kanji.radical.ancient_seal =
107   push_pbox__toexpand("kanji.radical.ancient_seal");
108   push_stroke((180,450)–(660,450),(1.6,1.6)–(1.6,1.6));
109   build_kanji.add_jtail(0);
110   replace_strokep(0)(reverse oldp shifted (0,390));
111   replace_strokeq(0)(reverse oldq);
112   build_kanji.add_ltail(0);
113   set_boserif(0,3,4);
114   set_boserif(0,4,4);
115   set_botip(0,3,1);
116   set_botip(0,4,1);
117   expand_pbox;
118 enddef;

```





RADI

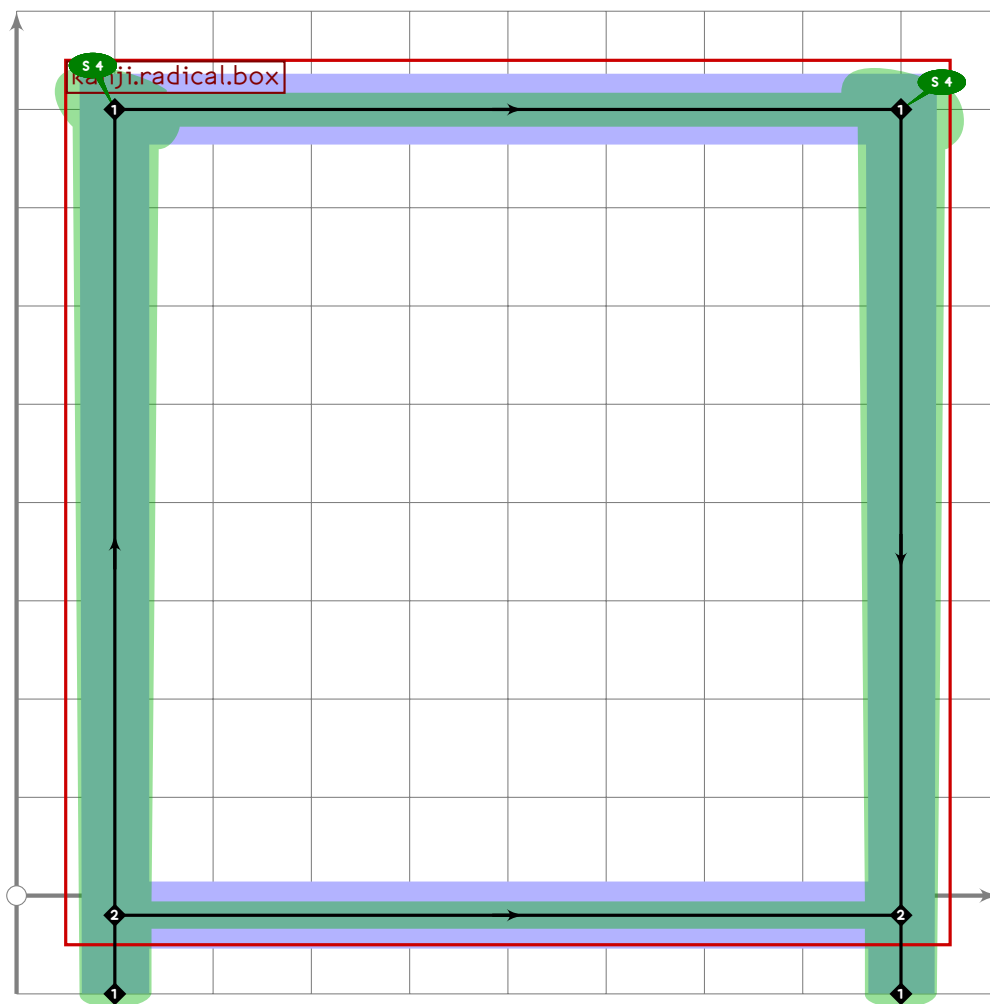
```

119
120 vardef kanji.radical.beta =
121   push_pbox_toexpand("kanji.radical.beta");
122   push_stroke((250,-80)-(250,760)-(650,760)..tension 1.2..
123     (550,600)..{curl 1}(350,480){curl 0.5}..
124     (650,340)..(650,240)..{curl 0.3}(400+70*mincho,210),
125     (1.6,1.6)-(1.7,1.7)-(1.6,1.6)-
126     (1.1,1.3)-(0.55,1.4)-
127     (1.4,1.4)-(1.6,1.6)-(1.8,1.8)-(1.9,1.9));
128   set_botip(0,1,1);
129   set_botip(0,2,0);
130   set_botip(0,4,1);
131   set_boserif(0,1,4);
132   set_boserif(0,2,4);
133   replace_strokep(0)(insert_nodes(oldp)(6.5));
134   expand_pbox;
135 enddef;

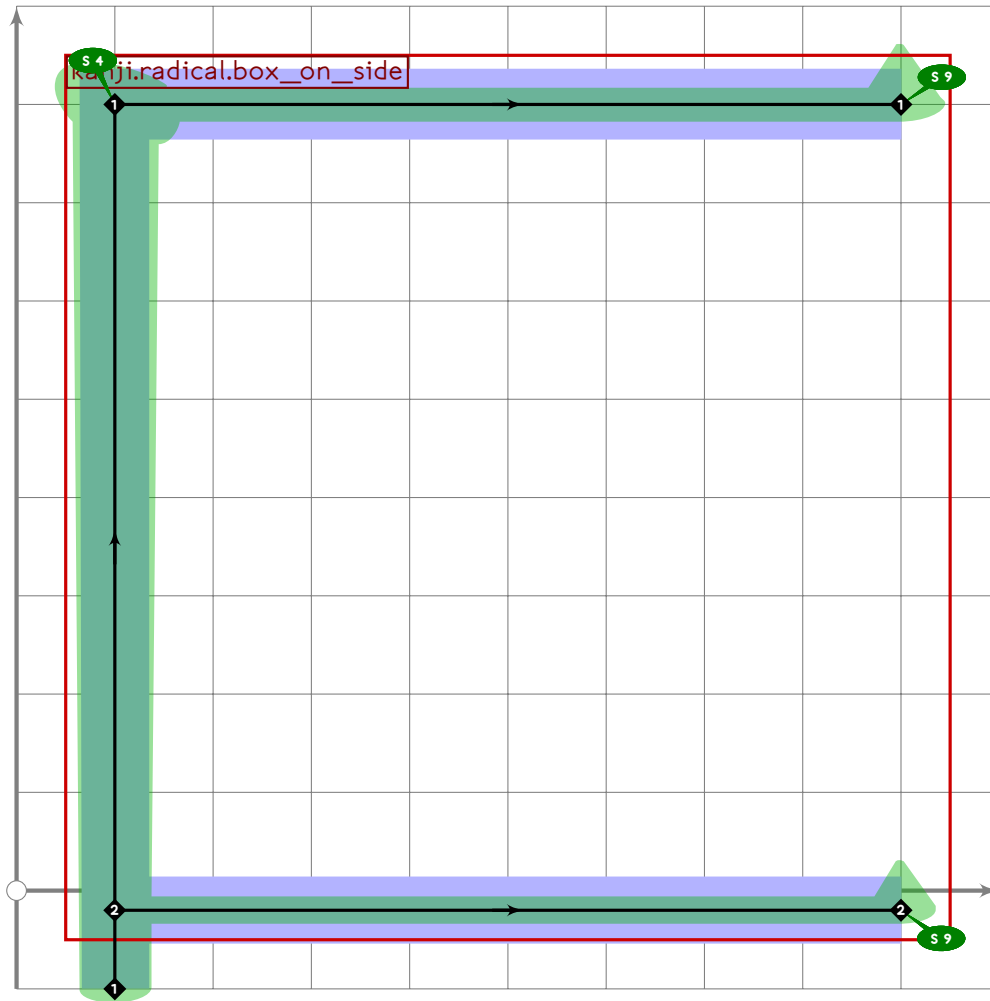
```

U+56D7  
tsuku.uni56D7

RADI



```
136
137 vardef kanji.radical.box =
138   perl_structure:=perl_structure&"eids.u2FF4.u56D7.1_";
139   push_pbox_toexpand("kanji.radical.box");
140   build_kanji.box((100,800),(900,20));
141   expand_pbox;
142 enddef;
```



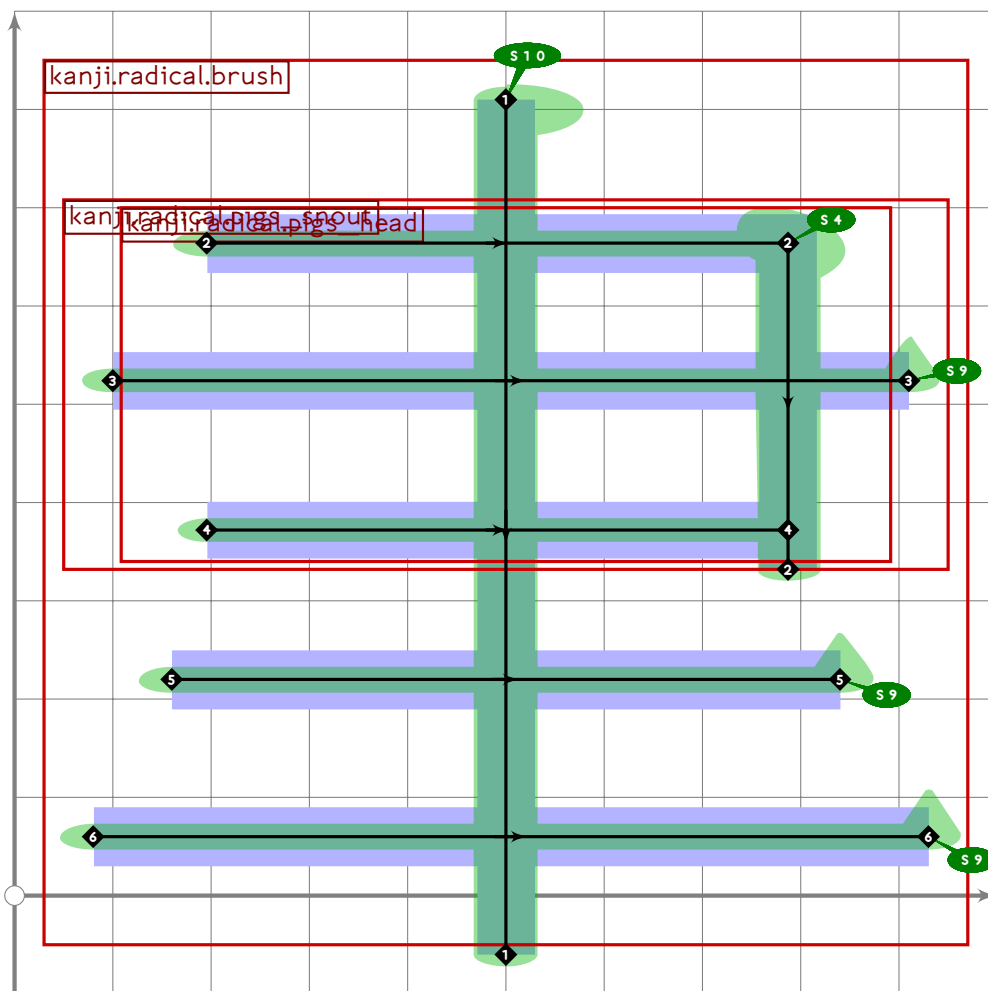
RADI

```

143
144 vardef kanji.radical.box_on_side =
145   perl_structure:=perl_structure&"eids.u2FF7u531A.1_";
146   push_pbox_toexpand("kanji.radical.box_on_side");
147   build_kanji.box((100,800),(900,20));
148   replace_strokep(-1)(subpath (0,2) of oldp);
149   replace_strokeq(-1)(subpath (0,2) of oldq);
150   set_boserif(-1,2,9);
151   set_botip(-1,2,whatever);
152   set_boserif(0,1,9);
153   expand_pbox;
154 enddef;

```

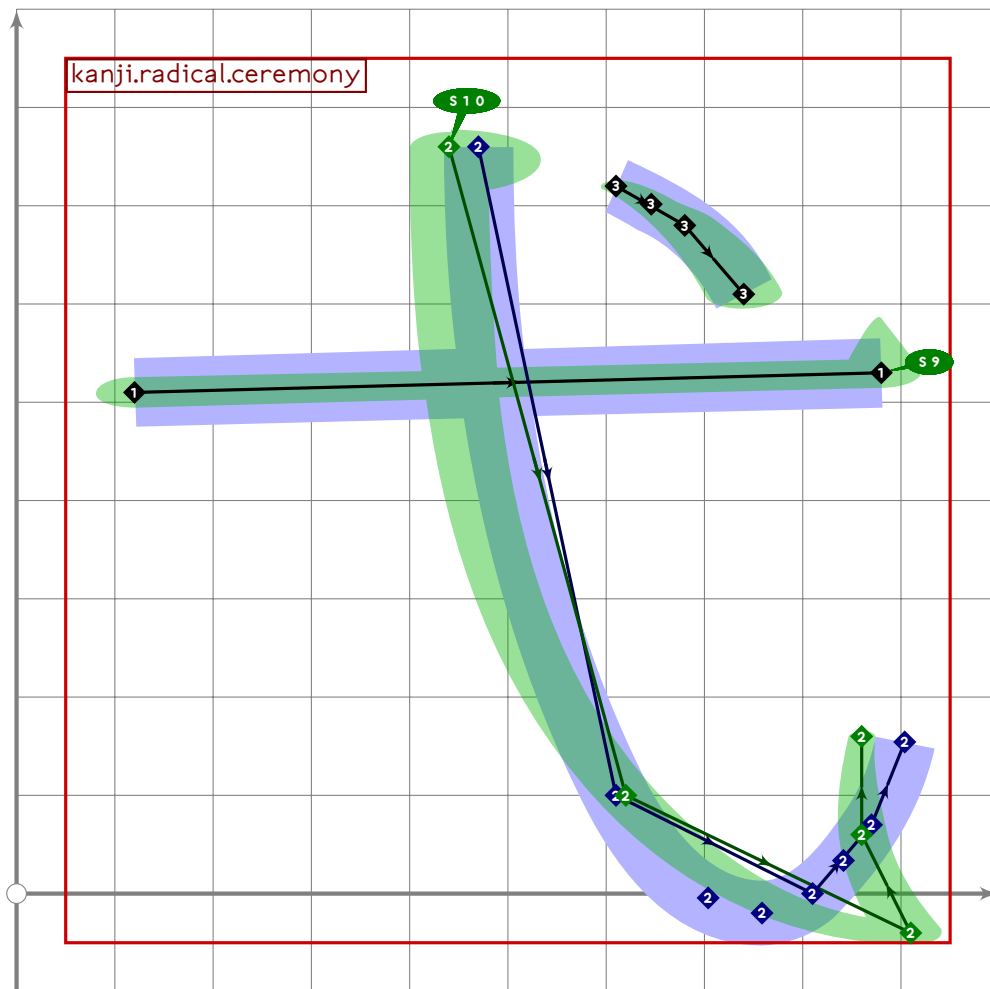
# RADI



```

155
156 vardef kanji.radical.brush =
157   push_pbox_toexpand("kanji.radical.brush");
158   push_stroke((500,810)-(500,-60),(1.6,1.6)-(1.5,1.5));
159   set_boserif(0,0,10);
160   tsu_xform(identity yscaled 0.4 shifted (0,360))
161     (kanji.radical.pigs_snout);
162   push_stroke((160,220)-(840,220),
163     (1.6,1.6)-(1.6,1.6));
164   set_boserif(0,19);
165   push_stroke((80,60)-(930,60),
166     (1.6,1.6)-(1.6,1.6));
167   set_boserif(0,19);
168   for i=-5 upto 0: set_bosize(i,85); endfor;
169   expand_pbox;
170 enddef;

```



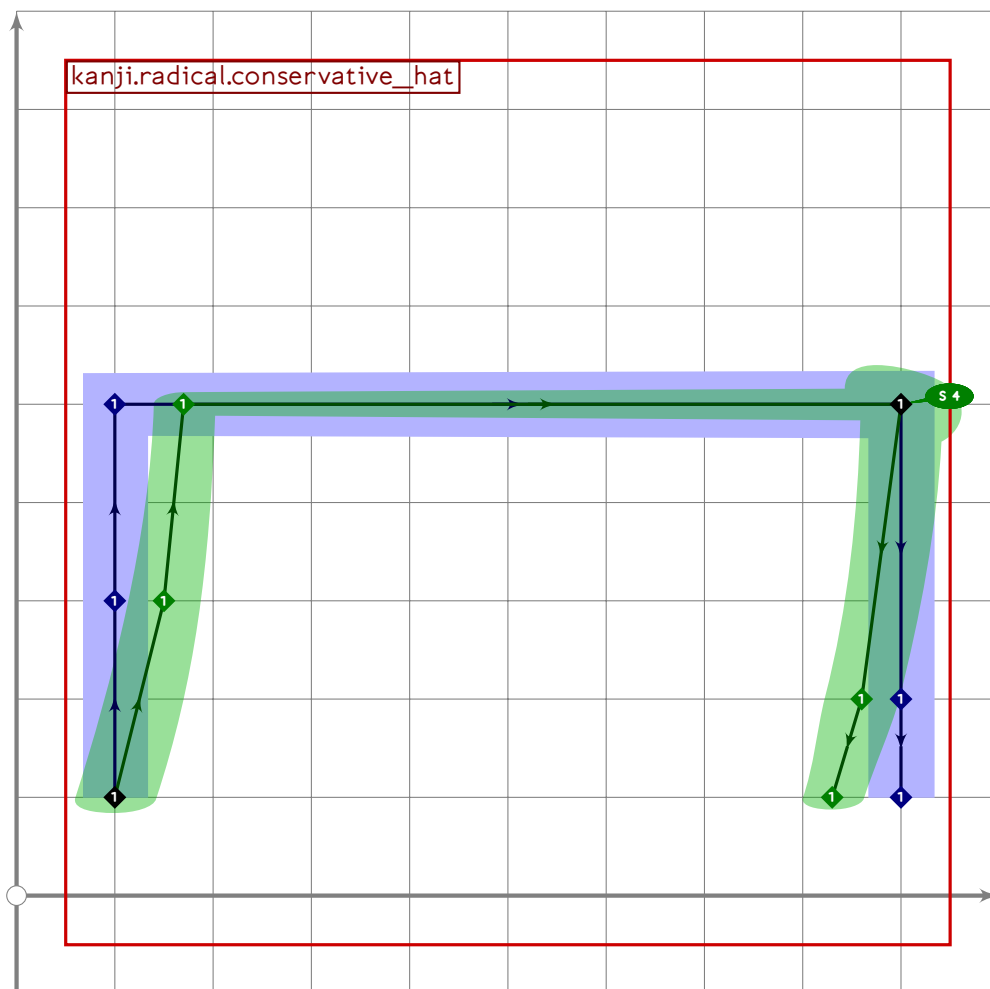
RADI

```

171
172 vardef kanji.radical.ceremony =
173   push_pbox_toexpand("kanji.radical.ceremony");
174   push_stroke((120,510)–(880,530),(1.6,1.6)–(1.6,1.6));
175   set_boserif(0,19);
176   push_stroke(interpath(mincho,
177     (470,760){down}..(610,100)..(810,0)..tension 1.5..
178     (870,70)..{curl 0.3}(910,200),
179     (440,760){down}..(620,100)..{right}(910,-40){curl 1}..
180     (860,60)..(860,160)),
181     (1.6,1.6)–(1.4,1.4)–(1.4,1.4)–(1.2,1.2)–(0.9,0.9));
182   set_boserif(0,0,10);
183   push_stroke((610,720)..tension 1.2..(680,680)..(740,610),
184     (1,1)..(1.5,1.5)–(1.7,1.7));
185   set_bosize(0,90);
186   expand_pbox;
187 enddef;

```

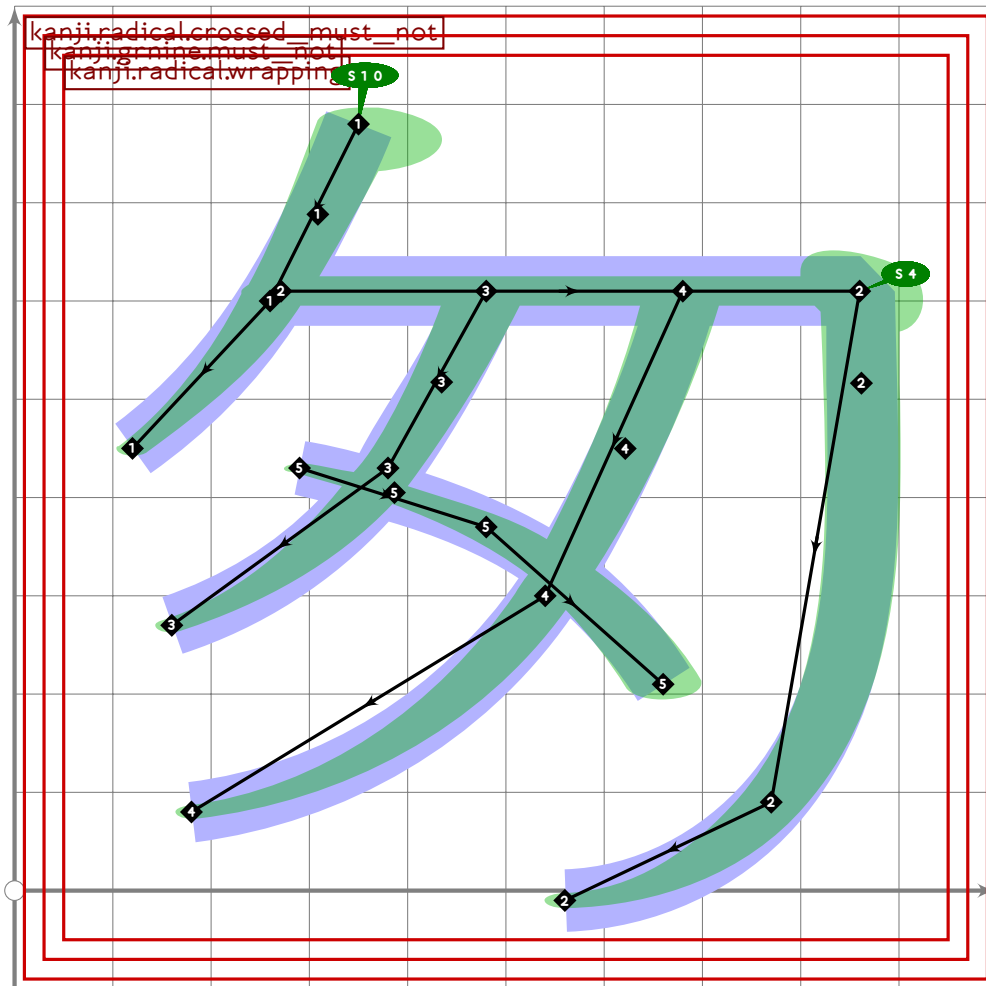
RADI



```

188
189 vardef kanji.radical.conservative_hat =
190   push_pbox__toexpand("kanji.radical.conservative_hat");
191   push_stroke((100,100)..(100+50*mincho,300)..(100+70*mincho,500)-
192     (900,500)..(900-40*mincho,200)..(900-70*mincho,100),
193     (1.7,1.7)-(1.6,1.6)-(1.4,1.4)-(1.7,1.7)-(1.6,1.6)-(1.4,1.4));
194   set_bosize(0,95);
195   set_botip(0,2,1);
196   set_botip(0,3,1);
197   set_boserif(0,3,4);
198   expand_pbox;
199 enddef;

```



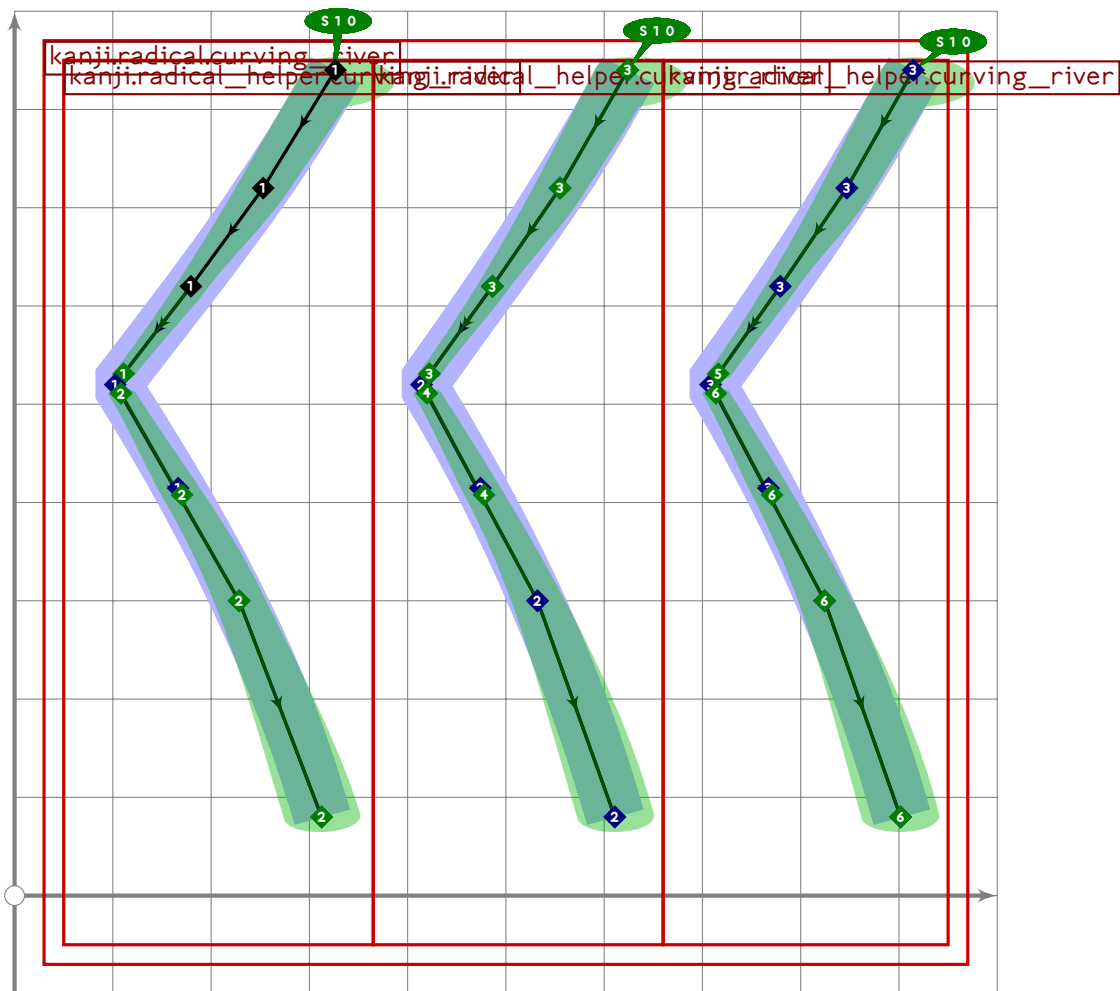
RADI

```

200
201 vardef kanji.radical.crossed_must_not =
202   push_pbox_toexpand("kanji.radical.crossed_must_not");
203   kanji.grnine.must_not;
204   push_stroke((290,430)..tension 1.2..(480,370)..(660,210),
205     (1,1)-(14,14)-(17,7));
206   set_bosize(0,90);
207   expand_pbox;
208 enddef;
209
210 vardef kanji.radical_helper.curving_river =
211   push_pbox_toexpand("kanji.radical_helper.curving_river");
212   push_stroke(((840,840)..(630,720)..(420,620)..(200,520)) &
213     ((200,520)..tension 1.3..(560,300)..(800,80)),
214     (1,6)-(14,14)-(11,11)-(0,8)-(14,14)-(1,8));
215   set_bosize(0,0,10);
216   set_botip(0,3,1);
217   expand_pbox;
218 enddef;

```

RADI

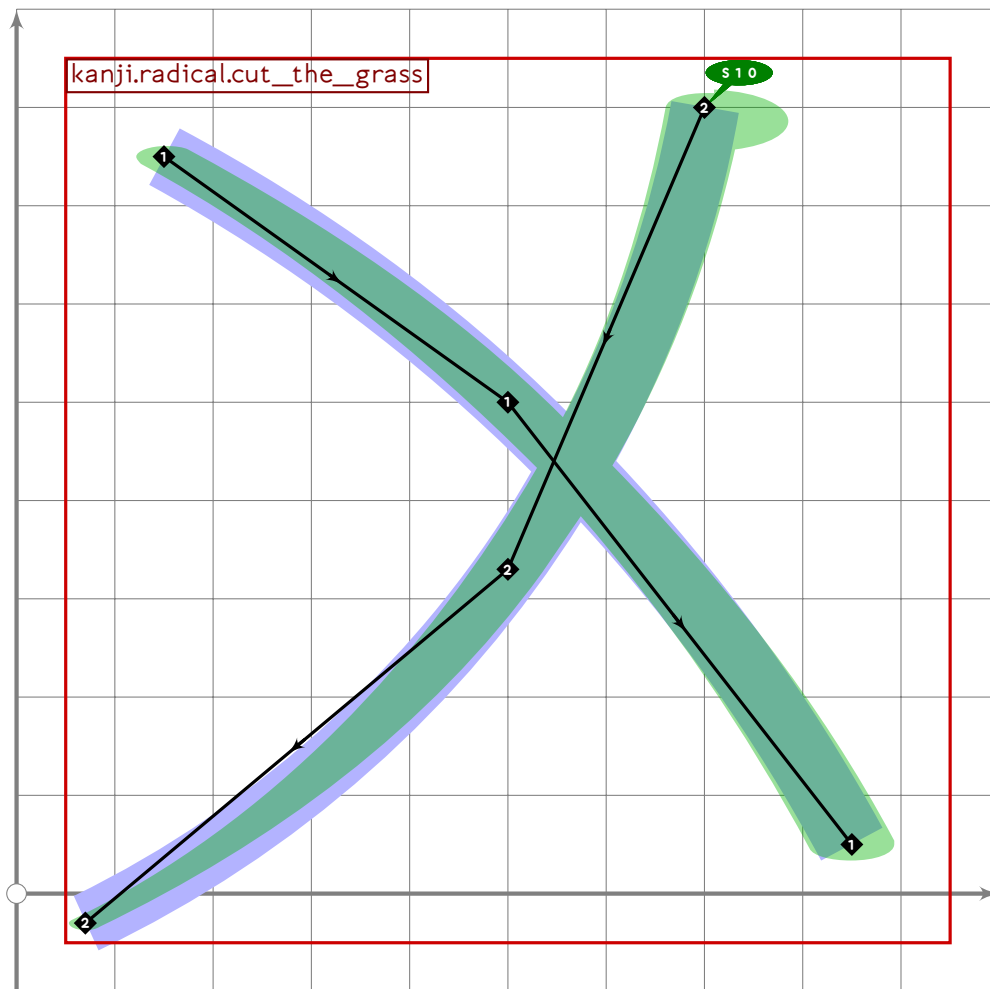


```

219
220 vardef kanji.radical.curving_river =
221   push_pbox_toexpand("kanji.radical.curving_river");
222   build_kanji.level(build_kanji.lcr(365,0)(660,0)
223     (kanji.radical_helper.curving_river)
224     (kanji.radical_helper.curving_river)
225     (kanji.radical_helper.curving_river));
226   expand_pbox;
227 enddef;

```





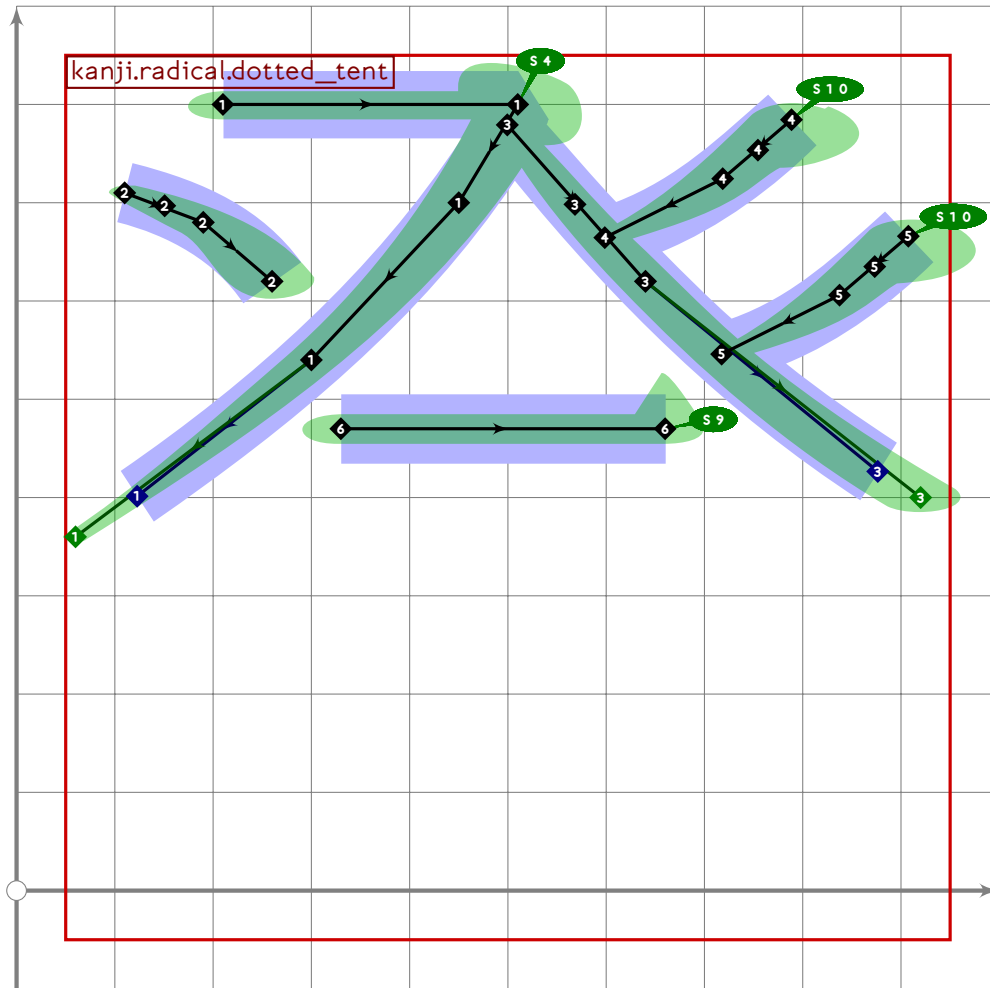
RADI

```

228
229 vardef kanji.radical.cut_the_grass =
230   push_pbox_toexpand("kanji.radical.cut_the_grass");
231   push_stroke((150,750)..(500,500)..(850,50),
232     (1.3,1.3)–(1.5,1.5)–(1.7,1.7));
233   push_stroke((700,800)..(500,330)..(70,-30),
234     (1.6,1.6)–(1.5,1.5)–(1,1));
235   set_boserif(0,0,10);
236   expand_pbox;
237 enddef;

```

RADI



```

238
239 vardef kanji.radical.dotted_tent =
240   perl_structure:=perl_structure&"eids.u2FF1.u7676.1_";
241   push_pbox_toexpand("kanji.radical.dotted_tent");
242   push_stroke((210,800)-(510,800)..(450,700)..(300,540)..(60,360),
243     (1.5,1.5)-(1.6,1.6)-(1.5,1.5)-(1.3,1.3)-(0.85,0.9));
244   set_boserif(0,14);
245   set_botip(0,1,0);
246   push_stroke((110,710)..tension 1.2..(190,680)..(260,620),
247     (1,1)-(1.4,1.4)-(1.7,1.7));
248   push_stroke(
249     (point 1.2 of get_stroke(-1))..tension 1.2..(640,620)..(920,400),
250     (1,1)-(1.3,1.3)-(2.25,0.95));
251   push_stroke(((190,120)..tension 1.2..(120,60)..(0,0))
252     shifted (point 0.7 of get_stroke(0)),
253     (1.7,1.7)-(1.5,1.5)-(1,1));
254   set_boserif(0,0,10);
255   push_stroke(((190,120)..tension 1.2..(120,60)..(0,0))
256     shifted (point 1.3 of get_stroke(-1)),
257     (1.7,1.7)-(1.5,1.5)-(1,1));
258   set_boserif(0,0,10);

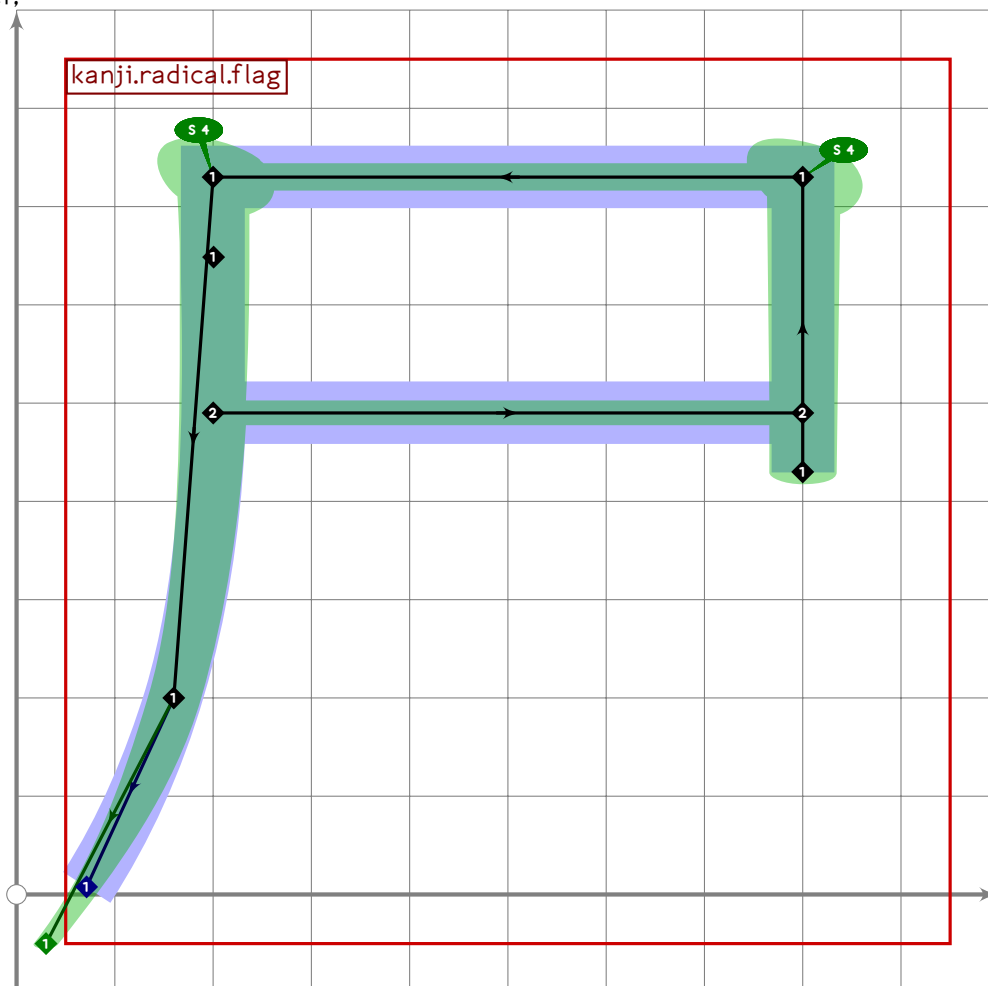
```

```

259 push_stroke((330,470)-(660,470),(1.6,1.6)-(1.6,1.6));
260 set_boserif(0,19);
261 expand_pbox;
262 endif;
263
264 vardef kanji.radical.eight =
265   push_pbox_toexpand("kanji.radical.eight");
266   push_stroke((610,760)..tension 1.3..(760,240)..(880,-10),
267     (1,1)-(14,14)-(18,18));
268   set_bosize(0,110);
269   push_stroke((350,740)..(280,360)..(160,80)..(40,-30),
270     (1.6,1.6)-(14,14)-(13,13)-(0.88,0.88));
271   set_bosize(0,110);
272   set_boserif(0,0,10);
273   expand_pbox;
274 endif;

```

RADI



```

275
276 vardef kanji.radical.flag =
277   perl_structure:=perl_structure&"eids.u2FF8.u5C38.1.";
278   push_pbox_toexpand("kanji.radical.flag");
279   push_stroke((800,430)-(800,730)-(200,730){down}..(160,200)..(30,-50),

```

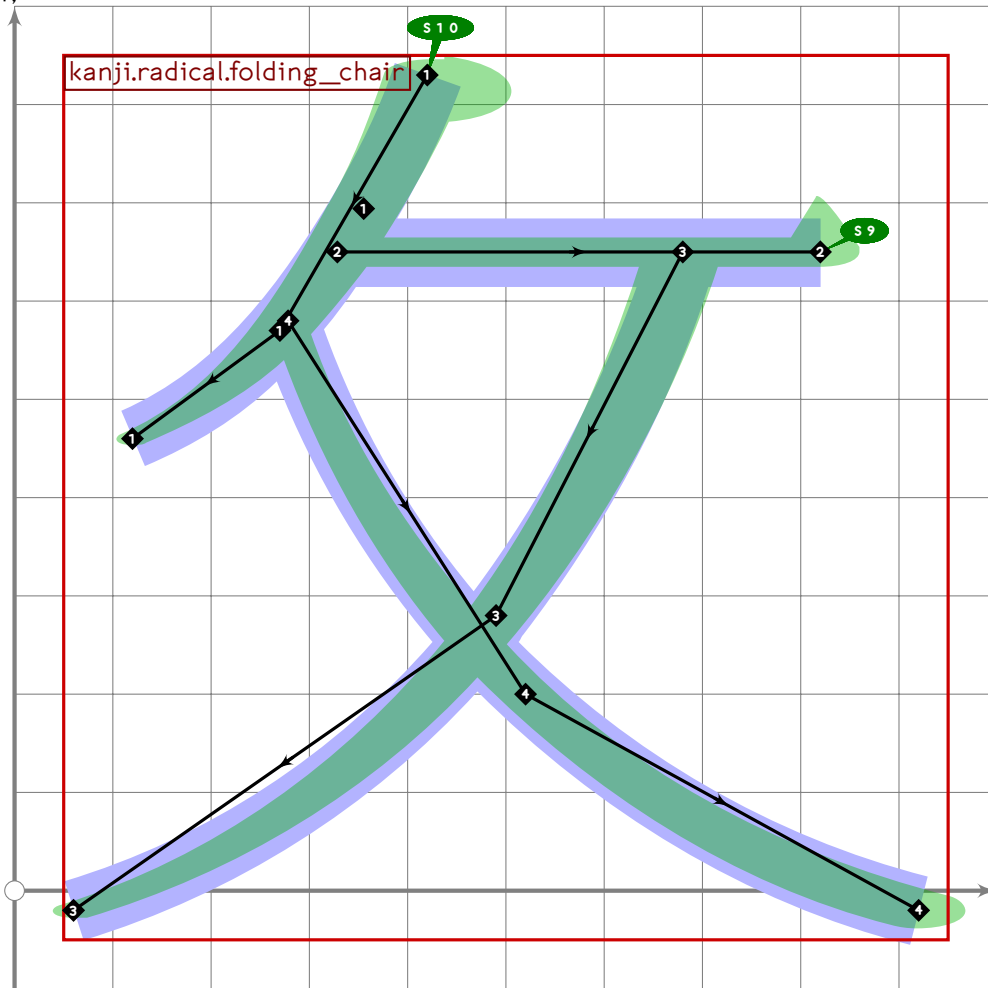
U+6535  
tsuku.uni6535

```

280 (1.5,1.5)-(1.6,1.6)-(1.6,1.6)-(1.3,1.3)-(0.9,0.9));
281 set_botip(0,1);
282 set_botip(0,2,1);
283 set_boserif(0,1,4);
284 set_boserif(0,2,4);
285 set_bosize(0,93);
286 push_stroke((((0,490)-(1000,490))
287 intersectionpoint reverse get_strokep(0))-(800,490),
288 (1.5,1.5)-(1.5,1.5));
289 set_bosize(0,93);
290 expand_pbox;
291 enddef;

```

RADI



```

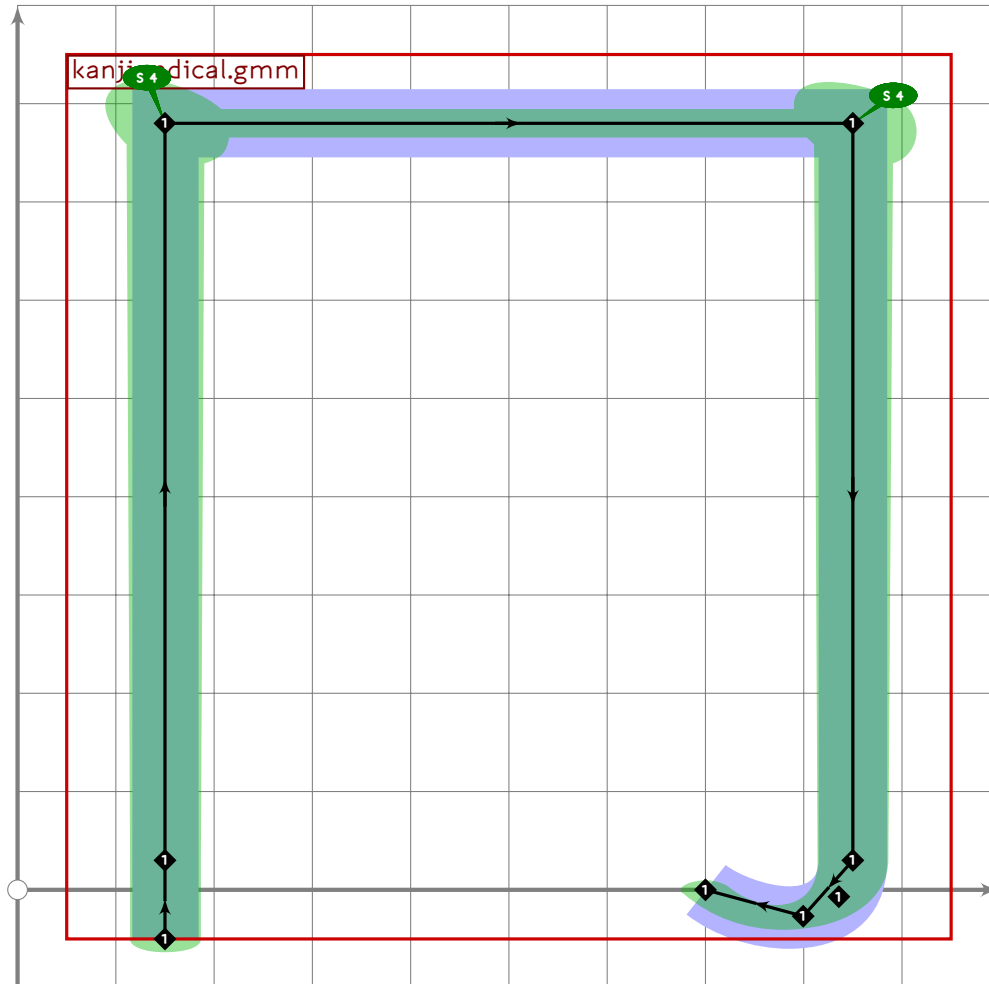
292
293 vardef kanji.radical.folding_chair =
294   push_pbox_toexpand("kanji.radical.folding_chair");
295   push_stroke((420,830)..tension 1.2..(270,570)..(120,460),
296     (1.7,1.7)-(1.4,1.4)-(1,1));
297   set_boserif(0,0,10);
298   push_stroke(
299     (get_strokep(0) intersectionpoint ((0,650)-(1000,650)))-(820,650),
300     (1.5,1.5)-(1.6,1.6));

```

```

301 set_boserif(0,19);
302 push_stroke((680,650)..tension 11..(490,280)..(60,-20),
303   (1,6,1,6)-(14,1,4)-(1,1,1,1));
304 push_stroke((point 0.95 of get_stroke(-2))..(520,200)..(920,-20),
305   (1,1)-(1,3,1,3)-(1,8,1,8));
306 expand_pbox;
307 enddef;
308

```



RADI

```

309 % "George Michael's Moustache" radical, according to Schultzzz
310 vardef kanji.radical.gmm =
311   push_pbox_toexpand("kanji.radical.gmm");
312   push_stroke((150,-50)-(150,30)-(150,780)-(850,780),
313     (1,5,1,5)-(1,5,1,5)-(1,6,1,6)-(1,6,1,6));
314   build_kanji.add_jtail(0);
315   set_botip(0,2,1);
316   set_botip(0,3,1);
317   set_boserif(0,2,4);
318   set_boserif(0,3,4);
319   expand_pbox;
320 enddef;
321

```

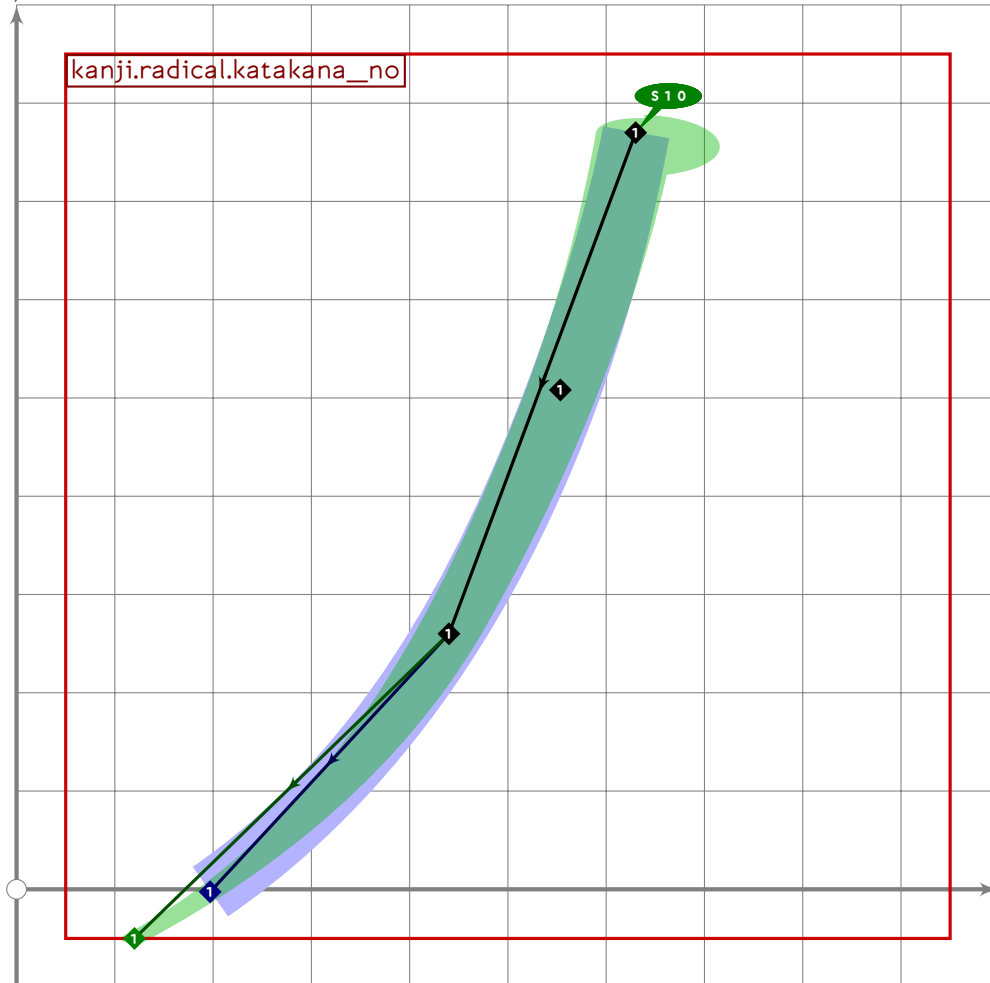
U+4E3F  
tsuku.uni4E3F

```

322 vardef kanji.radical.half_trunk =
323   push_pbox_toexpand("kanji.radical.half_trunk");
324   push_stroke((830,800)-(830,30),(1,6,1,6)-(14,14));
325   set_boserif(0,0,10);
326   push_stroke((130,660)..tension 1.2..(330,570)..(430,500),
327     (1,1)-(1.5,1.5)-(1.8,1.8));
328   push_stroke((550,350)..(330,240)..tension 1.2..(100,200),
329     (1.2,1.2)-(1.6,1.6)-(1.9,1.9));
330   expand_pbox;
331 enddef;

```

RADI



```

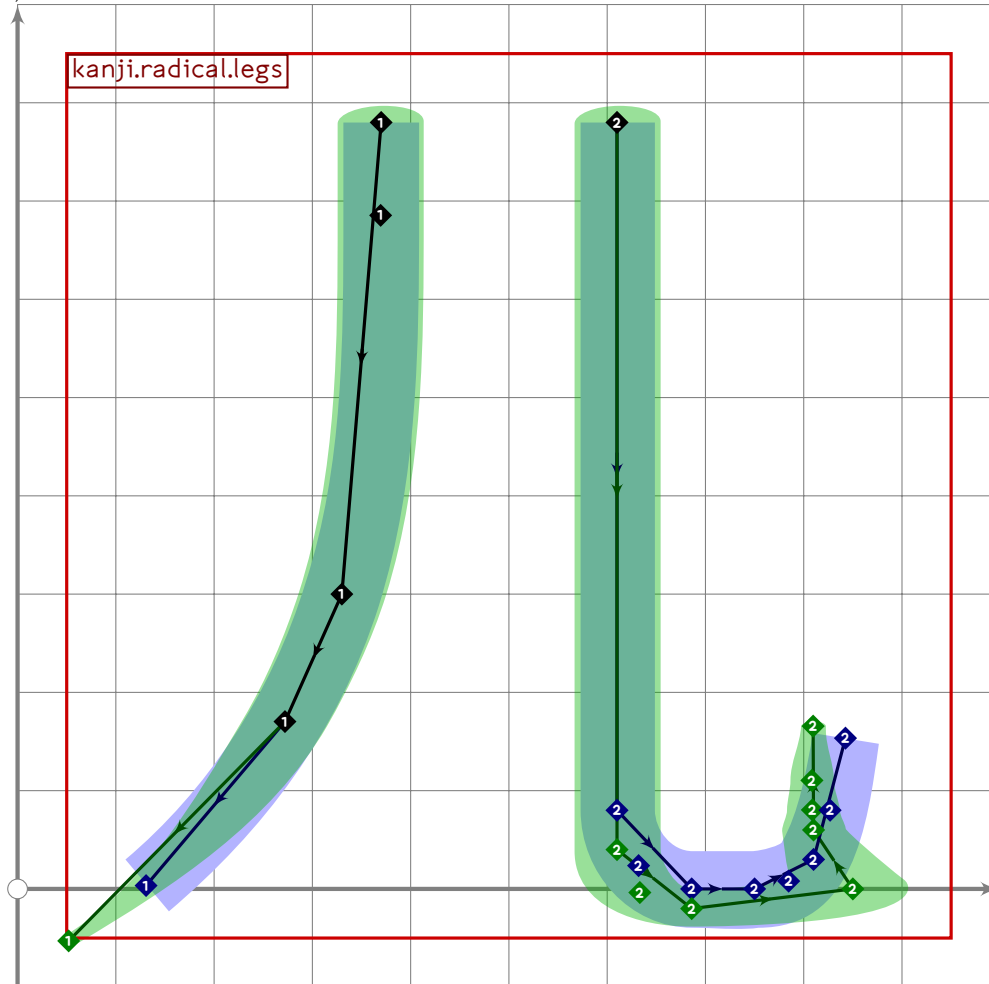
332
333 vardef kanji.radical.katakana_no =
334   push_pbox_toexpand("kanji.radical.katakana_no");
335   push_stroke((630,770)..tension 1.2..(440,260)..(120,50),
336     (1,6,1,6)-(14,14)-(0,9,0,9));
337   set_boserif(0,0,10);
338   expand_pbox;
339 enddef;
340
341 vardef kanji.radical.kettle_lid =
342   push_pbox_toexpand("kanji.radical.kettle_lid");

```

```

343 push_stroke((500,700)..(500,160),(1.6,1.6)-(1.5,1.5));
344 set_bosize(0,125);
345 set_boserif(0,0,10);
346 push_stroke((100,160)-(900,160),(1.7,1.7)-(1.7,1.7));
347 set_bosize(0,125);
348 set_boserif(0,1,9);
349 expand_pbox;
350 enddef;

```



```

351
352 vardef kanji.radical.legs =
353   push_pbox_toexpand("kanji.radical.legs");
354   push_stroke((370,780){dir 269}..(330,300)..(40,-60),
355     (1.6,1.6)-(1.6,1.6)-(1.6,1.6)-(0.8,0.7));
356   replace_stroke(0)(insert_nodes(oldp)(1.3));
357   set_bosize(0,110);
358   push_stroke((610,780),
359     (1.6,1.6));
360   build_kanji.add_ltail(0);
361   set_bosize(0,110);
362   expand_pbox;
363 enddef;

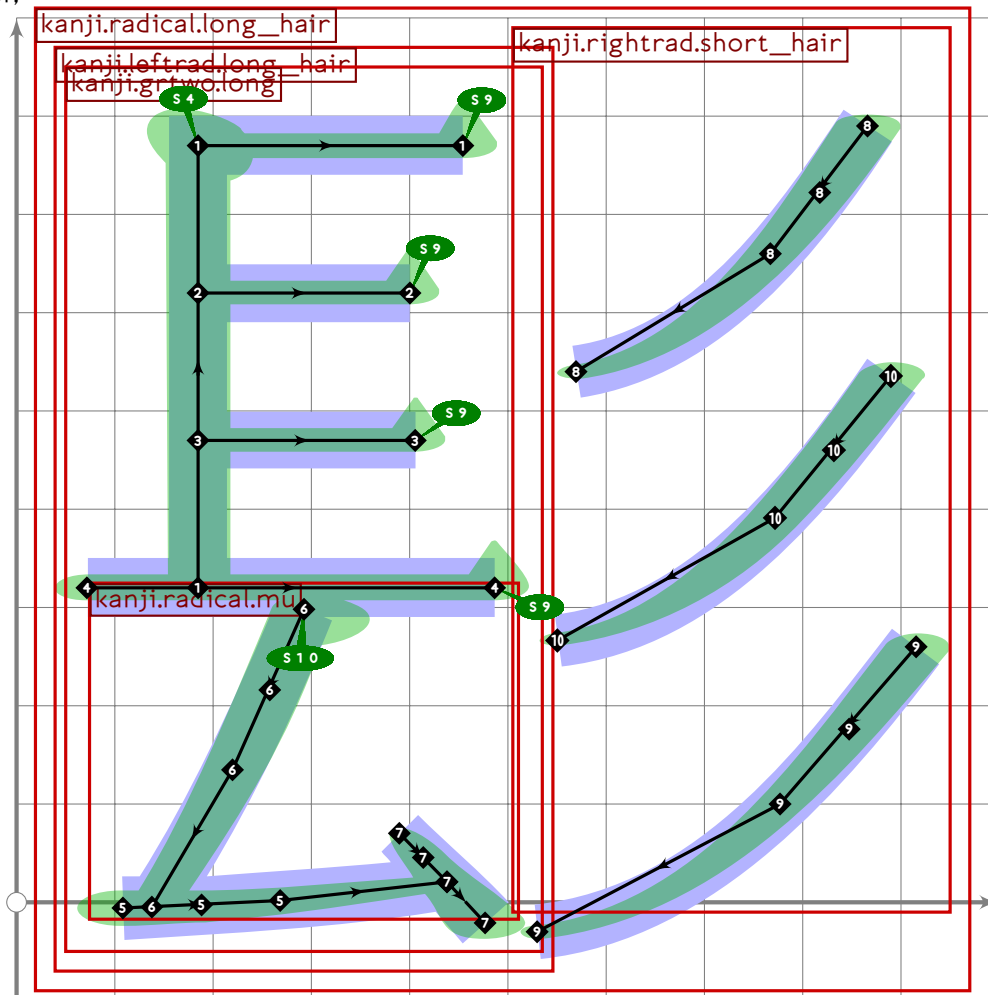
```

RADI

```

364
365 vardef kanji.radical.life_minus =
366   push_pbox_toexpand("kanji.radical.life_minus");
367   push_stroke((500,780)-(500,0),(1.6,1.6)-(1.6,1.6));
368   set_boserif(0,0,10);
369   push_stroke((280,700)..(220,360)..(140,120),
370     (1.6,1.6)-(1.2,1.2)-(0.8,0.8));
371   set_boserif(0,0,10);
372   push_stroke((point 0.9 of get_stroke(0))-
373     (820,ypart point 0.9 of get_stroke(0)),
374     (1.6,1.6)-(1.6,1.6));
375   set_boserif(0,1,9);
376   push_stroke((120,0)-(880,0),(1.6,1.6)-(1.6,1.6));
377   set_boserif(0,1,9);
378   expand_pbox;
379 enddef;

```



```

380
381 vardef kanji.radical.long_hair =
382   push_pbox_toexpand("kanji.radical.long_hair");
383   build_kanji.level(build_kanji.lr(520,30)
384     (kanji.leftrad.long_hair)

```



```

385     (tsu_xform(identity shifted (0,40))
386       (kanji.rightrad.short_hair)));
387   expand_pbox;
388 enddef;
389
390 vardef kanji.radical.long_kimono =
391   push_pbox_toexpand("kanji.radical.long_kimono");
392   build_kanji.level(build_kanji.tb(600,50)
393     (kanji.grone.earth)
394     (kanji.bottomrad.long_kimono));
395   expand_pbox;
396 enddef;
397
398 vardef kanji.radical.moon_flag =
399   push_pbox_toexpand("kanji.radical.moon_flag");
400   push_stroke(((800,300)-(800,730)-(200,730){down}..(160,200)..(30,50),
401     (1.5,1.5)-(1.6,1.6)-(1.6,1.6)-(1.3,1.3)-(0,9,9)));
402   set_botip(0,1,1);
403   set_botip(0,2,1);
404   set_boserif(0,1,4);
405   set_boserif(0,2,4);
406   set_bosize(0,93);
407   push_stroke((((0,550)-(1000,550))
408     intersectionpoint reverse get_strokep(0))-(800,550),
409     (1.5,1.5)-(1.5,1.5));
410   set_bosize(0,94);
411   push_stroke((((0,350)-(1000,350))
412     intersectionpoint reverse get_strokep(-1))-(800,350),
413     (1.5,1.5)-(1.5,1.5));
414   set_bosize(0,97);
415   expand_pbox;
416 enddef;
417
418 vardef kanji.radical.mother =
419   push_pbox_toexpand("kanji.radical.mother");
420   push_stroke(
421     (150,0)..(240,390)..tension 1.2..(280,750)-
422     (750,750)..(720,390)..tension 1.2..(630,20){dir 250}..
423     {curl 0.2}(480,50),
424     (1.5,1.5)-(1.6,1.6)-(1.7,1.7)-(1.7,1.7)-(1.6,1.6)-(1.5,1.5));
425   replace_strokep(0)(insert_nodes(oldp)((length oldp)-0.5));
426   replace_strokeq(0)(oldq-(1.4,1.4)-(1.2,1.2));
427   set_botip(0,2,1);
428   set_botip(0,3,0);
429   set_boserif(0,2,4);
430   set_boserif(0,3,4);
431   push_stroke((110,440)-(890,440),(1.5,1.5)-(1.5,1.5));
432   set_boserif(0,1,9);

```

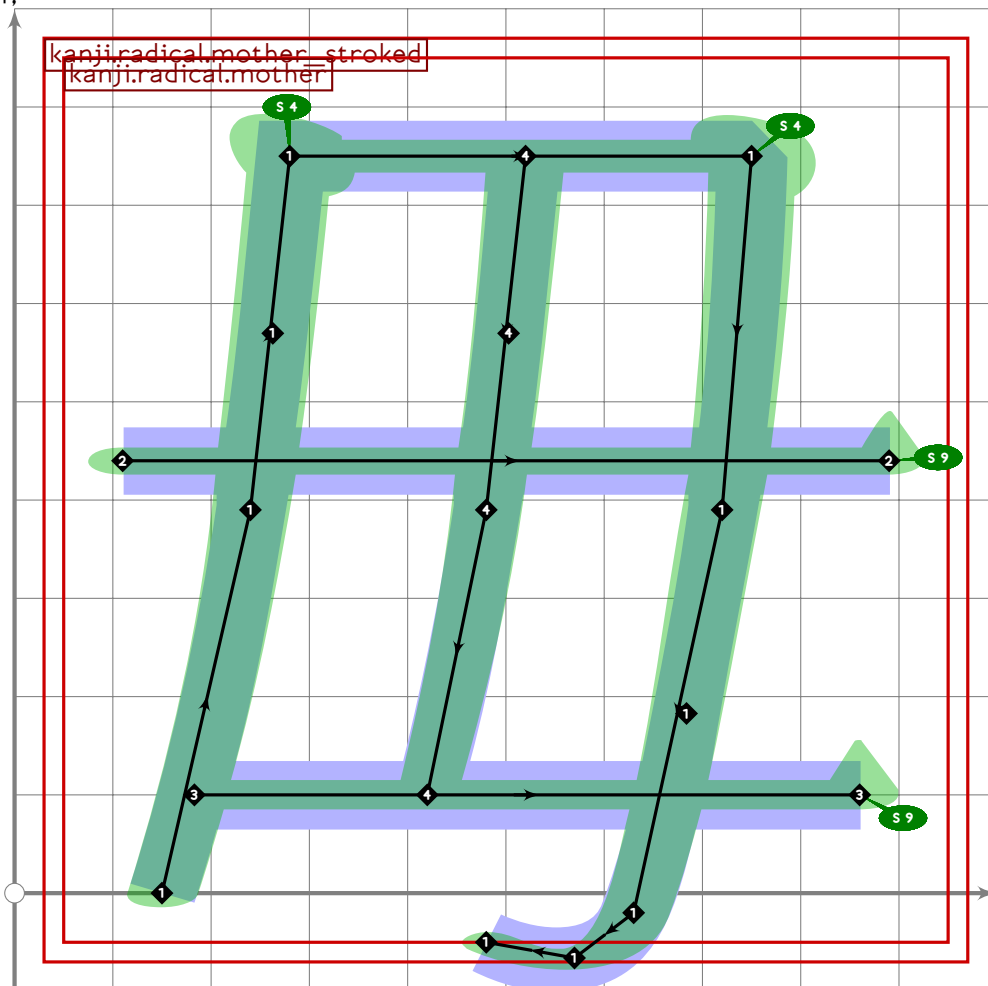
U+6BCB  
tsuku.uni6BCB

```

433 push_stroke((183,100)-(860,100),(1.6,1.6)-(1.6,1.6));
434 set_bosertif(0,19);
435 expand_pbox;
436 enddef;

```

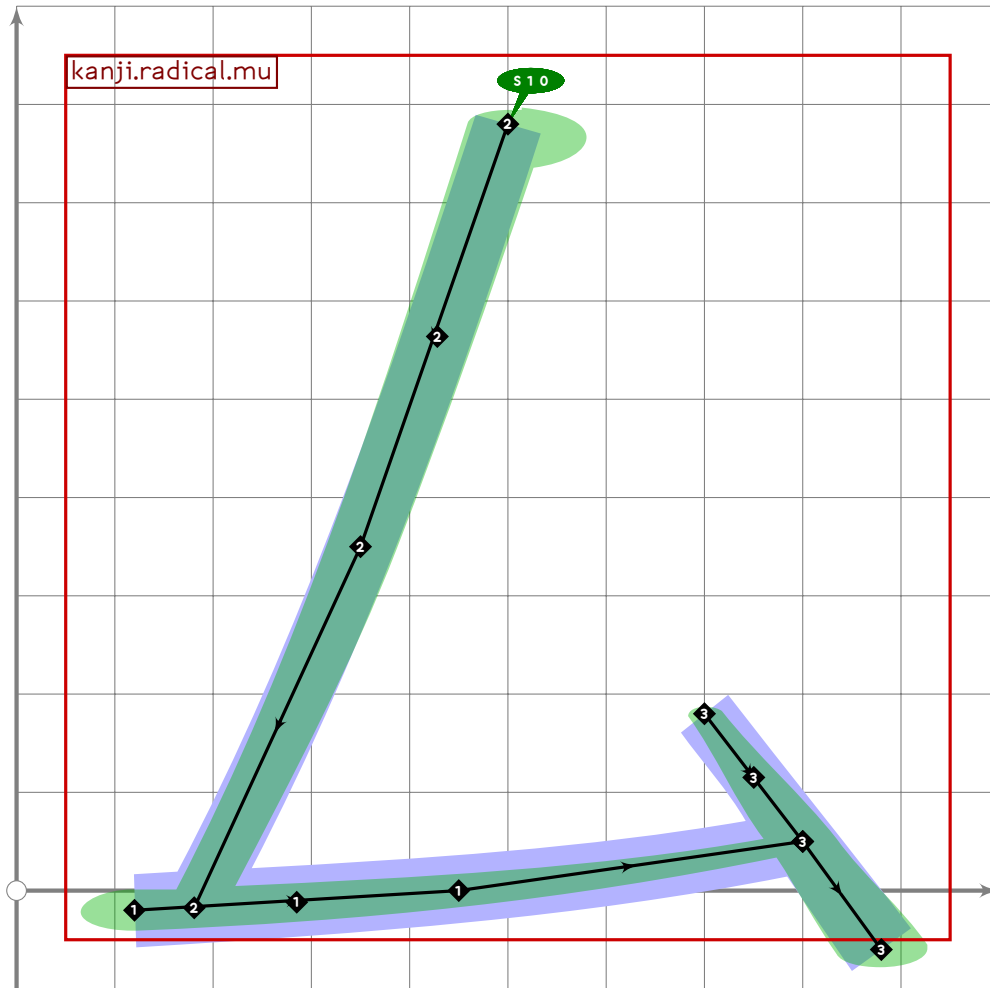
RADI



```

437
438 vardef kanji.radical.mother_stroked =
439   push_pbox_toexpand("kanji.radical.mother_stroked");
440   kanji.radical.mother;
441   push_stroke((520,750)..tension 1.2..(480,390)..(420,100),
442     (1.6,1.6)-(1.5,1.5)-(1.4,1.4));
443   expand_pbox;
444 enddef;

```



RADI

```

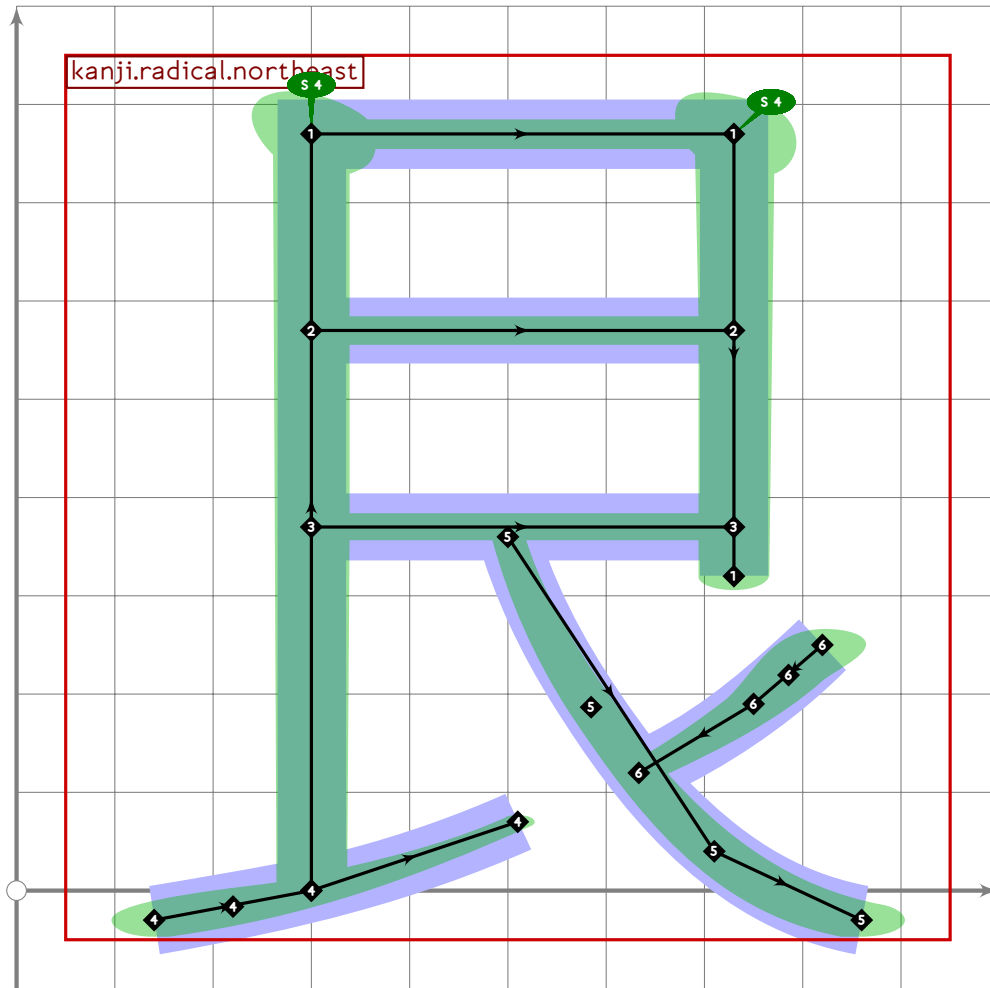
445
446 vardef kanji.radical.mu =
447   push_pbox_toexpand("kanji.radical.mu");
448   push_stroke((120,-20)..tension 1.2..(450,0)..(800,50),
449     (2,2)-(1.7,1.7)-(1.2,1.2));
450   push_stroke(
451     (500,780)..tension 1.2..(350,350)..(point 0.2 of get_strokep(0)),
452     (1.6,1.6)-(1.5,1.5)-(1.3,1.3));
453   set_boserif(0,0,10);
454   push_stroke((700,180)..tension 1.3..(800,50)..(880,-60),
455     (1,1)-(1.5,1.5)-(1.8,1.8));
456   expand_pbox;
457 enddef;
458
459 vardef kanji.radical.mu_bar =
460   push_pbox_toexpand("kanji.radical.mu_bar");
461   push_stroke((140,780)-(860,780),(1.6,1.6)-(1.6,1.6));
462   set_boserif(0,19);
463   build_kanji.scale(xyscaled (0.92,1.5) shifted (0,250))
464     (kanji.radical.mu);
465   replace_strokep(-1)(subpath

```

```

466     (xpart (oldp intersectiontimes get_strokep(-3)),infinity) of oldp);
467   set_boserif(-1,0,whatever);
468   replace_strokep(0)(oldp rotatedaround (point 1 of oldp;-15));
469   expand_pbox;
470 endif;
471
472 vardef kanji.radical.narrow_flag =
473   perl_structure:=perl_structure&"eids.u2FF8.u5C38.1_";
474   push_pbox_toexpand("kanji.radical.narrow_flag");
475   push_stroke((800,560)-(800,730)-(200,730){down}..(160,200)..(30,-50),
476     (1.5,1.5)-(1.6,1.6)-(1.6,1.6)-(1.3,1.3)-(0.9,0.9));
477   set_botip(0,1,1);
478   set_botip(0,2,1);
479   set_boserif(0,1,4);
480   set_boserif(0,2,4);
481   set_bosize(0,93);
482   push_stroke((((0,610)-(1000,610))
483     intersectionpoint reverse get_strokep(0))-(800,610),
484     (1.5,1.5)-(1.5,1.5));
485   set_bosize(0,93);
486   expand_pbox;
487 endif;

```



RADI

```

488
489 vardef kanji.radical.northeast =
490   push_pbox_toexpand("kanji.radical.northeast");
491   push_stroke((300,0)–(300,770)–(730,770)–(730,320),
492     (1.5,1.5)–(1.6,1.6)–(1.6,1.6)–(1.5,1.5));
493   set_boserif(0,14);
494   set_boserif(0,24);
495   set_botip(0,1);
496   set_botip(0,2,1);
497   push_stroke((300,570)–(730,570),(1.5,1.5)–(1.5,1.5));
498   push_stroke((300,370)–(730,370),(1.5,1.5)–(1.5,1.5));
499   push_stroke((140,-30)..tension 1.2..(300,0)..(510,70),
500     (1.7,1.7)–(1.5,1.5)–(1,1));
501   push_stroke((500,360)..tension 1.2..(710,40)..(860,-30),
502     (1,1)–(14,14)–(1.7,1.7));
503   push_stroke((820,250)..tension 1.2..(750,190)..
504     (point 0.7 of get_stroke(0)),
505     (1.7,1.7)–(14,14)–(1.2,1.2));
506   expand_pbox;
507 enddef;
508

```

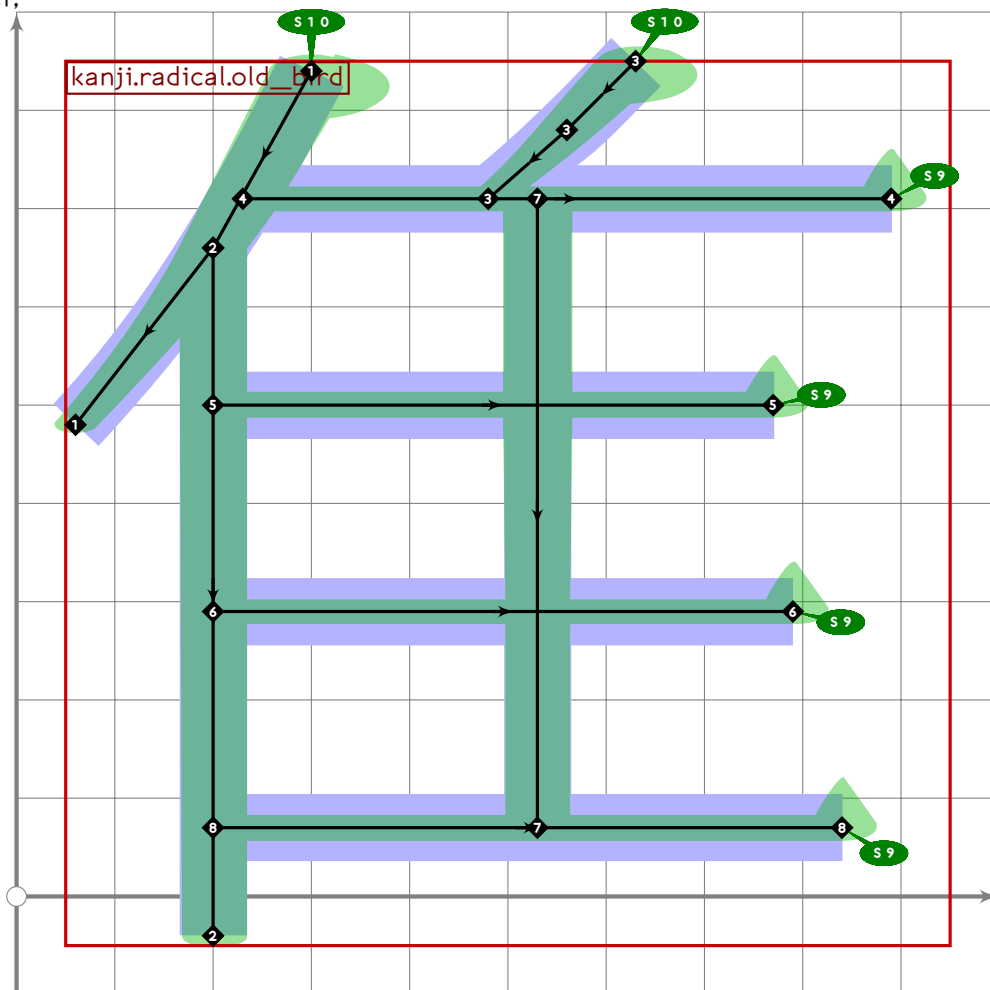
U+96B9  
tsuku.uni96B9

RADI

```

509 vardef kanji.radical.alt_northeast =
510   push_pbox_toexpand("kanji.radical.alt_northeast");
511   push_stroke((300,0)–(300,770)–(730,770)–(730,320),
512     (1.5,1.5)–(1.6,1.6)–(1.6,1.6)–(1.5,1.5));
513   set_boserif(0,14);
514   set_boserif(0,24);
515   set_botip(0,11);
516   set_botip(0,2,1);
517   push_stroke((300,570)–(730,570),(1.5,1.5)–(1.5,1.5));
518   push_stroke((300,370)–(730,370),(1.5,1.5)–(1.5,1.5));
519   push_stroke((130,-20)..tension 1.2..(300,0)..(720,80),
520     (1.7,1.7)–(1.5,1.5)–(1,1));
521   push_stroke((650,170)..tension 1.3..(720,80)..(770,-20),
522     (1,1)–(1.5,1.5)–(1.8,1.8));
523   expand_pbox;
524 enddef;

```



```

525
526 vardef kanji.radical.old_bird =
527   push_pbox_toexpand("kanji.radical.old_bird");
528   push_stroke((300,840){curl 0.1}..(200,660)..(60,480),
529     (1.7,1.7)–(1.5,1.5)–(1,1,1));

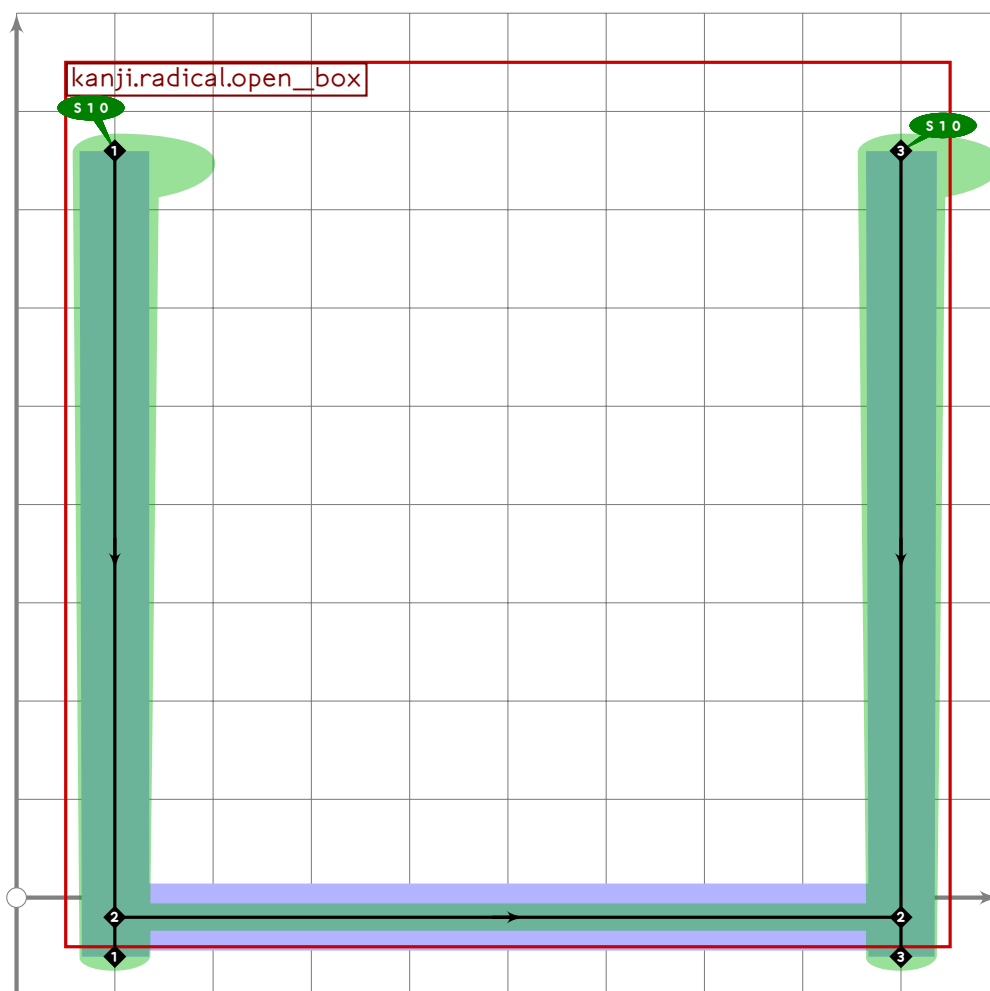
```

```

530 set__boserif(0,0,10);
531 push_stroke((200,660)-(200,-40),
532   (149,149)-(14,14));
533 push_stroke((630,850){curl 0.1}..(560,780)..(480,710),
534   (1.6,1.6)-(14,14)-(11,1.1));
535 set__boserif(0,0,10);
536 push_stroke(
537   (((0,710)-(1000,710)) intersectionpoint get__strokep(-2))-(890,710),
538   (14,14)-(1.5,1.5));
539 set__boserif(0,19);
540 push_stroke((200,500)-(770,500),
541   (14,14)-(1.5,1.5));
542 set__boserif(0,19);
543 push_stroke((200,290)-(790,290),
544   (14,14)-(1.5,1.5));
545 set__boserif(0,19);
546 push_stroke((530,710)-(530,70),(1.5,1.5)-(14,14));
547 push_stroke((200,70)-(840,70),
548   (14,14)-(1.5,1.5));
549 set__boserif(0,19);
550 expand_pbox;
551 enddef;
552
553 % pass in some code that goes in the bottom
554 vardef kanji.radical.old_man(text curves) =
555   push_pbox__toexpand("kanji.radical.old_man");
556   build_kanji.level(
557     build_kanji.tb(480,110)
558     (kanji.grone.earth;
559     replace__strokep(-1)
560     (oldp shifted (-500,0) xscaled 0.75 shifted (480,0)))
561     (curves);
562   push_stroke((880,780)..tension 1.2..(600,530)..(50,260),
563     (1.6,1.6)-(1.5,1.5)-(1,1));
564   expand_pbox;
565 enddef;

```

RADI

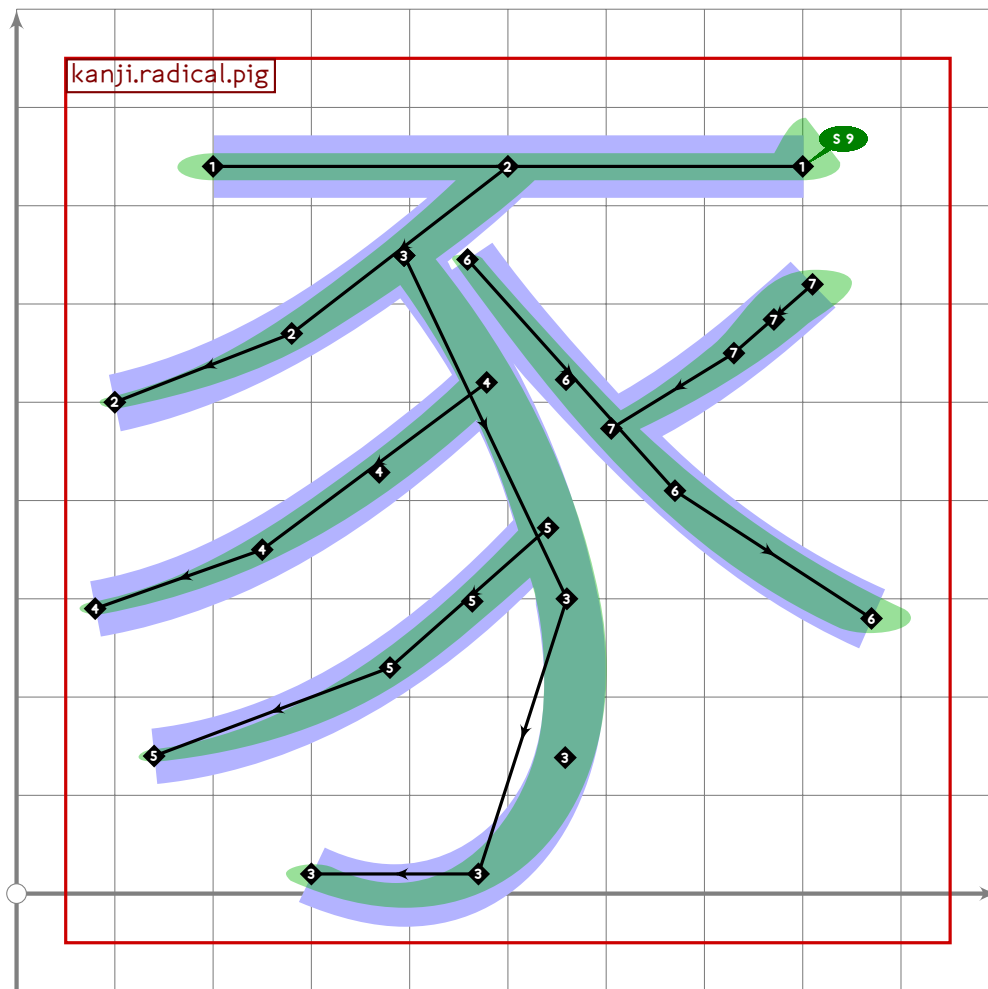


```

566
567 vardef kanji.radical.open_box =
568   push_pbox_toexpand("kanji.radical.open_box");
569   push_stroke((100,760)-(100,-60),(1.7,1.7)-(1.5,1.5));
570   set_boserif(0,0,10);
571   push_stroke((100,-20)-(900,-20),(1.5,1.5)-(1.5,1.5));
572   push_stroke((900,760)-(900,-60),(1.7,1.7)-(1.5,1.5));
573   set_boserif(0,0,10);
574   expand_pbox;
575 enddef;

```





RADI

```

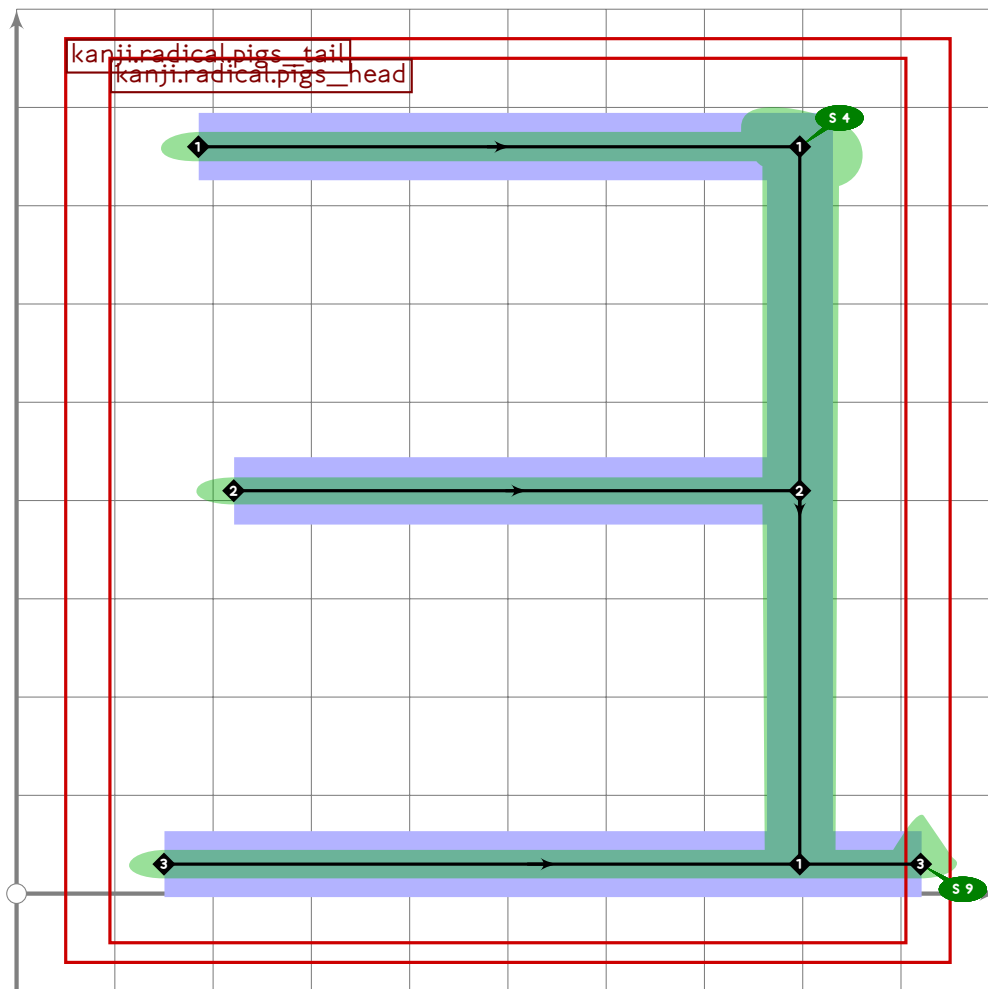
576
577 vardef kanji.radical.pig =
578   push_pbox__toexpand("kanji.radical.pig");
579   push_stroke((200,740)-(800,740),(1,6,1,6)-(1,6,1,6));
580   set_boserif(0,19);
581   push_stroke((500,740)..tension 1.2..(280,570)..(100,500),
582     (1,6,1,6)-(14,1,4)-(1,0,1,0));
583   push_stroke(
584     (point 0.5 of get_stroke(0))..tension 1.1..(560,300)..
585     (470,20)..{curl 0.6}(300,20),
586     (1,3,1,3)-(1,5,1,5)-(14,1,4)-(1,3,1,3));
587   push_stroke(
588     (point 0.4 of get_stroke(0))..tension 1.2..(250,350)..(80,290),
589     (1,35,1,35)-(14,1,4)-(1,0,1,0));
590   push_stroke(
591     (point 0.8 of get_stroke(1))..tension 1.2..(380,230)..(140,140),
592     (1,35,1,35)-(14,1,4)-(1,0,1,0));
593   push_stroke(
594     ((0,90)+point 0.3 of get_stroke(2))..tension 1.2..(670,410)..(870,280),
595     (1,1)-(14,1,4)-(1,7,1,7));
596   push_stroke(

```

```

597 (810,620)..tension 1.2..(730,550)..(point 0.7 of get_strokep(0)),
598 (1.7,1.7)–(1.4,1.4)–(1.2,1.2));
599 for i=-6 upto 0: set_bosize(i,92); endfor;
600 expand_pbox;
601 enddef;
602
603 vardef kanji.radical.pigs_head =
604   push_pbox_toexpand("kanji.radical.pigs_head");
605   push_stroke((150,760)–(830,760)–(830,70),
606     (1.6,1.6)–(1.6,1.6)–(1.5,1.5));
607   set_botip(0,1);
608   set_bosetif(0,14);
609   push_stroke((190,410)–(830,410),(1.55,1.55)–(1.55,1.55));
610   push_stroke((150,30)–(830,30),(1.5,1.5)–(1.5,1.5));
611   expand_pbox;
612 enddef;
613
614 % name is mine - it has central horizontal line lengthened
615 vardef kanji.radical.pigs_snout =
616   push_pbox_toexpand("kanji.radical.pigs_snout");
617   build_kanji.level(
618     build_kanji.sscale(xscaled 0.87)(kanji.radical.pigs_head);
619     replace_strokep(-1)((100,410)–(910,410));
620     set_bosetif(-1,19);
621   );
622   expand_pbox;
623 enddef;
624

```



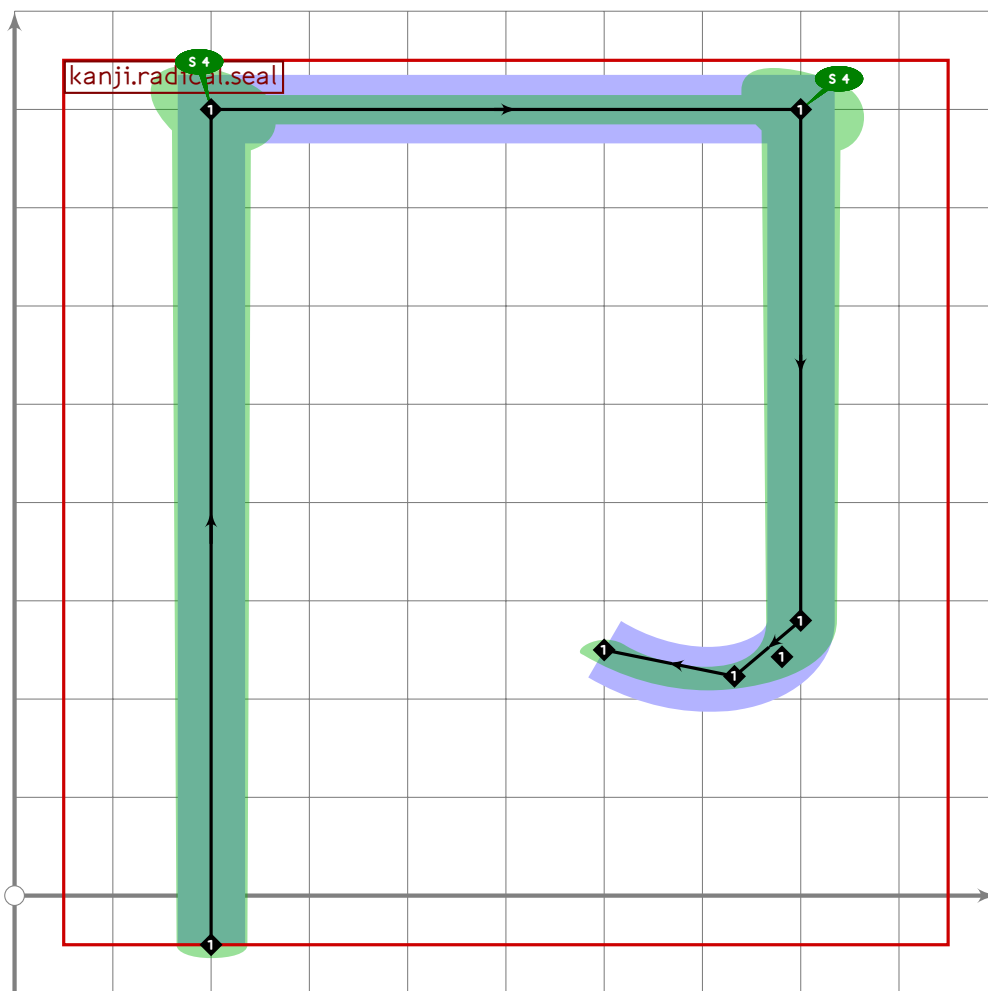
RADI

```

625 % name is mine - it has bottom horizontal line lengthened, vertical clipped
626 vardef kanji.radical.pigs_tail =
627   push_pbox__toexpand("kanji.radical.pigs_tail");
628   build_kanji.sscale(xscaled 0.9)
629   (kanji.radical.pigs_head;
630     replace_strokep(-2)((150,760)-(830,760)-(830,30)));
631   replace_strokep(0)((150,30)-(920,30));
632   set_boserif(0,1,9);
633   expand_pbox;
634 enddef;

```

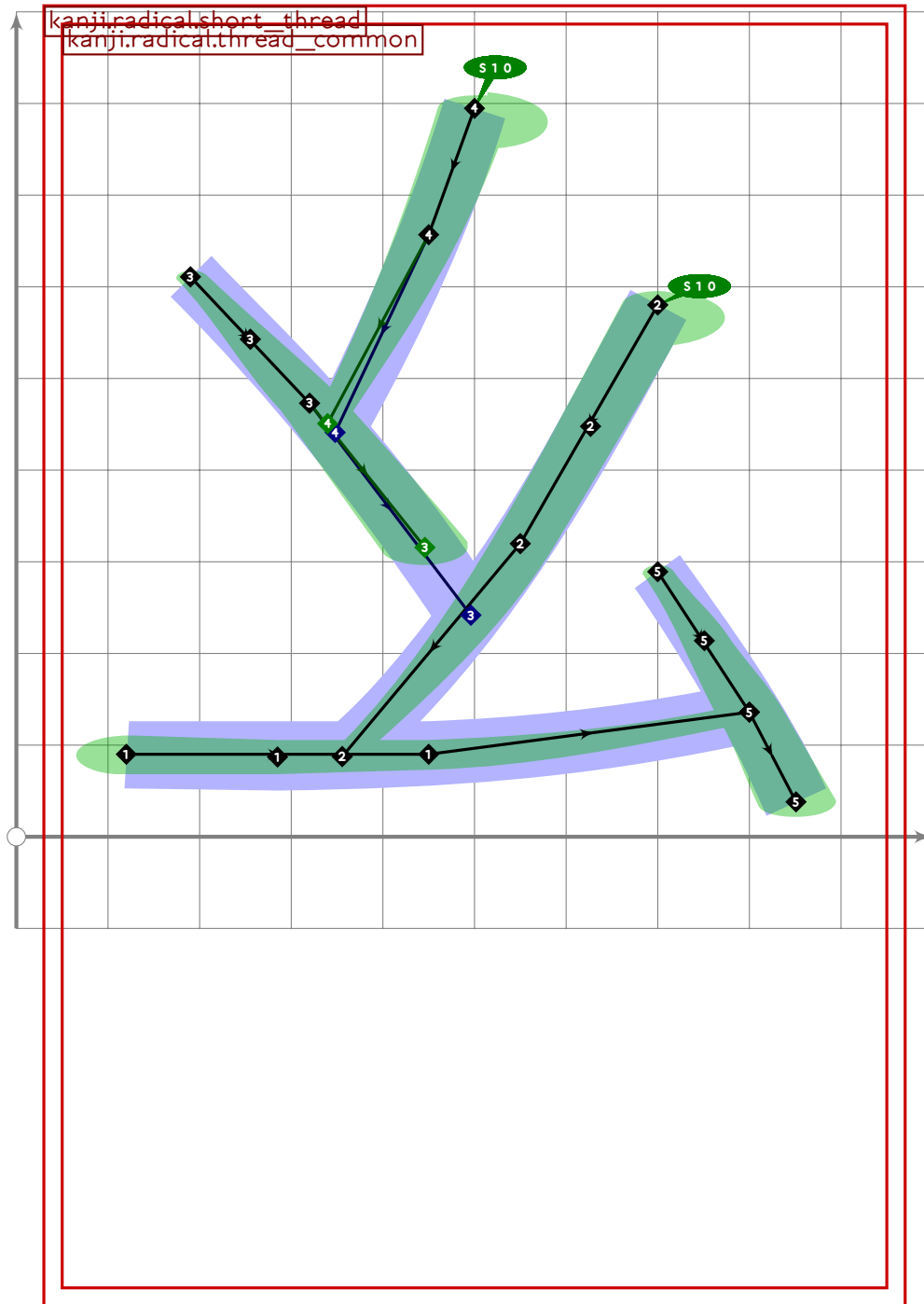
RADI



```

635
636 vardef kanji.radical.seal =
637   push_pbox__toexpand("kanji.radical.seal");
638   push_stroke((150,300)–(150,550)–(600,550),
639     (1.5,1.5)–(1.6,1.6)–(1.6,1.6));
640   build_kanji.add_jtail(0);
641   replace_strokep(0)(oldp shifted (0,250) xscaled 1.3333);
642   set_boserif(0,1,4);
643   set_boserif(0,2,4);
644   set_botip(0,1,1);
645   set_botip(0,2,1);
646   expand_pbox;
647 enddef;

```



RADI

```

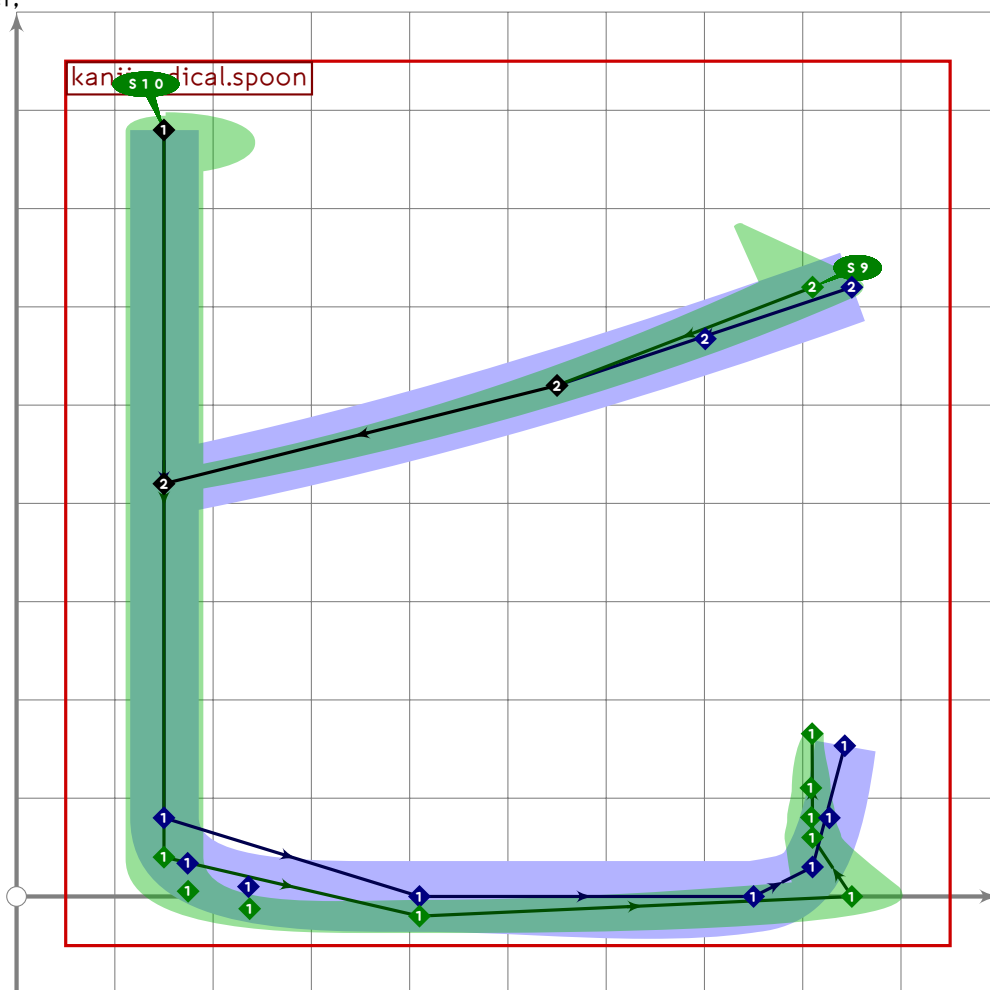
648
649 vardef kanji.radical.short_thread =
650   push_pbox_toexpand("kanji.radical.short_thread");
651   tsu_xform(begingroup
652     save myxf;
653     transform myxf;
654     xpart myxf=yxpart myxf=0;
655     xpart myxf=1;
656     (500,330) transformed myxf=(500,90);
657     (500,800) transformed myxf=(500,810);

```

```

658 myxf
659 endgroup)(kanji.radical.thread_common);
660 replace_strokep(0)(subpath (0,1.6) of oldp);
661 replace_strokeq(0)(subpath (0,1.6) of oldq);
662 for i=-4 upto 0: set_bosize(i,100); endfor;
663 expand_pbox;
664 enddef;
665
666 vardef kanji.radical.silly_hat =
667   push_pbox_toexpand("kanji.radical.silly_hat");
668   push_stroke((500,800)..(500,500),(1.6,1.6)-(1.5,1.5));
669   set_bosize(0,95);
670   set_boserif(0,0,10);
671   kanji.radical.conservative_hat;
672   expand_pbox;
673 enddef;

```



```

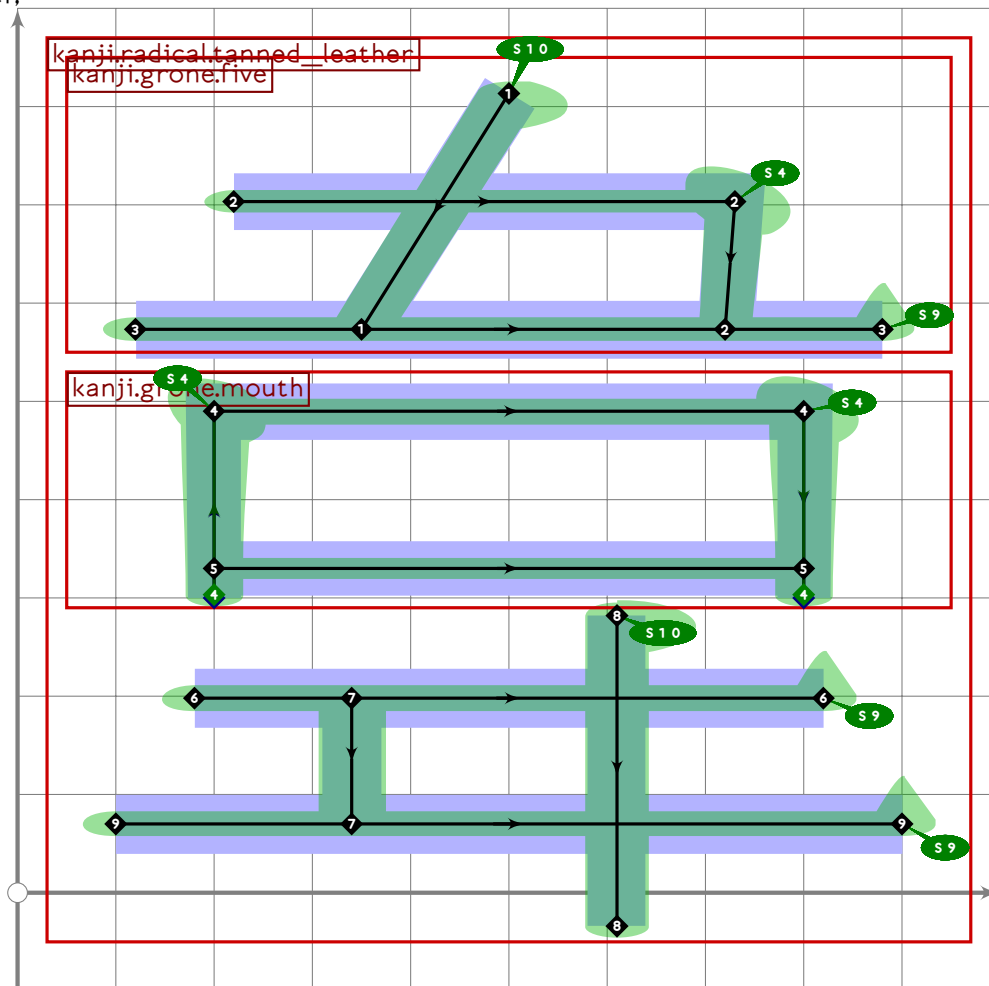
674
675 vardef kanji.radical.spoon =
676   push_pbox_toexpand("kanji.radical.spoon");
677   push_stroke((150,780),(1.6,1.6));
678   build_kanji.add_ltail(0);

```

```

679 set_boserif(0,0,10);
680 push_stroke(
681   (xpart point infinity of get_stroke(0),620)..(550,520)..(150,420),
682   (1,9,19)..(1,6,1,6)..(1,3,1,3));
683 set_boserif(0,0,9);
684 expand_pbox;
685 enddef;

```



RADI

```

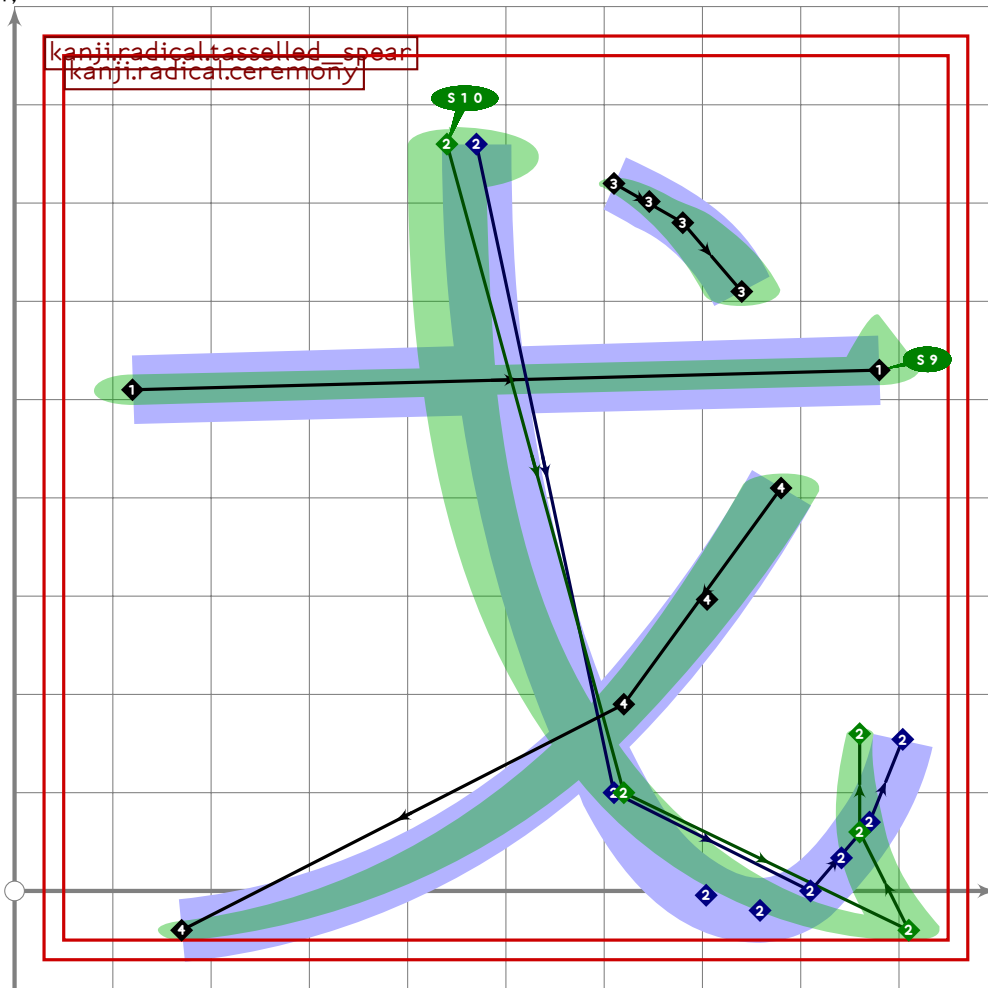
686
687 vardef kanji.radical.tanned_leather =
688   push_pbox_toexpand("kanji.radical.tanned_leather");
689   build_kanji.tcb(540,-20)(300,20)
690     (kanji.grone.five;
691       set_bosize(-3,0);
692       set_boserif(-2,0,10))
693     (kanji.grone.mouth)
694     (push_stroke((180,570)-(820,570),(1,6,1,6)-(1,6,1,6));
695       set_boserif(0,1,9);
696       push_stroke((340,570)-(340,250),(1,6,1,6)-(1,6,1,6));
697       push_stroke((610,780)-(610,-10),(1,6,1,6)-(1,5,1,5));
698       set_boserif(0,0,10);
699       push_stroke((100,250)-(900,250),(1,6,1,6)-(1,6,1,6));

```

U+6208  
tsuku.uni6208

```
700 set_boserif(0,1,9));
701 expand_pbox;
702 enddef;
```

RADI



```
703
704 vardef kanji.radical.tasselled_spear =
705   push_pbox_toexpand("kanji.radical.tasselled_spear");
706   kanji.radical.ceremony;
707   push_stroke((780,410)..tension 1.2..(620,190)..(170,40),
708     (1.6,1.6)-(14,14)-(1.2,1.2));
709   expand_pbox;
710 enddef;
711
712 vardef kanji.radical.tent =
713   perl_structure:=perl_structure&"eids.u2FF1.u4EBA.1_";
714   push_pbox_toexpand("kanji.radical.tent");
715   push_stroke((510,800)..(450,700)..(300,540)..(60,360),
716     (1.6,1.6)-(1.5,1.5)-(1.3,1.3)-(0.85,0.9));
717   set_boserif(0,0,10);
718   push_stroke(
719     (point 0.2 of get_stroke(0))..tension 1.2..(640,620)..(920,400),
720     (1,1)-(1.3,1.3)-(2.25,0.95));
```



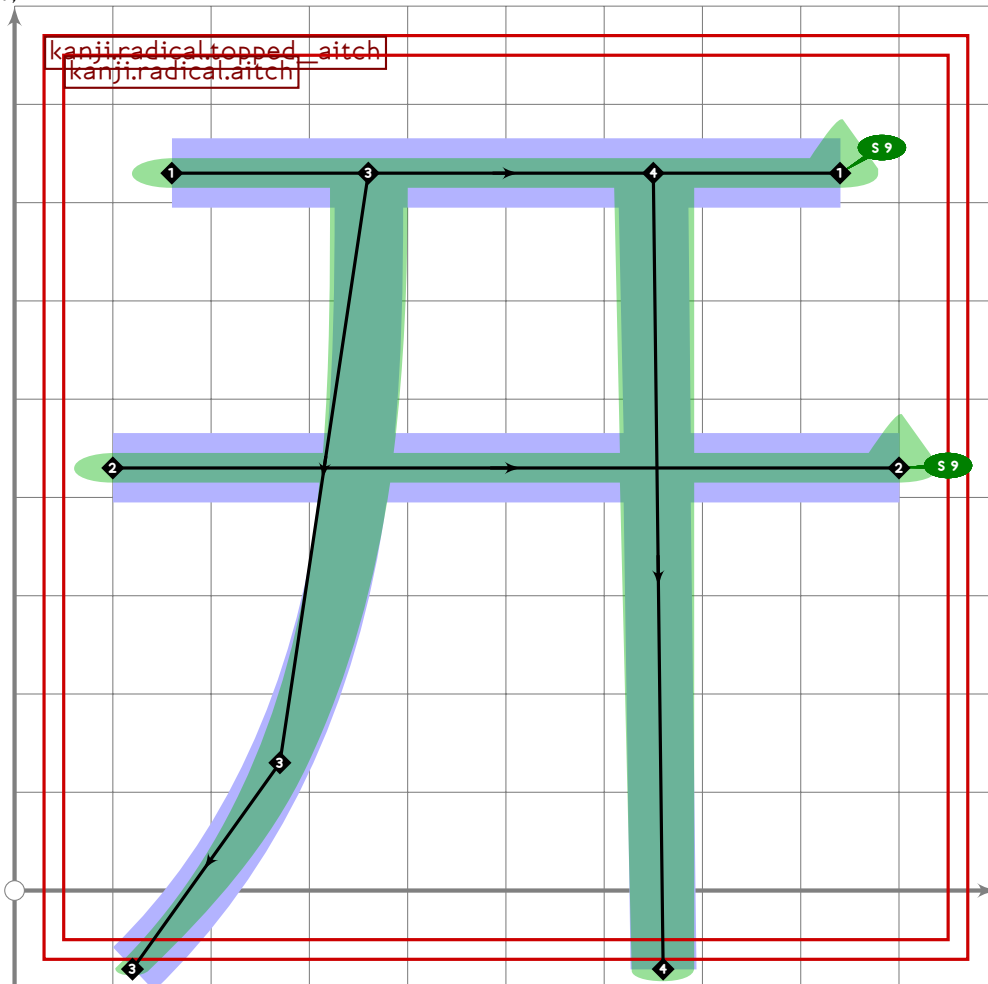
```

721 push_stroke((330,470)-(660,470),(1.6,1.6)-(1.6,1.6));
722 set_boserif(0,19);
723 expand_pbox;
724 enddef;
725
726 vardef kanji.radical.thread_common =
727   push_pbox_toexpand("kanji.radical.thread_common");
728   push_stroke((120,330)..tension 1.2..(450,330)..(800,360),
729     (2,2)-(1.7,1.7)-(1.2,1.2));
730   push_stroke((700,650)..tension 1.3..(550,480)..
731     (point 0.7 of get_stroke(0)),
732     (1.6,1.6)-(1.5,1.5)-(1,1));
733   set_boserif(0,0,10);
734   push_stroke(subpath (0,2-0.3*mincho) of
735     ((190,670)..tension 1.3..(320,580)..(point 1.3 of get_stroke(0))),
736     (1,1)-(1.5,1.5)-(1.8,1.8));
737   push_stroke((500,790)..(450,700)..(point 1.15 of get_stroke(0)),
738     (1.6,1.6)-(1.5,1.5)-(1,1));
739   set_boserif(0,0,10);
740   push_stroke((700,460)..tension 1.3..(800,360)..(880,250),
741     (1,1)-(1.5,1.5)-(1.8,1.8));
742   expand_pbox;
743 enddef;
744
745 vardef kanji.radical.three_tailed_sheep =
746   push_pbox_toexpand("kanji.radical.three_tailed_sheep");
747   kanji.grthree.sheep;
748   push_stroke(
749     (510,615){down}..(500,260)..(370,70)..{curl 0.5}(50,-60),
750     (1.6,1.6)-(1.4,1.4)-(1.1,1.1));
751   push_stroke(((get_stroke(0) intersectionpoint get_stroke(-4))+(50,0))..
752     (650,80)..(900,-50),
753     (1.1,1.1)-(1.4,1.4)-(1.7,1.7));
754   replace_stroke(-1)(subpath
755     (xpart (oldp intersectiontimes get_stroke(-5)),infinity) of oldp);
756   expand_pbox;
757 enddef;
758
759 vardef kanji.radical.three_tasselled_spear =
760   push_pbox_toexpand("kanji.radical.three_tasselled_spear");
761   kanji.radical.ceremony;
762   replace_stroke(-2)(oldp shifted (0,40));
763   replace_stroke(0)(oldp shifted (-680,750) xyscaled (1.2,0.6)
764     shifted (680,750));
765   push_stroke((subpath (0,10.9) of get_stroke(-2)) shifted (0,-130),
766     (1.6,1.6)-(1.6,1.6));
767   set_boserif(0,19);
768   push_stroke(get_stroke(-3) shifted (0,-270),

```

U+5F00  
tsuku.uni5F00

```
769 (1.6,1.6)-(1.6,1.6));  
770 set_boserif(0,19);  
771 push_stroke((800,220)..tension 1.2..(620,88)..(120,-40),  
772 (1.6,1.6)-(14,14)-(1.2,1.2));  
773 expand_pbox;  
774 enddef;
```



```
775  
776 vardef kanji.radical.topped_aitch =  
777   push_pbox_toexpand("kanji.radical.topped_aitch");  
778   push_stroke((160,730)-(840,730),(1.6,1.6)-(1.6,1.6));  
779   set_boserif(0,19);  
780   kanji.radical.aitch;  
781   set_boserif(-1,0,whatever);  
782   set_boserif(0,0,whatever);  
783   expand_pbox;  
784 enddef;  
785  
786 vardef kanji.radical.travel_inside =  
787   push_pbox_toexpand("kanji.radical.travel_inside");  
788   push_stroke((720,810)..tension 1.2..(380,610)..(80,510),  
789 (1.7,1.7)-(1.5,1.5)-(1,1));
```

RADI

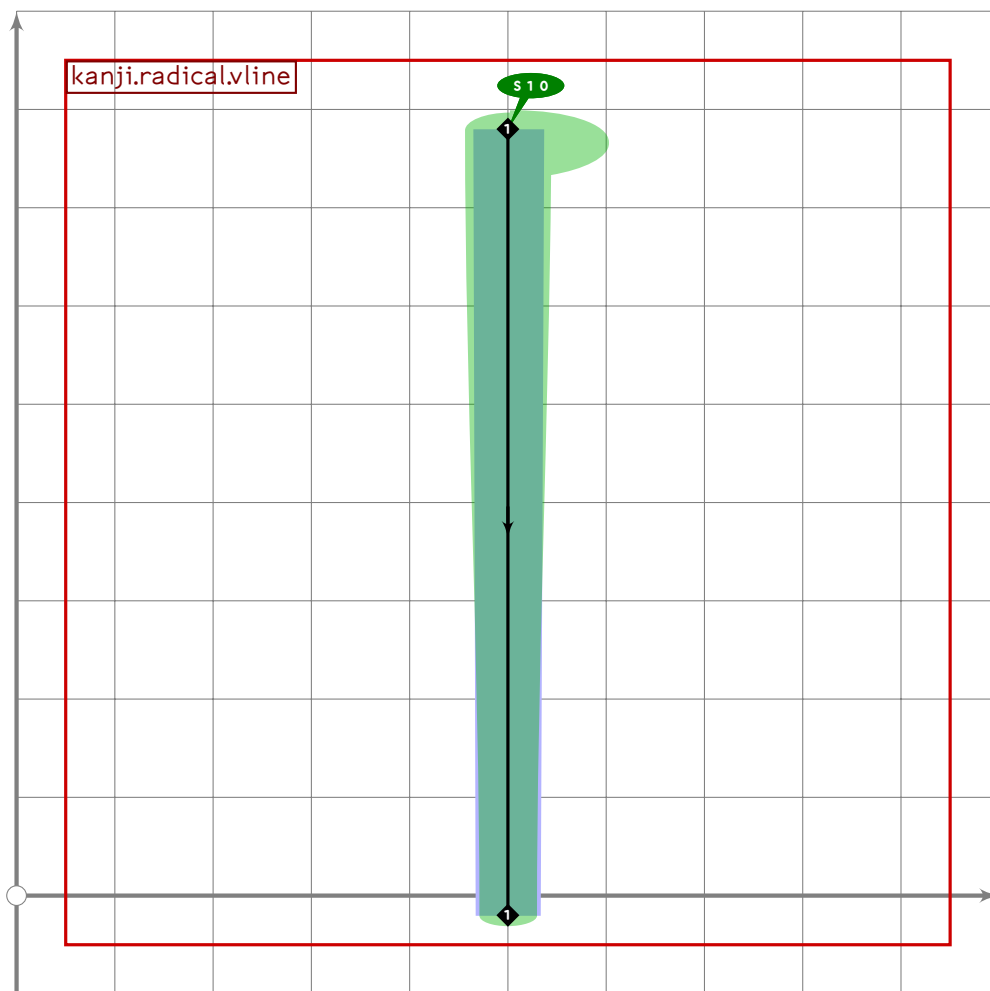
```

790 push_stroke((320,570)-(320,-60),(1.6,1.6)-(1.5,1.5));
791 push_stroke((point 0.7 of get_stroke(-1))..
792     tension 1.2..(650,240)..(850,0),
793     (1,1)-(14,14)-(17,17));
794 push_stroke((770,490)..tension 1.2..(680,420)..
795     (point 0.65 of get_stroke(0)),
796     (17,17)-(14,14)-(12,12));
797 expand_pbox;
798 enddef;
799
800 vardef kanji.radical.tusk =
801     push_pbox_toexpand("kanji.radical.tusk");
802     push_stroke((140+30*mincho,780)-(830,780),(1.6,1.6)-(1.6,1.6));
803     set_boserif(0,19);
804     push_stroke((660,780),(1.6,1.6));
805     build_kanji.add_jtail(0);
806     push_stroke((340,780)-(340,480),(1.6,1.6)-(1.5,1.5));
807     push_stroke((110+30*mincho,480)-(860,480),(1.6,1.6)-(1.6,1.6));
808     set_boserif(0,19);
809     push_stroke((580,480)..tension 1.2..(380,200)..(110,60),
810         (1.6,1.6)-(14,14)-(1,1));
811     expand_pbox;
812 enddef;
813
814 % insert "Scottish tsundere" joke here
815 vardef kanji.radical.twin_tailed_sheep =
816     push_pbox_toexpand("kanji.radical.twin_tailed_sheep");
817     kanji.grthree.sheep;
818     replace_stroke(0)
819         ((510,615){down}..(500,260)..(370,70)..{curl 0.5}(50,-60));
820     replace_strokeq(0)((1.6,1.6)-(1.6,1.6)-(14,14)-(1,1,1));
821     push_stroke(((get_stroke(0) intersectionpoint get_stroke(-3))+(50,0))..
822         (650,80)..(900,-50),
823         (1,1,1)-(14,14)-(17,17));
824     expand_pbox;
825 enddef;

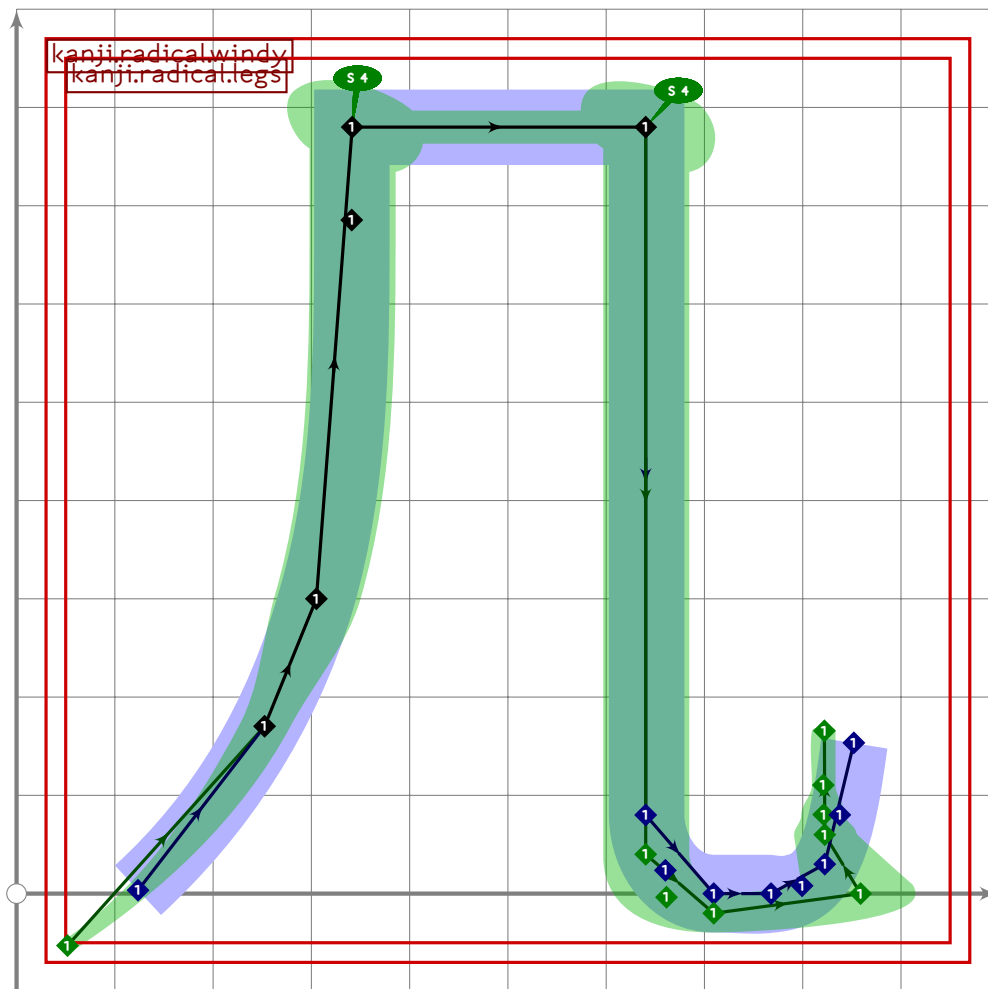
```

U+4E28  
tsuku.uni4E28

RADI



```
826
827 vardef kanji.radical.vline =
828   push_pbox__toexpand("kanji.radical.vline");
829   push_stroke((500,780)-(500,-20),(1.7,1.7)-(1.3,1.3));
830   set_boserif(0,0,10);
831   expand_pbox;
832 enddef;
```



RADI

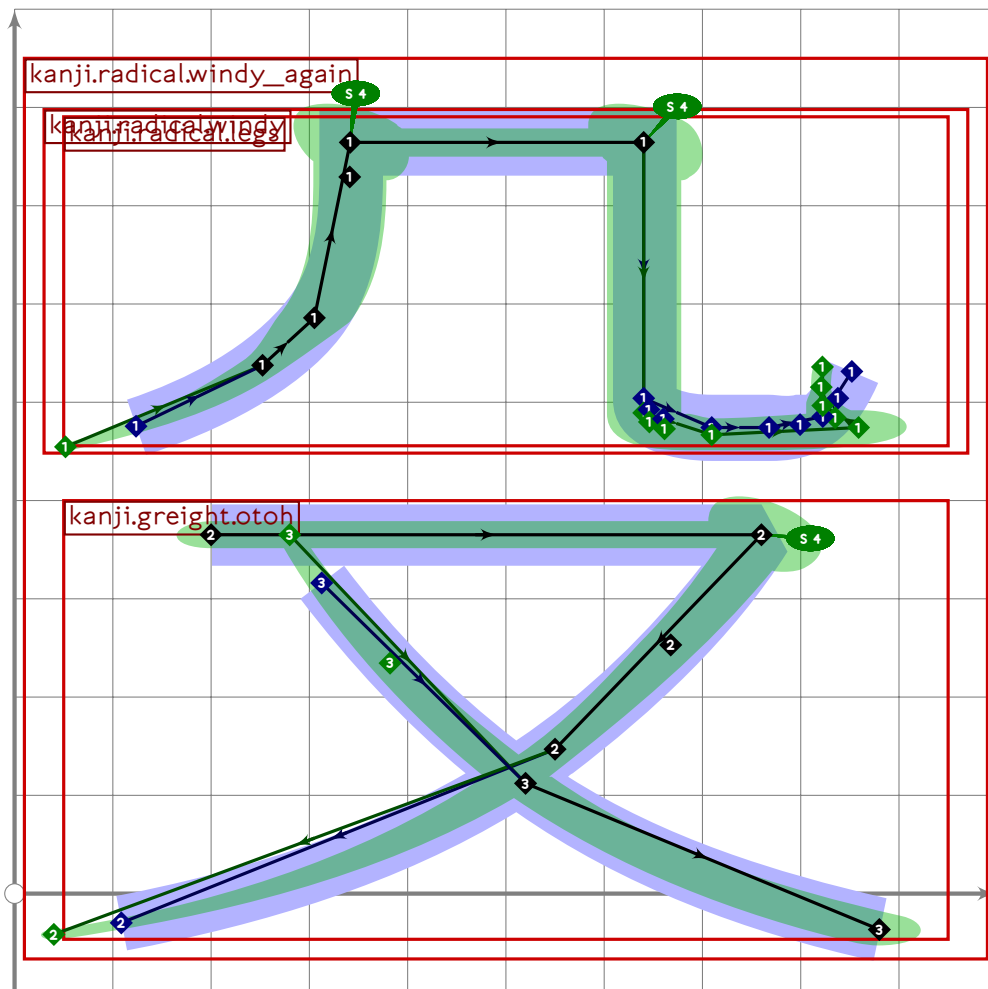
```

833
834 vardef kanji.radical.windy =
835   push_pbox__toexpand("kanji.radical.windy");
836   build_kanji.spread_legs(80)(kanji.radical.legs);
837   replace_strokep(-1)((reverse oldp)-get_strokep(0));
838   replace_strokeq(-1)((reverse oldq)-get_strokeq(0));
839   pop_stroke;
840   set_boserif(0,3,4);
841   set_boserif(0,4,4);
842   set_botip(0,3,1);
843   set_botip(0,4,1);
844   expand_pbox;
845 enddef;

```

U+6BB3  
tsuku.uni6BB3

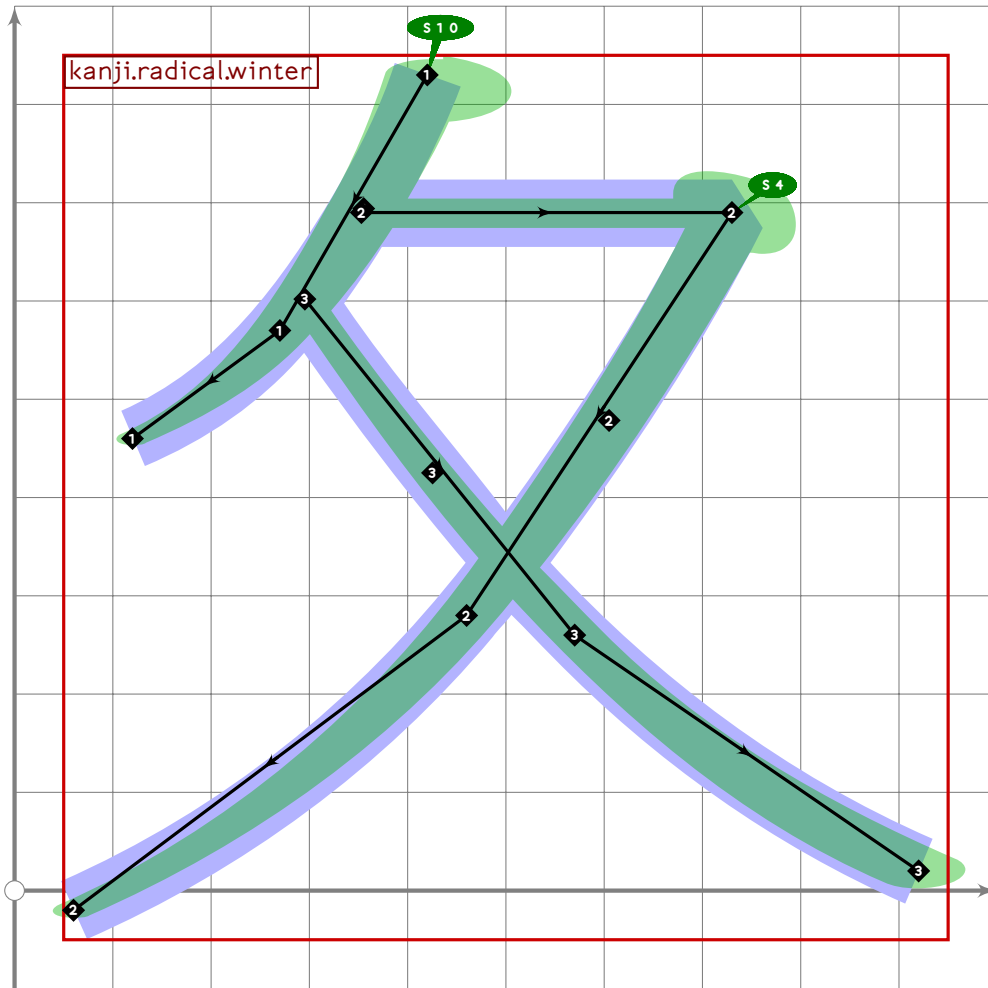
RADI



```

846
847 vardef kanji.radical.windy_again =
848   push_pbox_toexpand("kanji.radical.windy_again");
849   tsu_xform(identity yscaled 0.93)
850     (build_kanji.tb(460,-60)
851       (kanji.radical.windy)
852       (kanji.greight.otoh));
853   expand_pbox;
854 enddef;

```



RADI

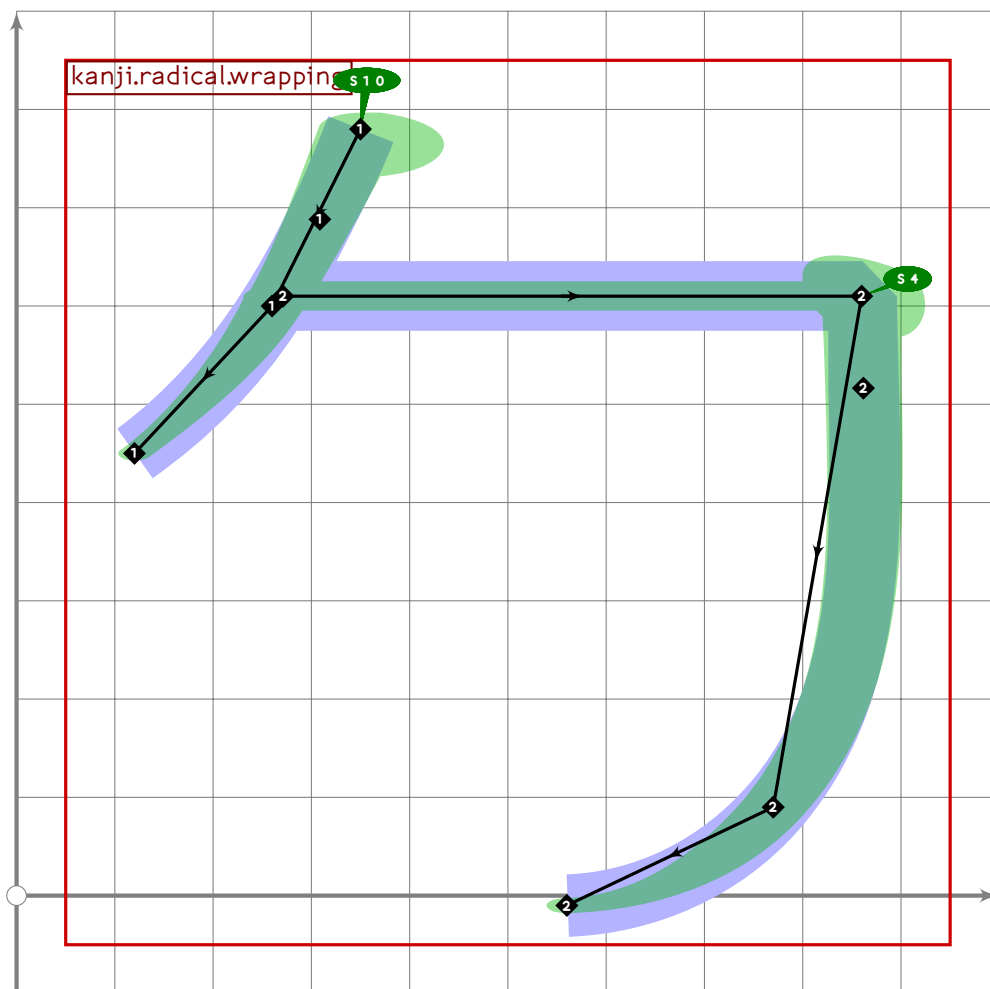
```

855
856 vardef kanji.radical.winter =
857   push_pbox_toexpand("kanji.radical.winter");
858   push_stroke((420,830)..tension 1.2..(270,570)..(120,460),
859     (1,7,7)-(14,14)-(1,1));
860   set_boserif(0,0,10);
861   push_stroke((get_stroke(0) intersectionpoint ((0,690)-(1000,690)))-(
862     (730,690)..tension 1.2..(460,280)..(60,20),
863     (1,5,1,5)-(1,6,1,6)-(14,1,4)-(1,1,1,1));
864   set_boserif(0,14);
865   set_botip(0,1,0);
866   push_stroke((point 0.85 of get_stroke(-1))..tension 1.2..
867     (570,260)..(920,20),
868     (1,1)-(1,3,1,3)-(1,8,1,8));
869   expand_pbox;
870 enddef;

```

U+52F9  
tsuku.uni52F9

RADI

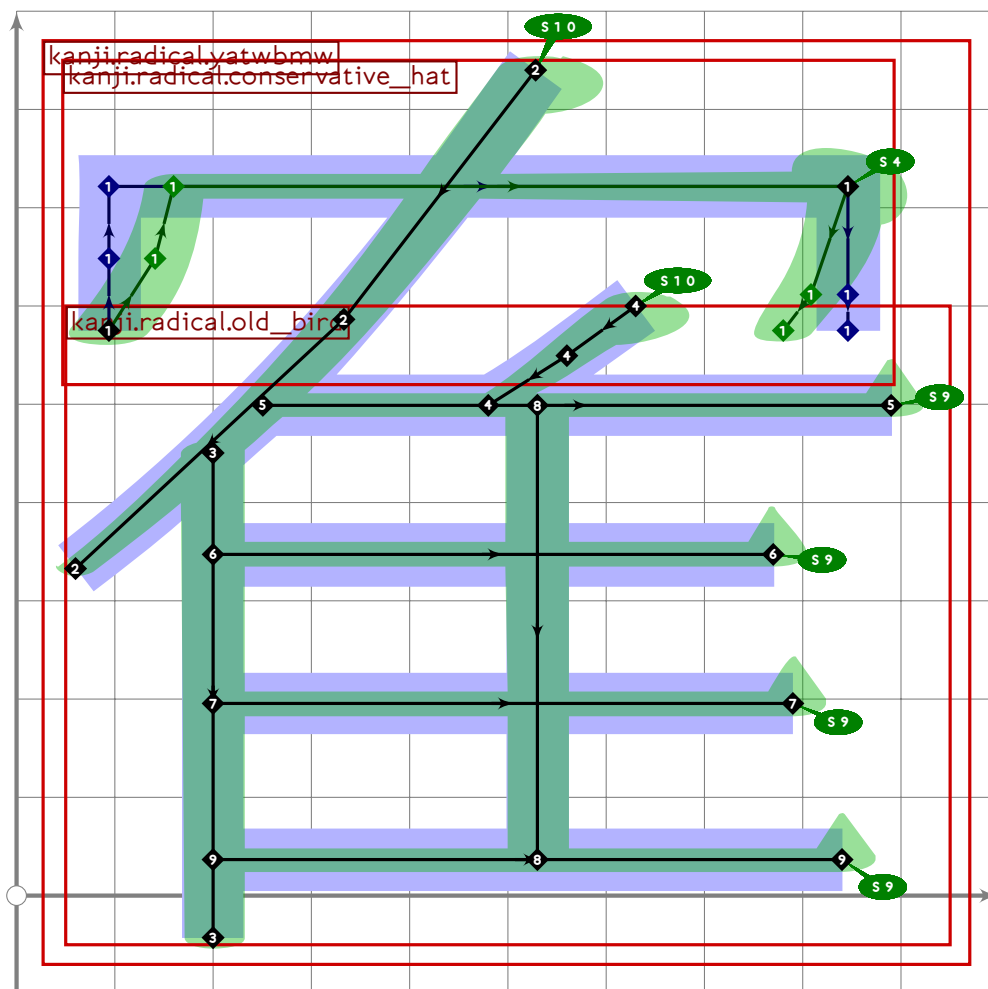


```

871
872 vardef kanji.radical.wrapping =
873   push_pbox__toexpand("kanji.radical.wrapping");
874   push_stroke((350,780)..tension 1.2..(260,600)..(120,450),
875     (1,7,1,7)-(1,4,1,4)-(1,1,1));
876   set_boserif(0,0,10);
877   push_stroke(
878     ((5,0)+((get_stroke(0) intersectionpoint ((0,610)-(1000,610)))))-
879     (860,610){down}..(770,90)..(560,10),
880     (1,6,1,6)-(1,6,1,6)-(1,5,1,5)-(1,1,1,1));
881   set_boserif(0,1,4);
882   set_botip(0,1,0);
883   expand_pbox;
884 enddef;
885

```





RADI

886 % "you are the wind beneath my wings" - connotes both literal bird flight

887 % and high ambition

888 vardef kanji.radical.yatwbmw =

889 push\_pbox\_toexpand("kanji.radical.yatwbmw");

890 build\_kanji.level(

891 build\_kanji.tb(560,80)

892 (build\_kanji.sscale(xscaled 0.94 shifted (-30,0))

893 (kanji.radical.conservative\_hat))

894 (kanji.radical.old\_bird);

895 replace\_stroke(-7)

896 (oldp

897 shifted (-point 2 of oldp)

898 scaled ((840-ypart (point 2 of oldp))

899 / (ypart (point 0 of oldp)-ypart (point 2 of oldp)))

900 shifted (point 2 of oldp));

901 replace\_stroke(-6)

902 ((oldp intersectionpoint get\_stroke(-7))-(point 1 of oldp));

903 replace\_stroke(-4)

904 ((oldp intersectionpoint get\_stroke(-7))-(point 1 of oldp));

905 );

906 expand\_pbox;

907 enddef;

RADI

## rightrad.mp

```
1 %
2 % Right-side radicals
3 % Copyright (C) 2012, 2013, 2016, 2017, 2019, 2021 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(rightrad);
32
33 _____
34
35 vardef kanji.rightrad.attempt =
36   push_pbox_toexpand("kanji.rightrad.attempt");
37   build_kanji.tb(380,420)
38     (kanji.radical.tent)
39     (kanji.grfour.husband;
40       set_bosize(-3,0);
41       set_bosize(-2,0);
42       set_boserif(-1,0,whatever);
43       build_kanji.box((220,610),(780,360)));
44   expand_pbox;
45 enddef;
46
47 vardef kanji.rightrad.beta =
48   push_pbox_toexpand("kanji.rightrad.beta");
49   kanji.radical.beta;
50   replace_strokep(0)
51     (oldp shifted (-250,-760) xyscaled (1.2,630/550) shifted (300,760));
52   replace_strokep(0)((300,-60)-(subpath (1,infinity) of oldp));
53   expand_pbox;
54 enddef;
55
56 % KanjiVG lists this as U+5F54, but it's a little different visually
57 vardef kanji.rightrad.carve_wood =
58   push_pbox_toexpand("kanji.rightrad.carve_wood");
59   build_kanji.tb(420,60)
60     (kanji.radical.pigs_tail)
61     (kanji.radical.alt_water);
62   expand_pbox;
63 enddef;
64
65 % named for the most common character to contain it
66 vardef kanji.rightrad.clothing =
67   push_pbox_toexpand("kanji.rightrad.clothing");
68   tsu_xform(identity yscaled 0.92)(build_kanji.tb(440,60)
69     (kanji.radical.seal)
70     (tsu_xform(identity shifted (50,0))
```

**RIGH**

```

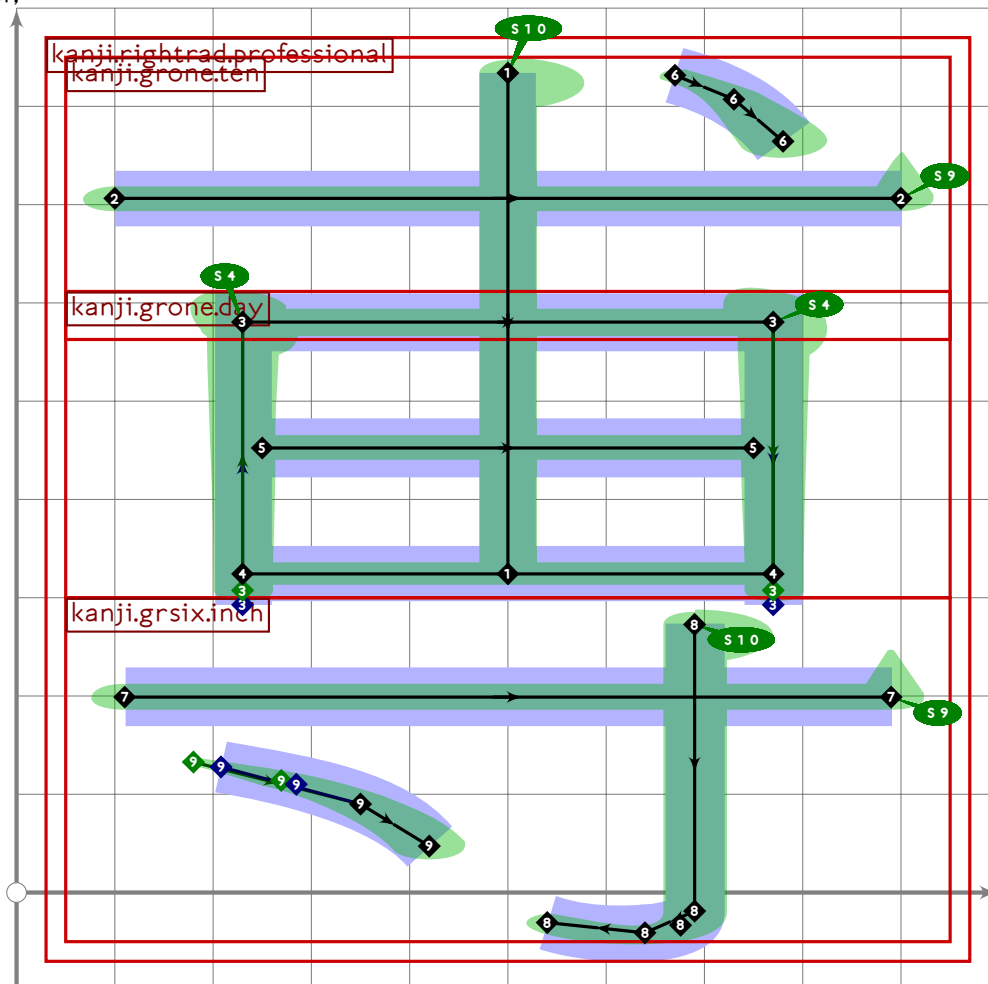
71      (kanji.greight.otoh)));
72  replace_strokep(-2)
73    ((xpart point 0 of oldp,-40)-subpath (1,infinity) of oldp);
74  replace_strokep(-1)
75    (oldp shifted (-900,0) xscaled 0.78 shifted (900,0));
76  replace_strokep(-1)
77    (((-170,0)+point 0 of oldp)-subpath (1,infinity) of oldp);
78  expand_pbox;
79 enddef;
80
81 vardef kanji.rightrad.crooked_heaven =
82  push_pbox_toexpand("kanji.rightrad.crooked_heaven");
83  push_stroke((130,740)-(780,740),(1.6,1.6)-(1.6,1.6));
84  set_boserif(0,19);
85  push_stroke((80,460)-(890,460),(1.6,1.6)-(1.6,1.6));
86  set_boserif(0,19);
87  push_stroke((250,740)-(250,460),(1.6,1.6)-(1.5,1.5));
88  push_stroke((600,740){down}..(575,510)..(370,200){curl 0.5}(50,-20),
89    (1.6,1.6)-(1.6,1.6)-(1.4,1.4)-(1.1,1.1));
90  push_stroke((580,360),(1.6,1.6));
91  build_kanji.add_ltail(0);
92  set_boserif(0,0,10);
93  expand_pbox;
94 enddef;
95
96 vardef kanji.rightrad.genius =
97  push_pbox_toexpand("kanji.rightrad.genius");
98  push_stroke((600,800),(1.6,1.6));
99  build_kanji.add_jtail(0);
100 set_boserif(0,0,10);
101 push_stroke((110+30*mincho,580)-(860,580),(1.6,1.6)-(1.6,1.6));
102 set_boserif(0,19);
103 push_stroke((520,580)..tension 1.2..(360,260)..(110,90),
104   (1.6,1.6)-(1.4,1.4)-(1,1));
105 expand_pbox;
106 enddef;
107
108 vardef kanji.rightrad.half =
109  push_pbox_toexpand("kanji.rightrad.half");
110  kanji.grtwo.half;
111  replace_strokep(-3)(oldp shifted (-500,0));
112  replace_strokep(-4)(oldp shifted (460,0));
113  expand_pbox;
114 enddef;
115
116 vardef kanji.rightrad.night_watch =
117  push_pbox_toexpand("kanji.rightrad.night_watch");
118  kanji.greight.night_watch;

```

```

119 replace_strokep(0)((190,100)..tension 1.2..(280,150)..(340,210)
120   &(340,210)..tension 1.2..(610,40)..(840,-10));
121 replace_strokeq(0)((1.8,1,0)-(1,0,1,0)-(0.85,1,0)-(1.5,1,5)-(2,2));
122 set_botip(0,2,1);
123 expand_pbox;
124 enddef;

```



RIGH

```

125
126 vardef kanji.rightrad.professional =
127   push_pbox_toexpand("kanji.rightrad.professional");
128   build_kanji.tb(300,0)
129     (build_kanji.tb(420,80)
130       (kanji.grone.ten)
131       (kanji.grone.day);
132   replace_strokep(-4)((point 0 of oldp)-(point 0.5 of get_strokep(-1)));
133   push_stroke((670,820)..(730,780)..(780,710),
134     (1,1)-(1.4,1.4)-(1.8,1.8)))
135   (kanji.grsix.inch);
136   expand_pbox;
137 enddef;
138
139 vardef kanji.rightrad.resemblance =

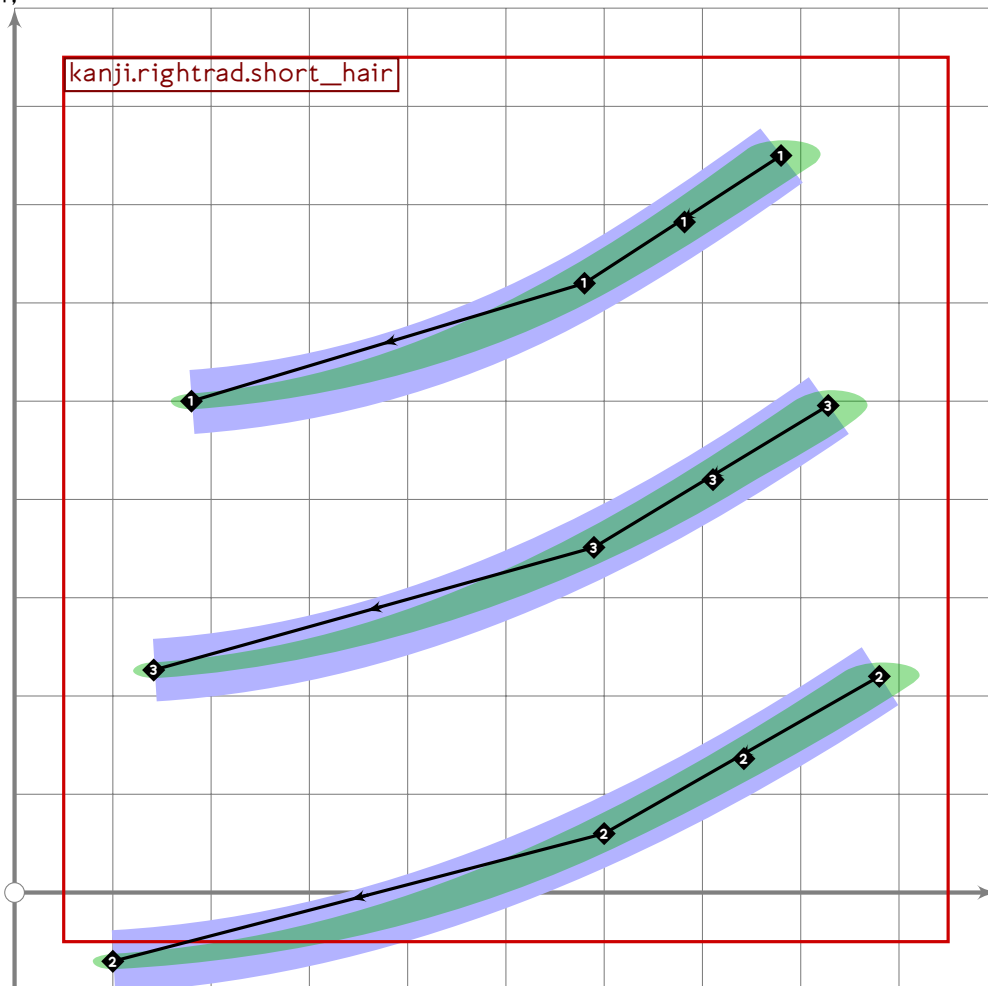
```

U+5F61  
tsuku.uni5F61

```

140 push_pbox_toexpand("kanji.rightrad.resemblance");
141 kanji.greight.resemblance;
142 replace_stroke(-4)(oldp shifted (-440,0));
143 replace_stroke(-5)(oldp shifted (430,10));
144 expand_pbox;
145 enddef;

```

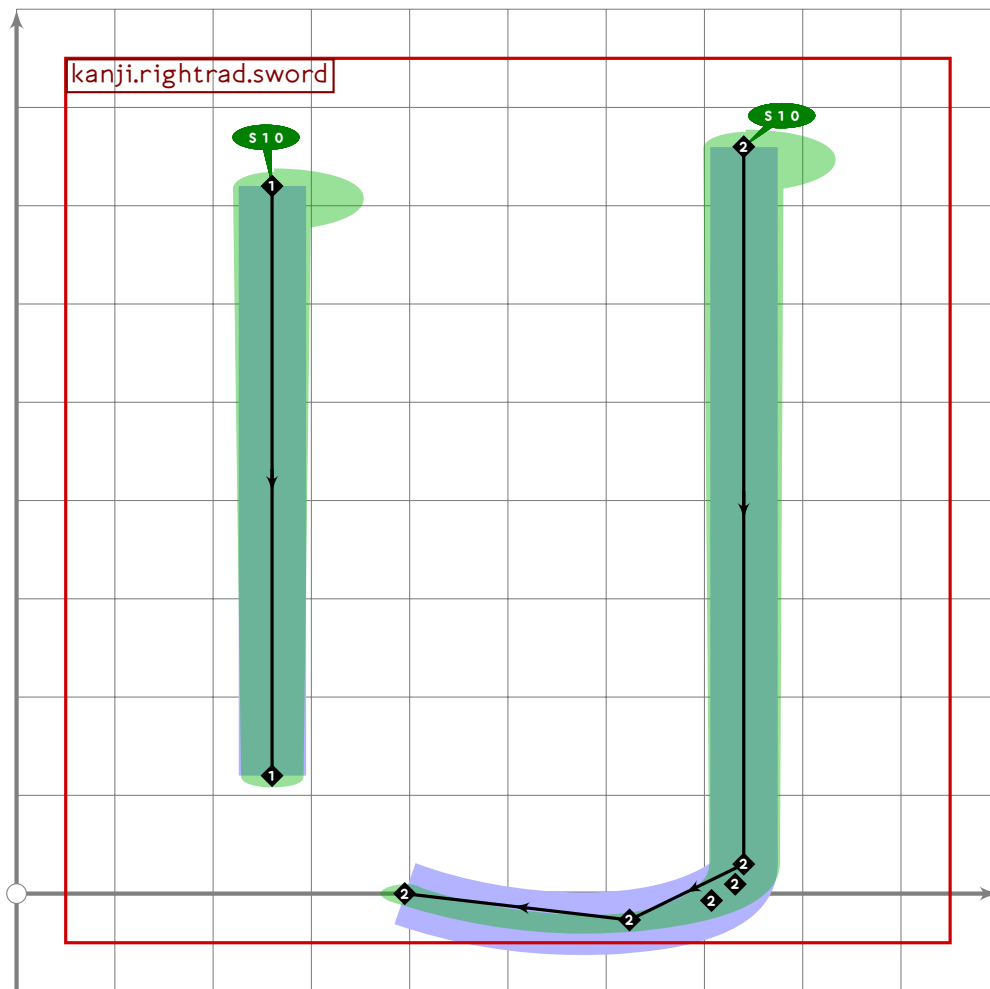


**RIGH**

```

146
147 vardef kanji.rightrad.short_hair =
148   push_pbox_toexpand("kanji.rightrad.short_hair");
149   push_stroke((780,750)..tension 1.2..(580,620)..(180,500),
150     (1.6,1.6)-(14,14)-(11,11));
151   push_stroke((880,220)..tension 1.2..(600,60)..(100,70),
152     (1.6,1.6)-(14,14)-(11,11));
153   push_stroke(interpath(0.52,get_stroke(0),get_stroke(-1)),
154     (1.6,1.6)-(14,14)-(11,11));
155   expand_pbox;
156 enddef;

```



**RIGH**

```

157
158 vardef kanji.rightrad.sword =
159   push_pbox_toexpand("kanji.rightrad.sword");
160   push_stroke((260,720)-(260,120),(1,6,1,6)-(14,14));
161   set_boserif(0,0,10);
162   push_stroke((740,760),(1,6,1,6));
163   set_boserif(0,0,10);
164   build_kanji.add_jtail(0);
165   replace_strokep(0)(oldp shifted (-740,0) xscaled 2.3 shifted (740,0));
166   expand_pbox;
167 enddef;
168
169 vardef kanji.rightrad.take =
170   push_pbox_toexpand("kanji.rightrad.take");
171   build_kanji.lr(470,40)
172     (kanji.grone.ear)
173     (tsu_xform(identity yscaled 0.74 shifted (0,-40))
174       (kanji.greight.otoh));
175   replace_strokep(-7)
176     (point 0 of oldp-(point 0 of oldp xscaled -1 shifted (1000,0)));
177   expand_pbox;

```

178 \enddef;

RIGH



## toprad.mp

```
1 %
2 % Radicals for top (often special forms of other radicals)
3 % Copyright (C) 2011, 2012, 2013, 2021 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(toprad);
32
33
34
35 vardef kanji.toprad.alt_sparkle_three =
36   push_pbox_toexpand("kanji.toprad.alt_sparkle_three");
37   push_stroke((220,810)..(270,450)..(300,90),
38     (1.2,1.2)–(1.5,1.5)–(1.7,1.7));
39   push_stroke((420,900)..(470,540)..(500,180),
40     (1.2,1.2)–(1.5,1.5)–(1.7,1.7));
41   push_stroke((780,870)–(670,0),(1.7,1.7)–(1.3,1.3));
42   set_boserif(0,0,10);
43   expand_pbox;
44 enddef;
45
46 vardef kanji.toprad.bamboo =
47   push_pbox_toexpand("kanji.toprad.bamboo");
48   push_stroke((250,780)..(190,590)..(70,420),
49     (1.7,1.7)–(1.6,1.6)–(1.2,1.2));
50   set_boserif(0,0,10);
51   push_stroke((190,590)–(490,590),(1.6,1.6)–(1.6,1.6));
52   set_boserif(0,19);
53   push_stroke((270,590)..tension 1.2..(360,480)..(390,370),
54     (1,1,1)–(1.5,1.5)–(1.7,1.7));
55   push_stroke((650,780)..(590,590)..(480,440),
56     (1.7,1.7)–(1.6,1.6)–(1.2,1.2));
57   set_boserif(0,0,10);
58   push_stroke((590,590)–(930,590),(1.6,1.6)–(1.6,1.6));
59   set_boserif(0,19);
60   push_stroke((680,590)..tension 1.2..(770,480)..(800,370),
61     (1,1,1)–(1.5,1.5)–(1.7,1.7));
62   expand_pbox;
63 enddef;
64
65 vardef kanji.toprad.blue =
66   push_pbox_toexpand("kanji.toprad.blue");
67   push_stroke((120,560)–(880,560),
68     (1.6,1.6)–(1.6,1.6));
69   set_boserif(0,19);
70   push_stroke((500,780)–(500,40),
```

TOPR

```

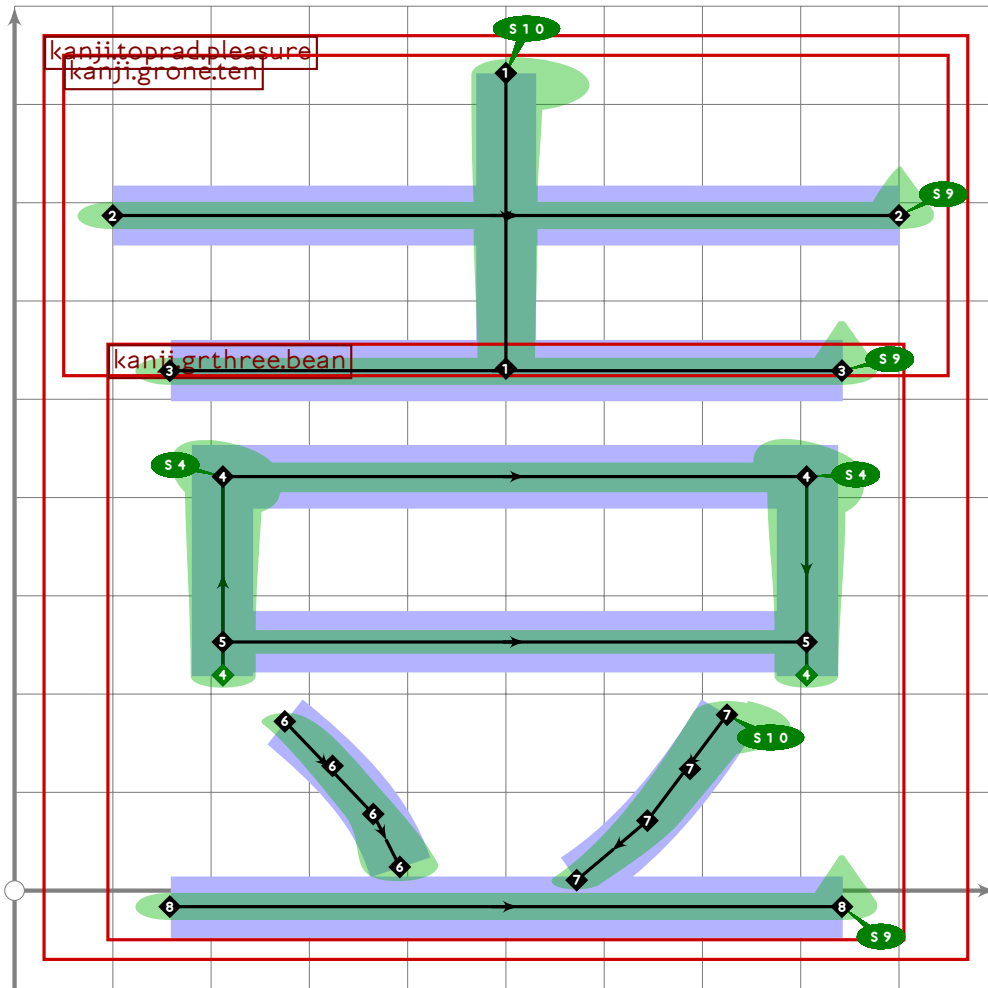
71     (1,6,1,6)–(1,5,1,5));
72     set__boserif(0,0,10);
73     push__stroke((160,310)–(840,310),
74         (1,6,1,6)–(1,6,1,6));
75     set__boserif(0,1,9);
76     push__stroke((80,40)–(920,40),
77         (1,6,1,6)–(1,6,1,6));
78     set__boserif(0,1,9);
79     expand__pbox;
80 enddef;
81
82 vardef kanji.toprad.cave =
83     push__pbox__toexpand("kanji.toprad.cave");
84     build__kanji.level(build__kanji.tb(400,360)
85         (kanji.radical.silly_hat)
86         (kanji.radical.legs));
87     expand__pbox;
88 enddef;
89
90 vardef kanji.toprad.detain =
91     push__pbox__toexpand("kanji.toprad.detain");
92     push__stroke((770,810)..tension 1.2..(550,740)..(250,700),
93         (1,8,1,8)–(1,5,1,5)–(1,1));
94     push__stroke((250,730)–(250,20),
95         (1,6,1,6)–(1,5,1,5));
96     set__boserif(0,0,10);
97     push__stroke((130,-20)..tension 1.2..(250,20)..(720,240),
98         (1,7,1,7)–(1,5,1,5)–(1,1));
99     push__stroke((650,390)..tension 1.3..(720,240)..(770,40),
100         (1,1)–(1,5,1,5)–(1,8,1,8));
101     expand__pbox;
102 enddef;
103
104 vardef kanji.toprad.eyē =
105     push__pbox__toexpand("kanji.toprad.eyē");
106     build__kanji.box((130,800),(870,120));
107     push__stroke((376,800)–(376,120),(1,6,1,6)–(1,5,1,5));
108     push__stroke((624,800)–(624,120),(1,6,1,6)–(1,5,1,5));
109     expand__pbox;
110 enddef;
111
112 vardef kanji.toprad.grass =
113     push__pbox__toexpand("kanji.toprad.grass");
114     push__stroke((350,800)–(350,-30),
115         (1,6,1,6)–(1,4,1,4));
116     set__boserif(0,0,10);
117     push__stroke((650,800)–(650,-30),
118         (1,6,1,6)–(1,4,1,4));

```

```

119 set_boserif(0,0,10);
120 push_stroke((100,400)-(900,400),
121   (1,6,1,6)-(1,6,1,6));
122 set_boserif(0,1,9);
123 expand_pbox;
124 enddef;
125
126 vardef kanji.toprad.once_upon_a_time =
127   push_pbox_toexpand("kanji.toprad.once_upon_a_time");
128   perl_structure:=perl_structure&"eids.u2FF1.u8279.u4E00";
129   build_kanji.sscale(xscaled 0.8)(kanji.toprad.grass);
130   tsu_xform(identity shifted (0,-420))(kanji.grone.one);
131   expand_pbox;
132 enddef;
133
134 vardef kanji.toprad.paw =
135   push_pbox_toexpand("kanji.toprad.paw");
136   tsu_xform(identity yscaled 0.6)
137     (push_stroke(
138       (170,880)..(500,1060)..tension 11..(830,1380),
139       (1,1,1,1)-(1,6,1,6)-(2,0,2,0));
140     build_kanji.sscale(rotated 90 slanted -0.35 rotated -90)
141       (kanji.toprad.alt_sparkle_three));
142   expand_pbox;
143 enddef;

```



```

144
145 vardef kanji.toprad.pleasure =
146   push_pbox_toexpand("kanji.toprad.pleasure");
147   build_kanji.level(build_kanji.tb(540,32)
148     (kanji.grone.ten)
149     (build_kanji.sscale(xscaled 0.9)(kanji.grthree.bean)));
150   expand_pbox;
151 enddef;
152
153 vardef kanji.toprad.rain =
154   push_pbox_toexpand("kanji.toprad.rain");
155   push_stroke((120,720)-(880,720),(1.6,1.6)-(1.6,1.6));
156   set_boserif(0,19);
157   push_stroke((500,720)-(500,30),(1.6,1.6)-(1.5,1.5));
158   push_stroke((100,150)..(100+50*mincho,400)..(100+70*mincho,540)-
159     (900,540)..(900-40*mincho,275)..(900-70*mincho,150),
160     (1.7,1.7)-(1.6,1.6)-(1.4,1.4)-
161     (1.7,1.7)-(1.6,1.6)-(1.4,1.4));
162   set_botip(0,2,1);
163   set_botip(0,3,1);
164   set_boserif(0,3,4);

```

```

165 push_stroke((230,380)..(400,380),(1.6,1.6)–(1.6,1.6));
166 set_boserif(0,19);
167 set_bosize(0,80);
168 push_stroke(get_strokep(0) shifted (350,0),get_strokeq(0));
169 set_boserif(0,19);
170 set_bosize(0,80);
171 push_stroke(get_strokep(-1) shifted (0,-220),get_strokeq(-1));
172 set_boserif(0,19);
173 set_bosize(0,80);
174 push_stroke(get_strokep(-2) shifted (350,-220),get_strokeq(-2));
175 set_boserif(0,19);
176 set_bosize(0,80);
177 expand_pbox;
178 enddef;
179
180 vardef kanji.toprad.ridiculous_hat =
181   push_pbox_toexpand("kanji.toprad.ridiculous_hat");
182   build_kanji.level(build_kanji.tb(620,156)
183     (kanji.toprad.sparkle_three)
184     (build_kanji.tb(600,410)
185       (kanji.radical.conservative_hat)
186       (build_kanji.sscale(xyscaled (0.8,0.64) shifted (0,-120))
187         (kanji.grone.mouth))));
188   expand_pbox;
189 enddef;
190
191 vardef kanji.toprad.sheep =
192   push_pbox_toexpand("kanji.toprad.sheep");
193   kanji.grthree.sheep;
194   replace_strokep(0)
195     ((point 0 of oldp)–(oldp intersectionpoint get_strokep(-3)));
196   expand_pbox;
197 enddef;
198
199 vardef kanji.toprad.slash =
200   push_pbox_toexpand("kanji.toprad.slash");
201   push_stroke((280,810)..tension 1.2..(160,220)..(50,0),
202     (1.7,1.7)–(1.5,1.5)–(1.2,1.2));
203   set_boserif(0,0,10);
204   push_stroke((get_strokep(0) intersectionpoint ((0,520)–(1000,520)))–
205     (880,520),
206     (1.5,1.5)–(1.6,1.6));
207   set_boserif(0,19);
208   expand_pbox;
209 enddef;
210
211 vardef kanji.toprad.south_paw =
212   push_pbox_toexpand("kanji.toprad.south_paw");

```

```

213 push_stroke(
214   (280,650)..(540,700)..tension 1.1..(740,800),
215   (1.1,1.1)-(1.6,1.6)-(2.0,2.0));
216 set_bosize(0,94);
217 push_stroke((220,690)..(180,330)..tension 1.1..(100,-100),
218   (1.7,1.7)-(1.4,1.4)-(1.3,1.3));
219 set_boserif(0,0,10);
220 set_bosize(0,94);
221 push_stroke((420,570)..(530,360)..(600,110),
222   (1.2,1.2)-(1.5,1.5)-(1.7,1.7));
223 set_bosize(0,94);
224 push_stroke((720,670)..(830,410)..(900,70),
225   (1.2,1.2)-(1.5,1.5)-(1.7,1.7));
226 set_bosize(0,94);
227 expand_pbox;
228 enddef;
229
230 vardef kanji.toprad.sparkle_four =
231   push_pbox_toexpand("kanji.toprad.sparkle_four");
232   push_stroke((150,600)..tension 1.2..(200,440)..(270,160),
233     (1,1)-(1.3,1.3)-(1.9,1.9));
234   push_stroke((390,780)-(390,-20),
235     (1.6,1.6)-(1.5,1.5));
236   set_boserif(0,0,10);
237   push_stroke((610,780)-(610,-20),
238     (1.6,1.6)-(1.5,1.5));
239   set_boserif(0,0,10);
240   push_stroke((840,620)..tension 1.2..(780,370)..(720,170),
241     (1.6,1.6)-(1.5,1.5)-(1.3,1.3));
242   set_boserif(0,0,10);
243   expand_pbox;
244 enddef;
245
246 vardef kanji.toprad.sparkle_three =
247   push_pbox_toexpand("kanji.toprad.sparkle_three");
248   kanji.toprad.sparkle_two;
249   push_stroke((500,780)-(500,-20),
250     (1.6,1.6)-(1.5,1.5));
251   set_boserif(0,0,10);
252   expand_pbox;
253 enddef;
254
255 vardef kanji.toprad.sparkle_two =
256   push_pbox_toexpand("kanji.toprad.sparkle_two");
257   push_stroke((200,600)..tension 1.2..(250,440)..(320,160),
258     (1,1)-(1.3,1.3)-(1.9,1.9));
259   push_stroke((790,620)..tension 1.2..(730,370)..(670,170),
260     (1.6,1.6)-(1.5,1.5)-(1.3,1.3));

```

```

261 set__boserif(0,0,10);
262 expand__pbox;
263 enddef;
264
265 vardef kanji.toprad.sparkle_two_bar =
266   push__pbox__toexpand("kanji.toprad.sparkle_two_bar");
267   build__kanji.sscale(xscaled 0.6)(kanji.toprad.sparkle_two);
268   push__stroke((70,120)–(930,120),(1.6,1.6)–(1.6,1.6));
269   set__boserif(0,0,whatever);
270   set__boserif(0,1,9);
271   expand__pbox;
272 enddef;
273
274 vardef kanji.toprad.stand_up =
275   push__pbox__toexpand("kanji.toprad.stand_up");
276   push__stroke((500,810)–(500,510),
277     (1.6,1.6)–(1.5,1.5));
278   set__boserif(0,0,10);
279   push__stroke((120,510)–(880,510),
280     (1.6,1.6)–(1.6,1.6));
281   set__boserif(0,1,9);
282   push__stroke((250,430)..tension 1.2..(320,220)..(380,90),
283     (1.2,1.2)–(1.4,1.4)–(1.7,1.7));
284   push__stroke((750,450)..tension 1.2..(660,220)..(580,60),
285     (1.6,1.6)–(1.5,1.5)–(1.3,1.3));
286   set__boserif(0,0,10);
287   push__stroke((70,0)–(930,0),
288     (1.6,1.6)–(1.6,1.6));
289   set__boserif(0,1,9);
290   expand__pbox;
291 enddef;
292
293 vardef kanji.toprad.summer =
294   push__pbox__toexpand("kanji.toprad.summer");
295   push__stroke((100,855)–(900,855),(1.6,1.6));
296   set__boserif(0,1,9);
297   build__kanji.attach_tick(660)(kanji.grone.eyeye);
298   expand__pbox;
299 enddef;
300
301 vardef kanji.toprad.ticket =
302   push__pbox__toexpand("kanji.toprad.ticket");
303   build__kanji.thickness(0.92)
304     (push__stroke((110,760)–(890,760),(1.6,1.6)–(1.6,1.6));
305     set__boserif(0,1,9);
306     push__stroke((390,760)–(390,30),(1.5,1.5)–(1.4,1.4));
307     push__stroke((610,760)–(610,30),(1.5,1.5)–(1.4,1.4));
308     build__kanji.box((180,420),(820,30)));

```

```
309   expand__pbox;  
310 enddef;
```

TOPR



# gradeeight.mp

```

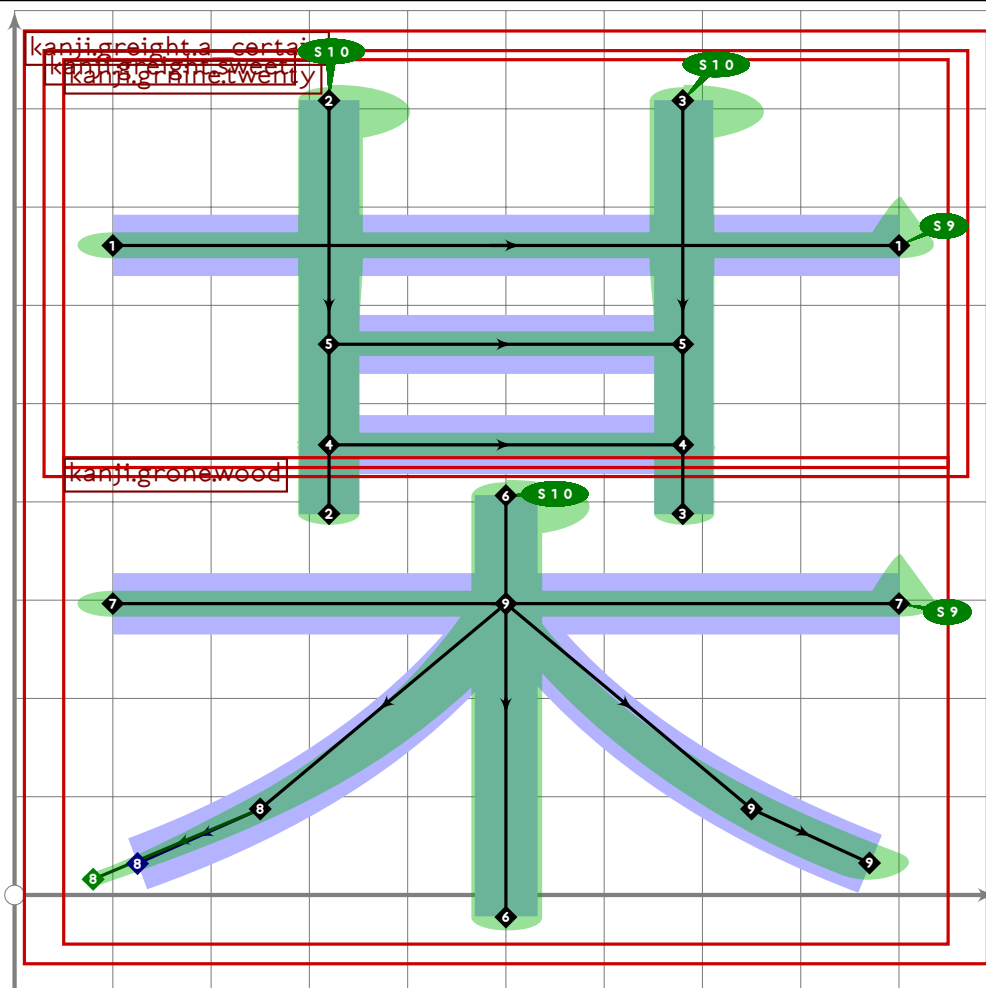
1 %
2 % Grade Eight kanji used on more than one page
3 % Copyright (C) 2011, 2012, 2013, 2014, 2016, 2017, 2018, 2019,
4 % 2021 Matthew Skala
5 %
6-30 [Standard copyright notice]

```

```

31
32 inclusion_lock(gradeeight);
33
34

```



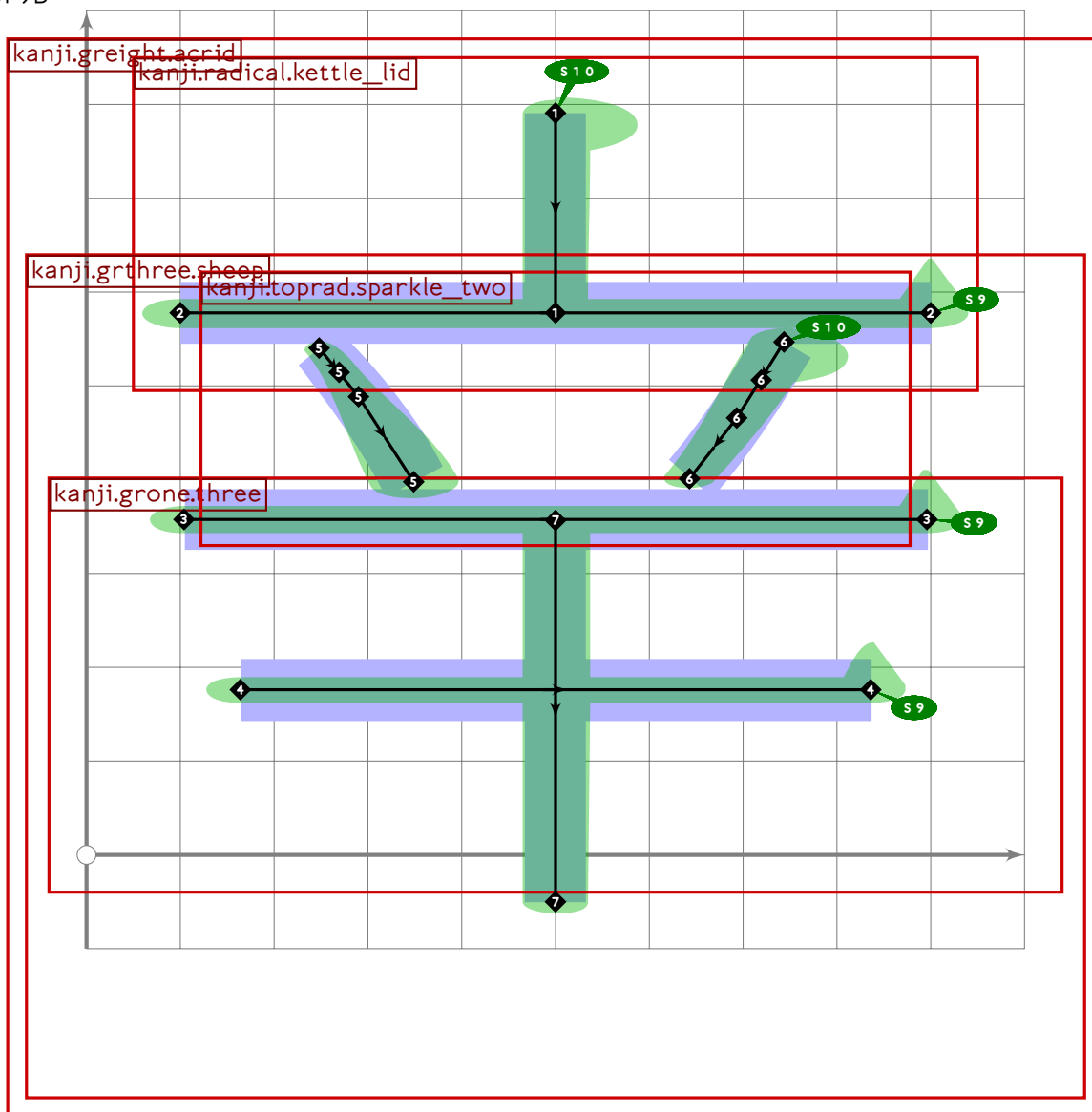
```

35
36 vardef kanji.greight.a_certain =
37   push_pbox_toexpand("kanji.greight.a_certain");
38   build_kanji.tb(440,10)
39     (kanji.greight.sweet)
40     (kanji.gronewood);
41   expand_pbox;
42 enddef;

```

EIGH

U+8F9B  
tsuku.uni8F9B

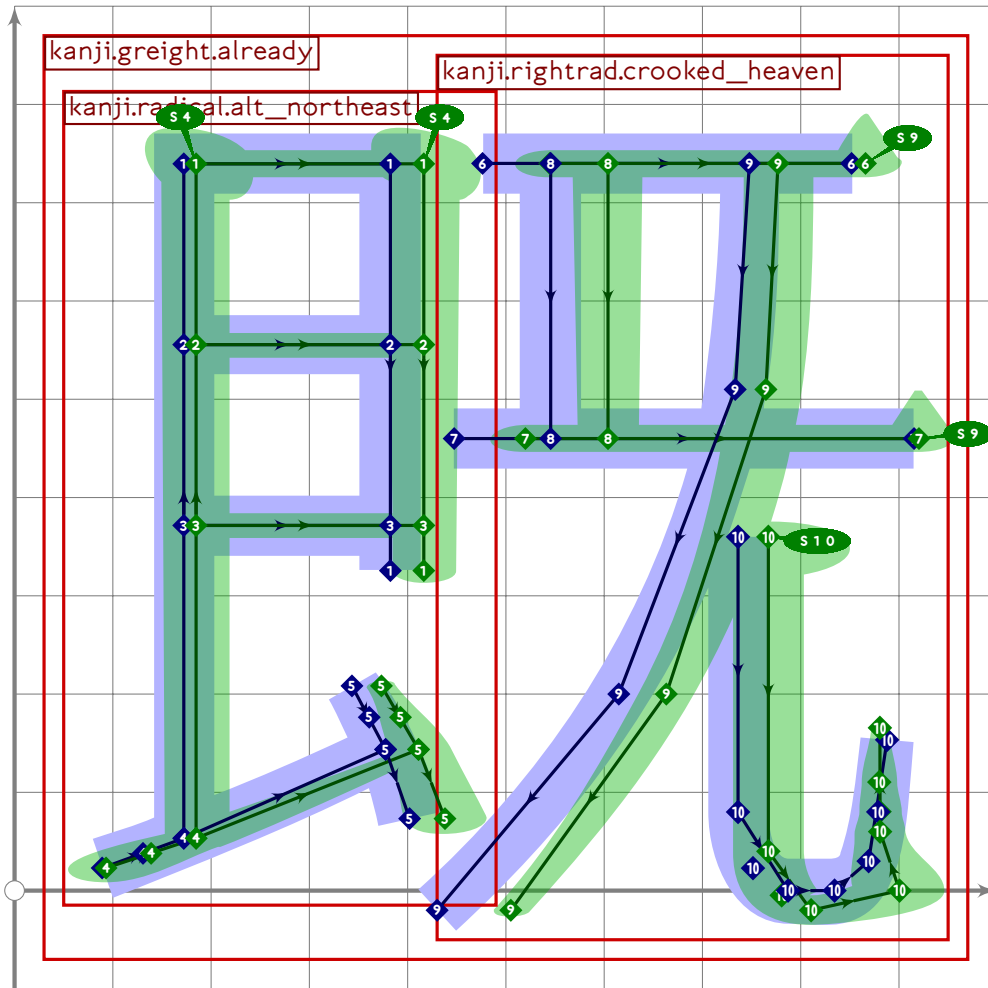


EIGH

```

43
44 vardef kanji.greight.acrid =
45   push_pbox_toexpand("kanji.greight.acrid");
46   build_kanji.level(build_kanji.tb(520,50)
47     (kanji.radical.kettle_lid)
48     (build_kanji.sscale(xyscaled (1.2,1.4) shifted (0,-140))
49       (kanji.grthree.sheep);
50     obstacktype[find_stroke(-3)]:=otnull;
51     replace_stroke(0)((point 0 of oldp)-(500,50))););
52   expand_pbox;
53 enddef;

```

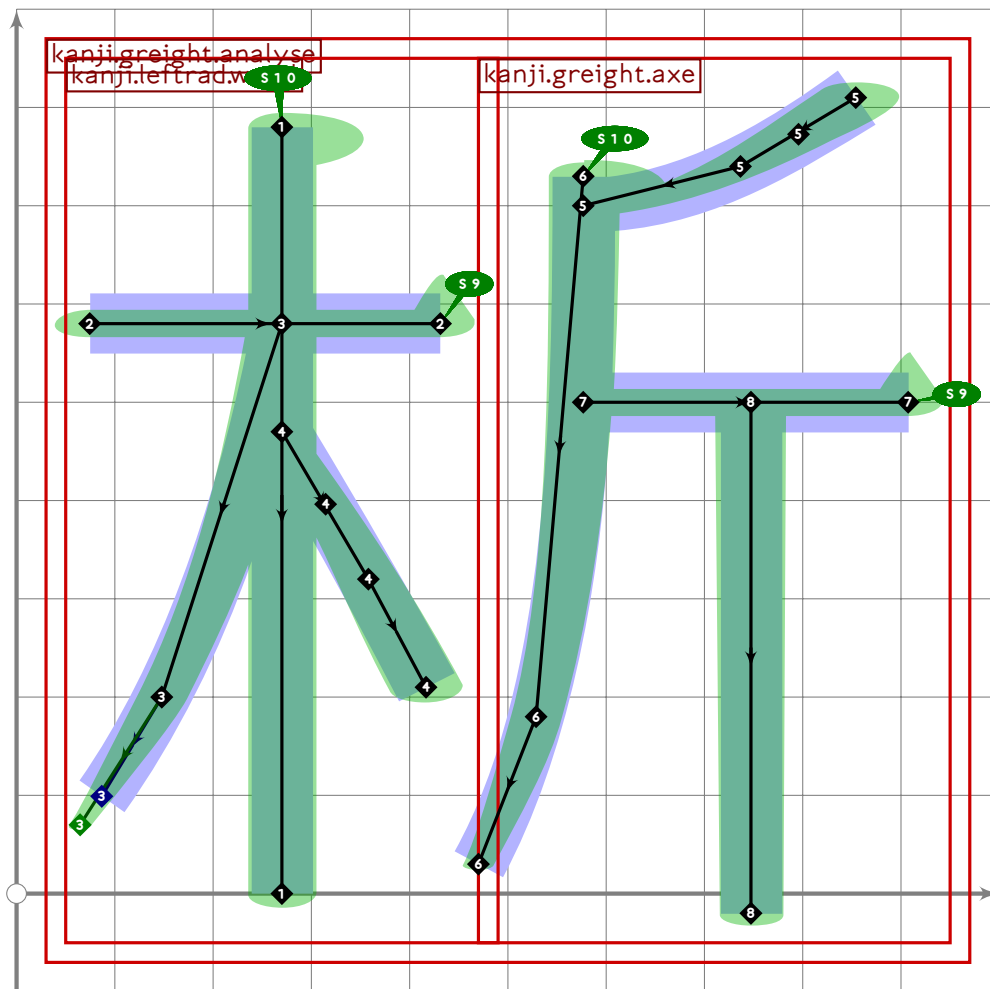


```

54
55 vardef kanji.greight.already =
56   push_pbox__toexpand("kanji.greight.already");
57   build_kanji.level(build_kanji.lr(460+60*mincho,60-30*mincho)
58     (build_kanji.sscale(yscaled 0.92)(build_kanji.lift_skirt(300,80)
59       (kanji.radical.alt_northeast)))
60     (kanji.rightrad.crooked_heaven));
61   expand_pbox;
62 enddef;

```

EIGH

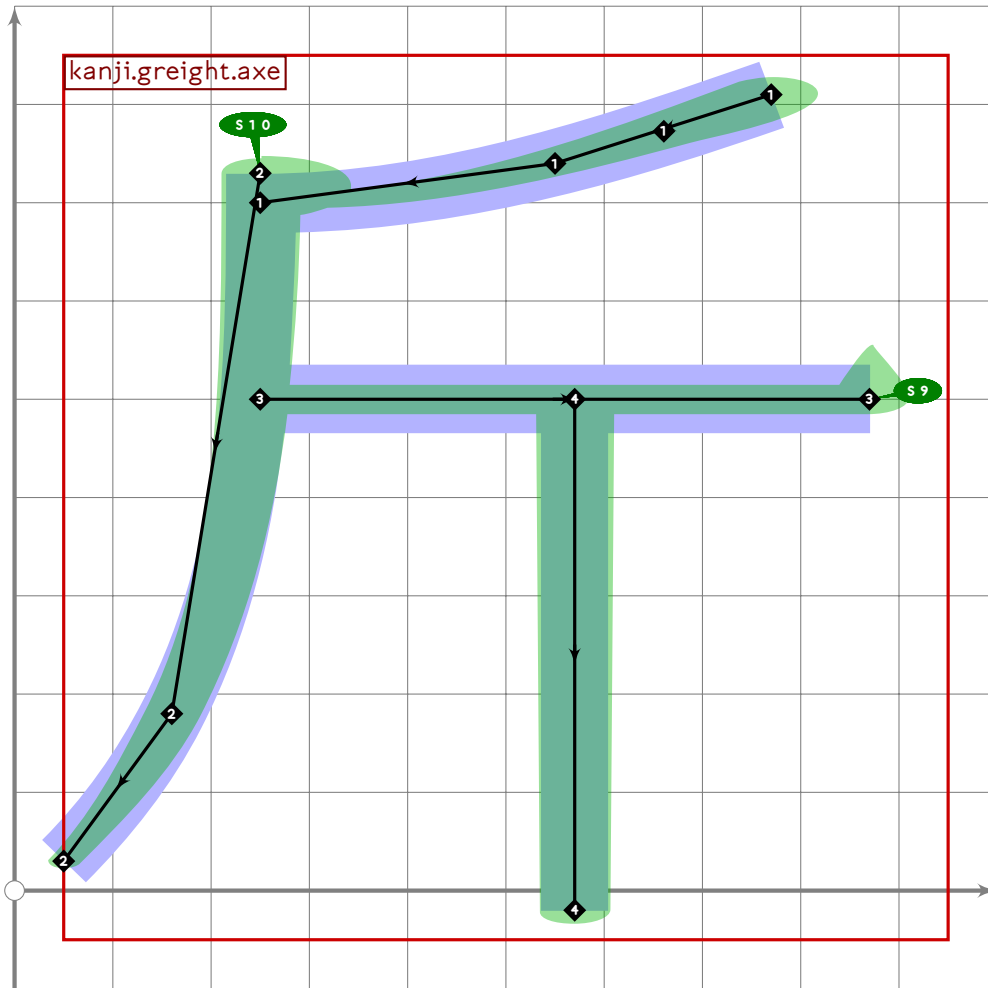


## EIGH

```

63
64 vardef kanji.greight.analyse =
65   push_pbox_toexpand("kanji.greight.analyse");
66   build_kanji.lr(480,20)
67     (kanji.leftrad.wood)
68     (kanji.greight.axe);
69   expand_pbox;
70 enddef;

```



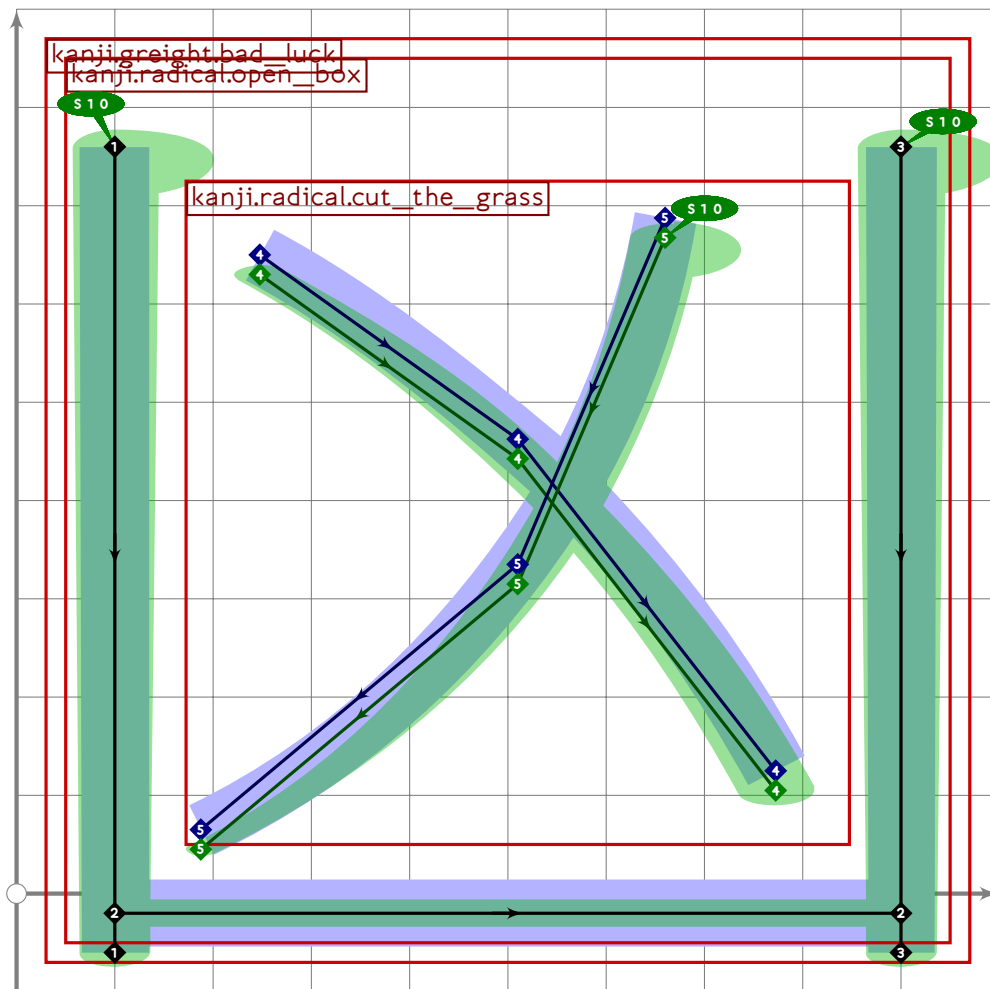
```

71
72 vardef kanji.greight.axe =
73   push_pbox__toexpand("kanji.greight.axe");
74   push_stroke((770,810)..tension 1.2..(550,740)..(250,700),
75     (1.8,1.8)–(1.5,1.5)–(1,1));
76   push_stroke((250,730){down}..(160,180)..(50,30),
77     (1.6,1.6)–(1.3,1.3)–(1,1));
78   set_boserif(0,0,10);
79   push_stroke((250,500)–(870,500),(1.6,1.6)–(1.6,1.6));
80   set_boserif(0,19);
81   push_stroke((570,500)–(570,-20),(1.6,1.6)–(1.5,1.5));
82   expand_pbox;
83 enddef;

```

**EIGH**

U+51F6  
tsuku.uni51F6

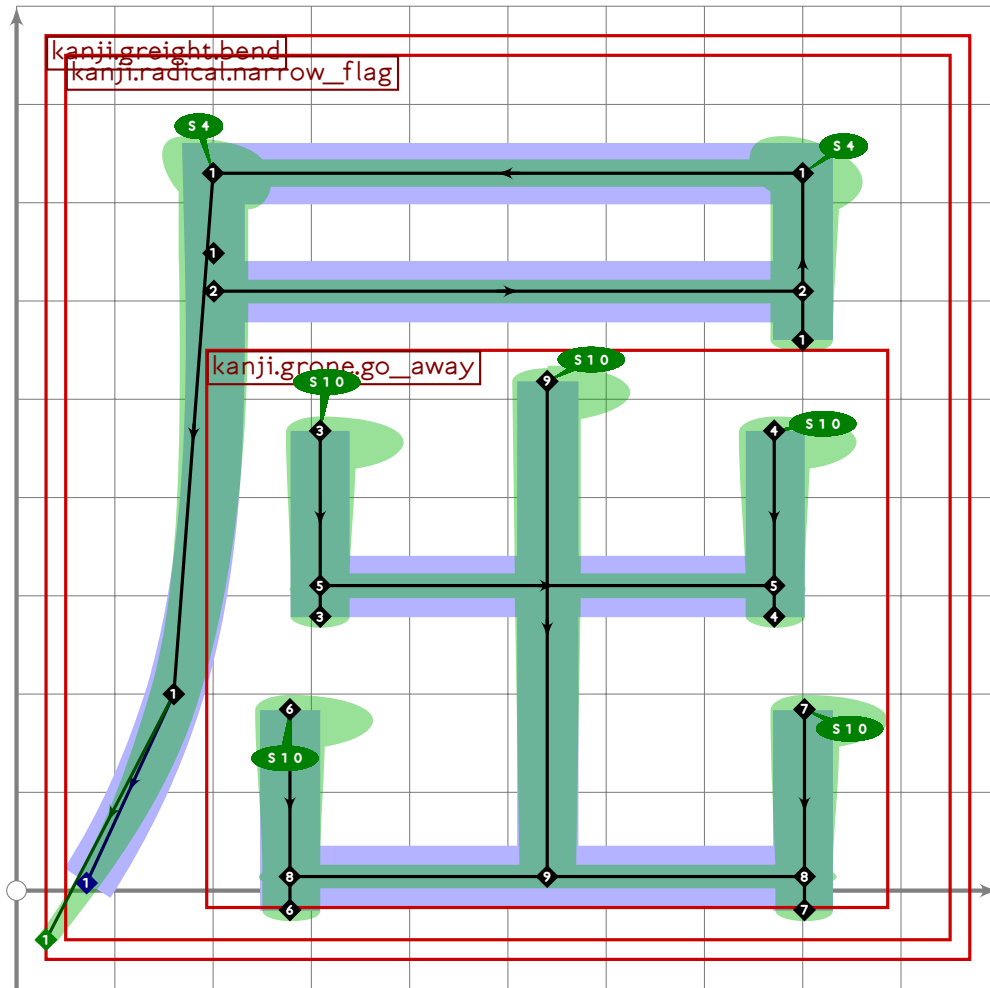


**EIGH**

```

84
85 vardef kanji.greight.bad_luck =
86   push_pbox_toexpand("kanji.greight.bad_luck");
87   perl_structure:=perl_structure&"eids.u2FF6._1.1.";
88   kanji.radical.open_box;
89   build_kanji.sscale(scaled 0.75 shifted (10;10-20*mincho))
90     (kanji.radical.cut_the_grass);
91   expand_pbox;
92 enddef;

```



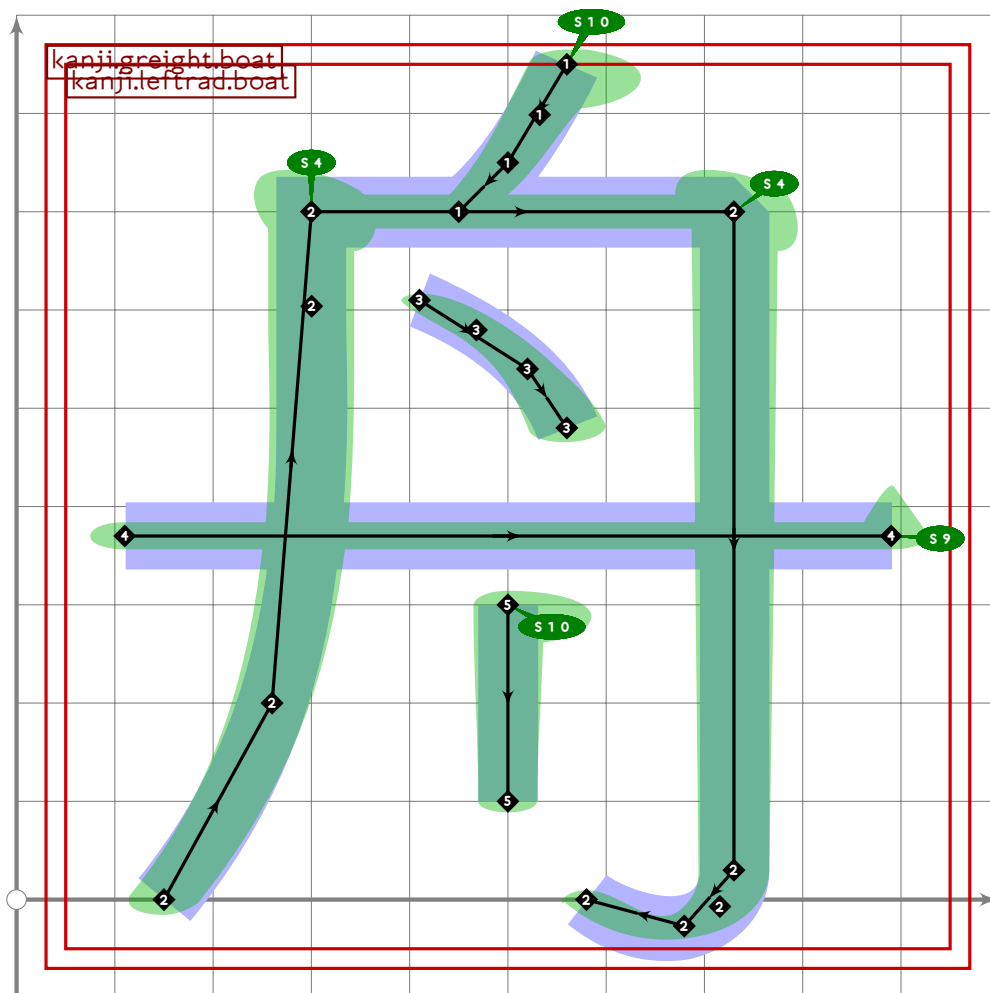
```

93
94 vardef kanji.greight.bend =
95   push_pbox__toexpand("kanji.greight.bend");
96   build_kanji.level(
97     kanji.radical.narrow_flag;
98     build_kanji.sscale(xyscaled (0.77,0.63) shifted (40,130))
99     (kanji.grone.go_away));
100   expand_pbox;
101 enddef;

```

EIGH

U+821F  
tsuku.uni821F



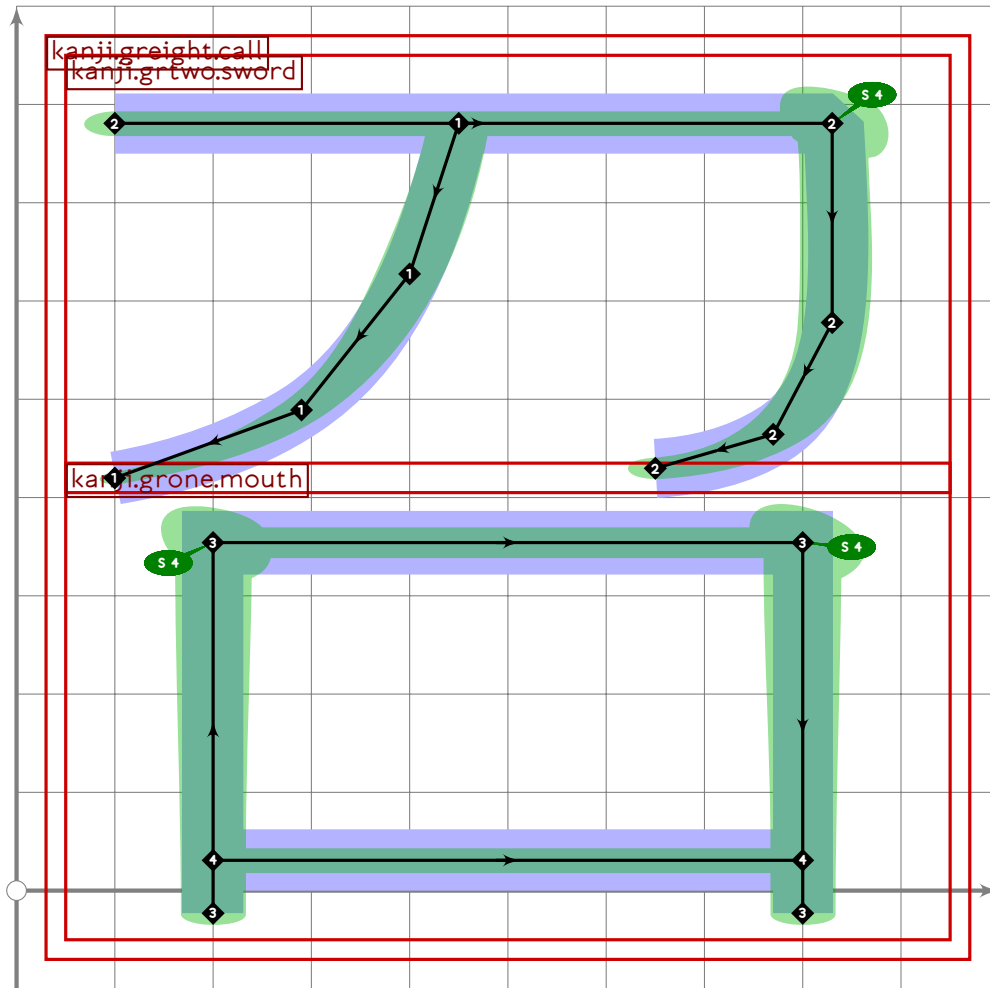
**EIGH**

```

102
103 vardef kanji.greight.boat =
104   push_pbox__toexpand("kanji.greight.boat");
105   kanji.leftrad.boat;
106   replace_strokep(-1)((110,370)–(890,370));
107   replace_strokeq(-1)((1.5,1.5)–(1.5,1.5));
108   set__boserif(-1,1,9);
109   expand_pbox;
110 enddef;

```





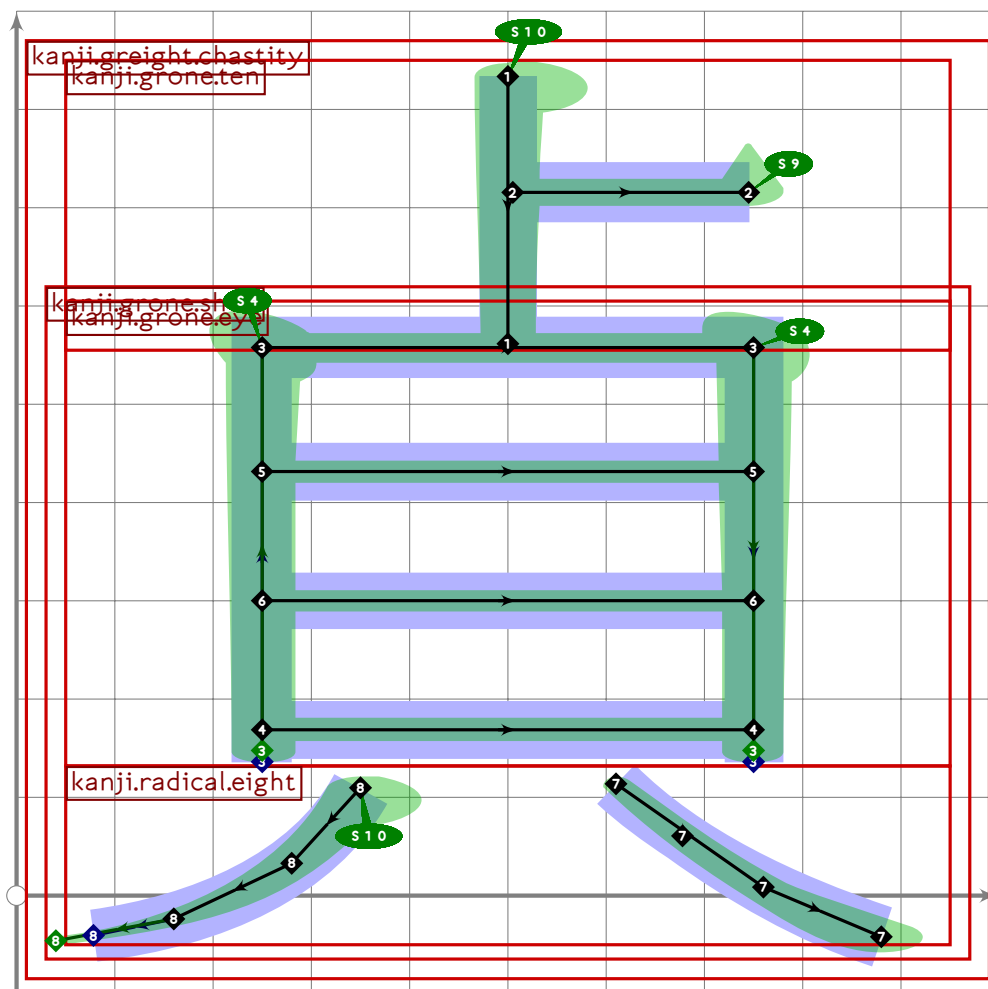
```

111
112 vardef kanji.greight.call =
113   push_pbox_toexpand("kanji.greight.call");
114   build_kanji.tb(420,30)
115     (kanji.grtwo.sword)
116     (kanji.grone.mouth);
117   expand_pbox;
118 enddef;

```

**EIGH**

U+8C9E  
tsuku.uni8C9E

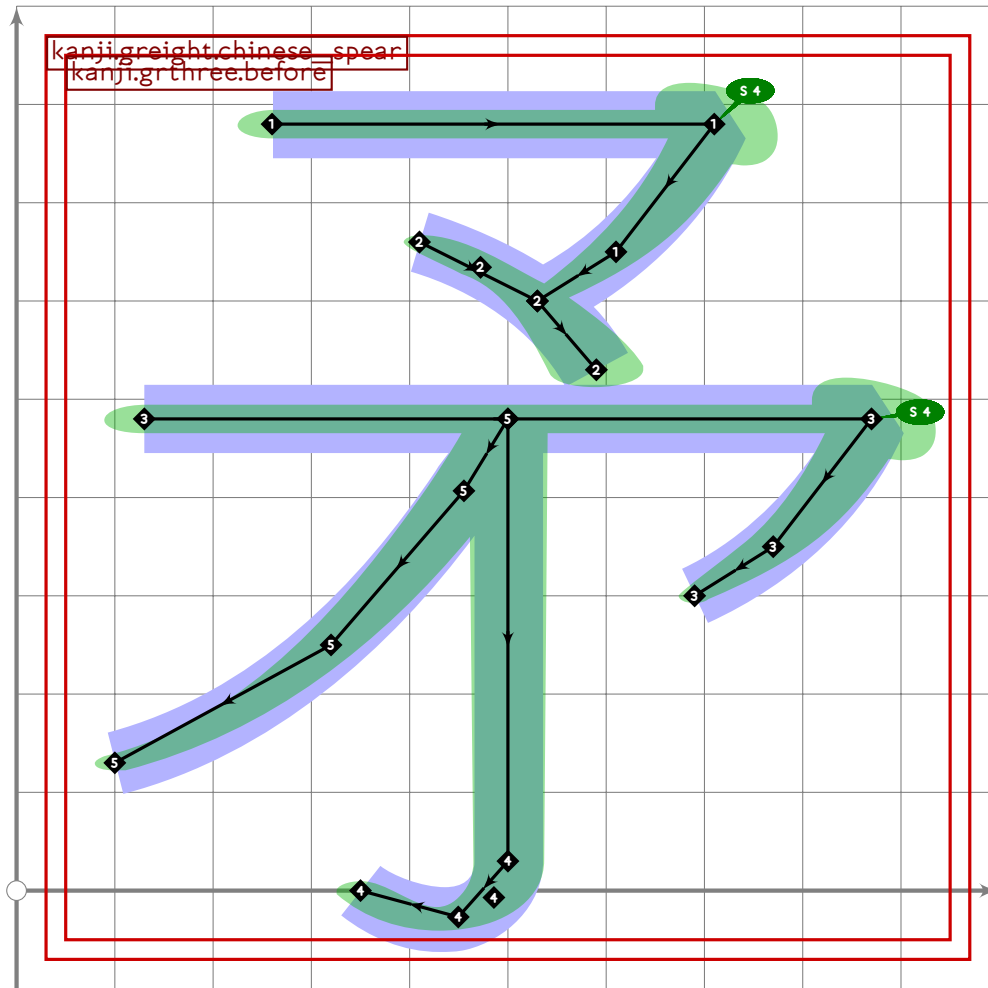


**EIGH**

```

119
120 vardef kanji.greight.chastity =
121   push_pbox_toexpand("kanji.greight.chastity");
122   build_kanji.level(build_kanji.tb(580,50)
123     (kanji.grone.ten;
124       replace_stroke(0)(subpath (0.5,0.8) of oldp shifted (540)))
125     (kanji.grone.shell));
126   expand_pbox;
127 enddef;

```



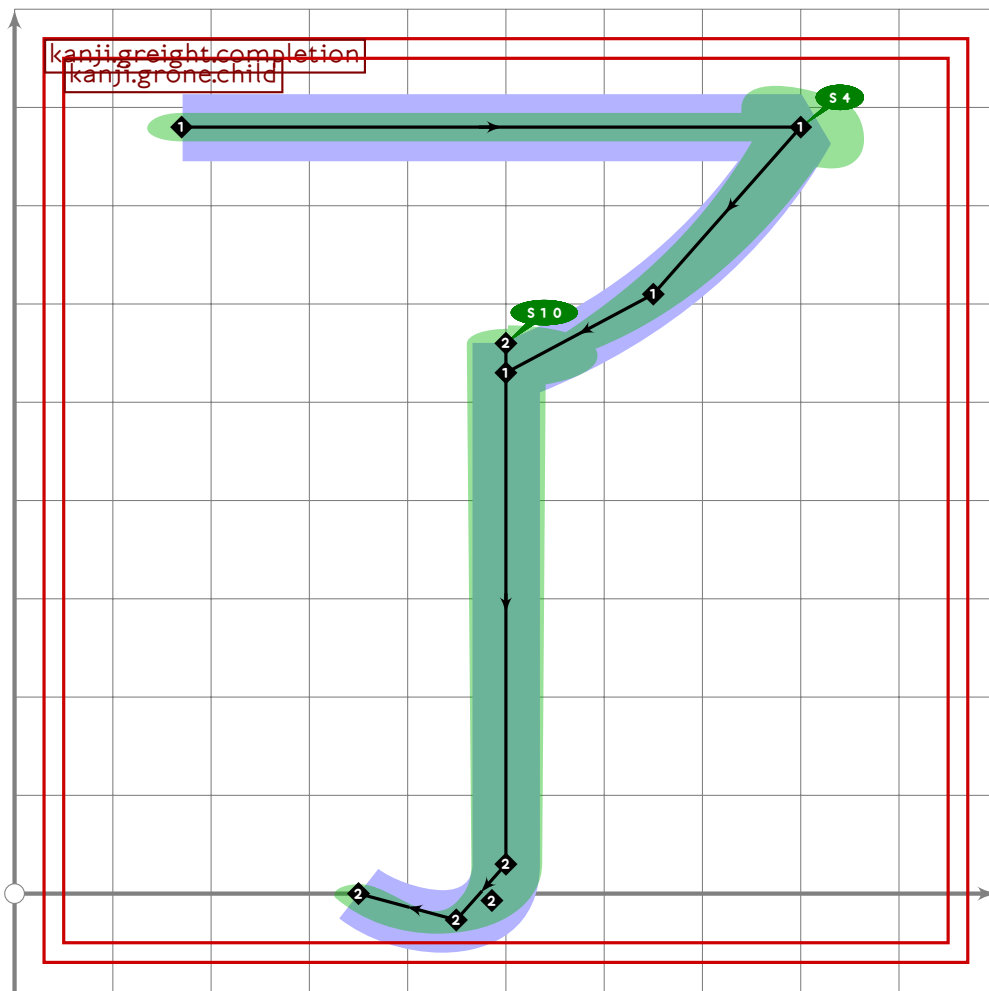
```

128
129 vardef kanji.greight.chinese_spear =
130   push_pbox__toexpand("kanji.greight.chinese_spear");
131   kanji.grthree.before;
132   push_stroke(insert_nodes((500,480)..tension 1.1..
133     (320,250)..{curl 1.2}(100,130))(0.3),
134     (1.6,1.6)-(1.6,1.6)-(1.4,1.4)-(1.1,1.1));
135   expand_pbox;
136 enddef;

```

EIGH

U+4E86  
tsuku.uni4E86

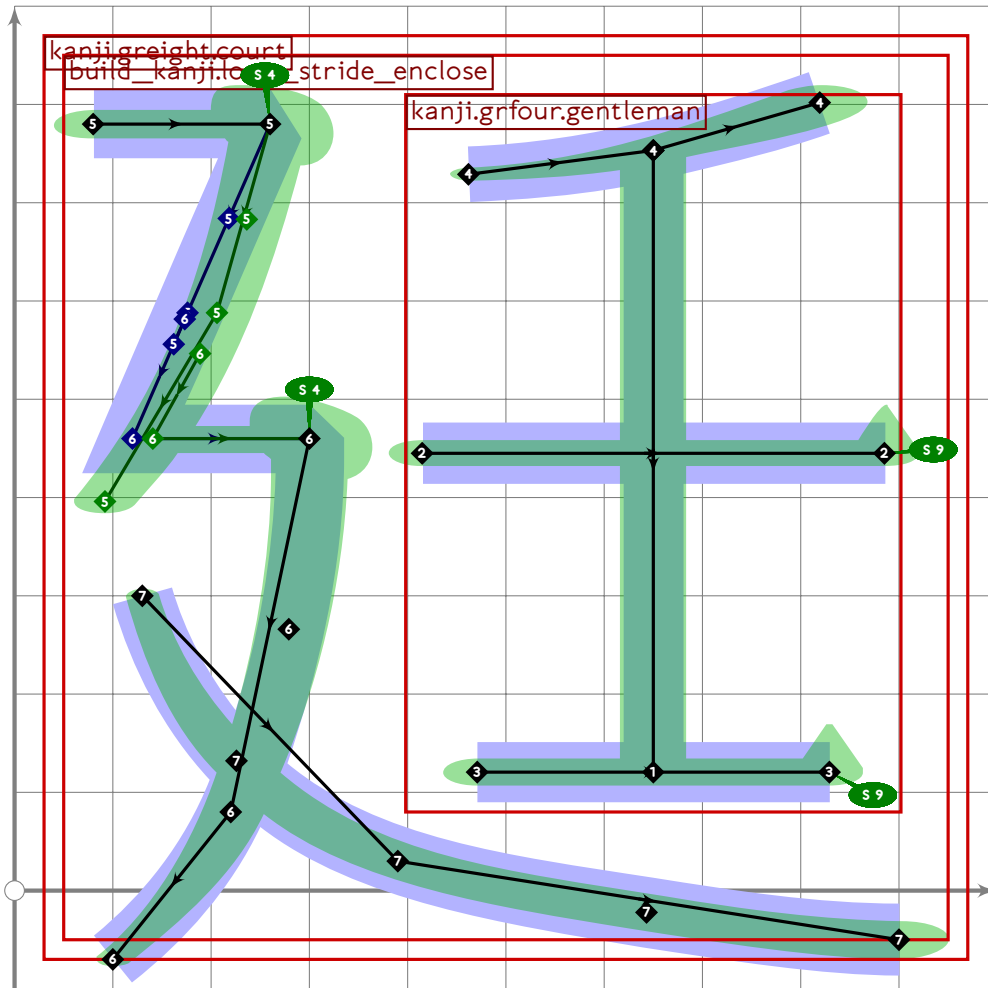


# EIGH

```

137
138 vardef kanji.greight.completion =
139   push__pbox__toexpand("kanji.greight.completion");
140   kanji.grone.child;
141   pop__stroke;
142   expand__pbox;
143 enddef;

```



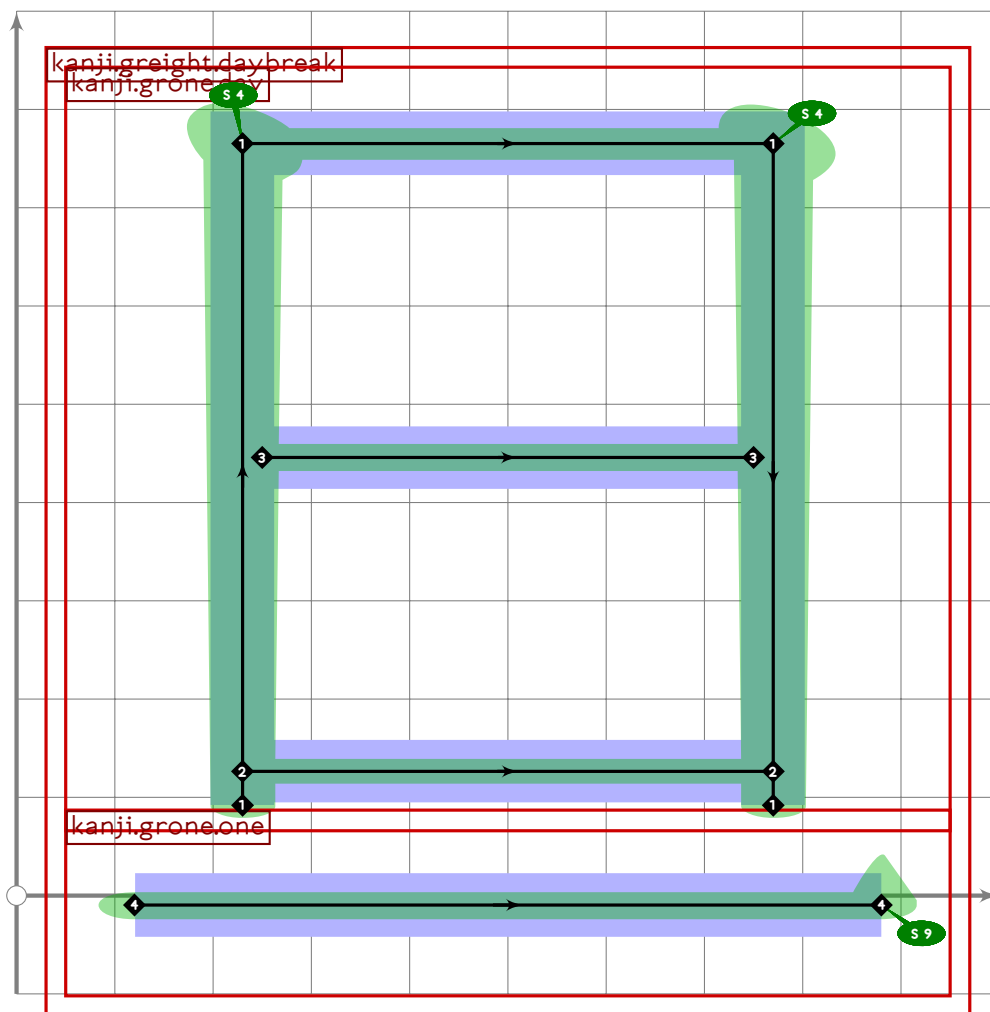
```

144
145 vardef kanji.greight.court =
146   push_pbox__toexpand("kanji.greight.court");
147   build_kanji.long_stride_enclose
148     (build_kanji.sscale(xscaled 0.84)
149       (build_kanji.add_beret(kanji.grfour.gentleman;
150         replace_stroke(-1)(oldp shifted (0,-70)))));
151   expand_pbox;
152 enddef;

```

**EIGH**

U+65E6  
tsuku.uni65E6

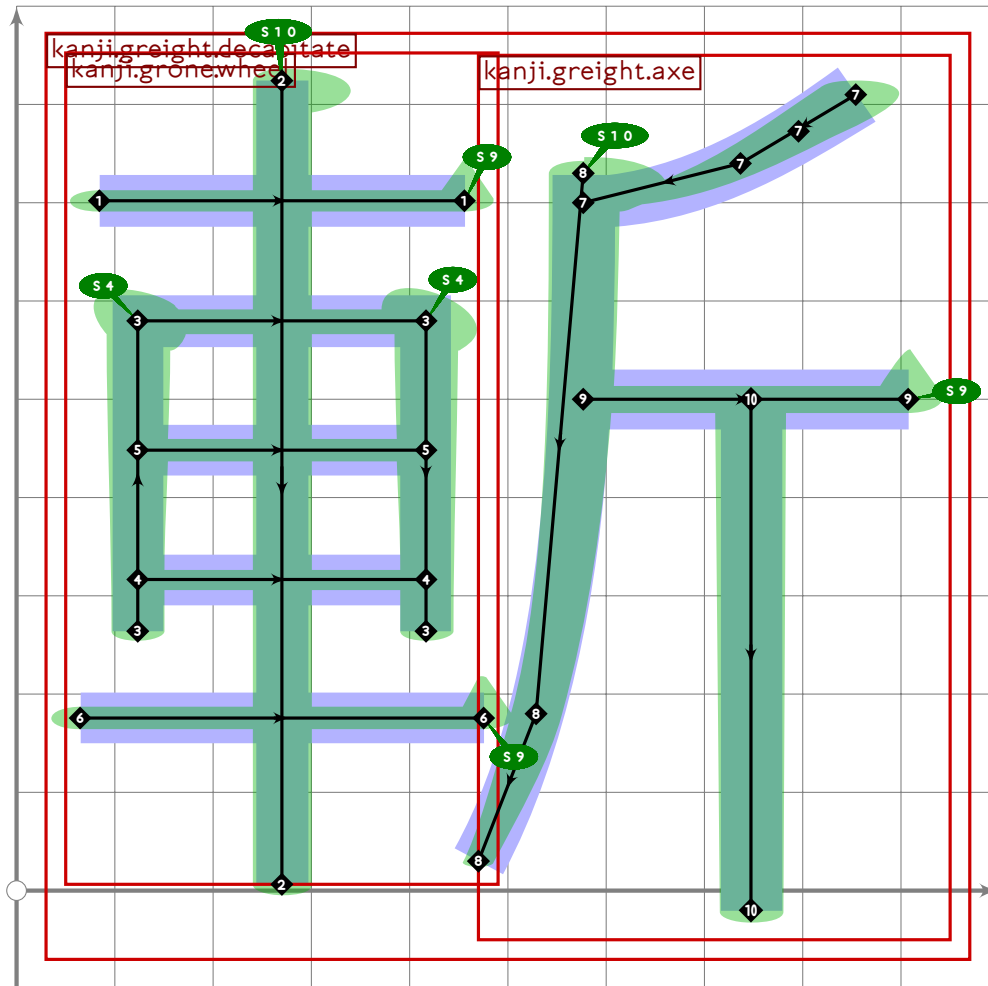


**EIGH**

```

153
154 vardef kanji.greight.daybreak =
155   push_pbox_toexpand("kanji.greight.daybreak");
156   build_kanji.sscale(yscaled 1.05 shifted (0,30))
157   (build_kanji.level(build_kanji.tb(120,20)
158     (kanji.grone.day)
159     (kanji.grone.one)));
160   expand_pbox;
161 enddef;

```



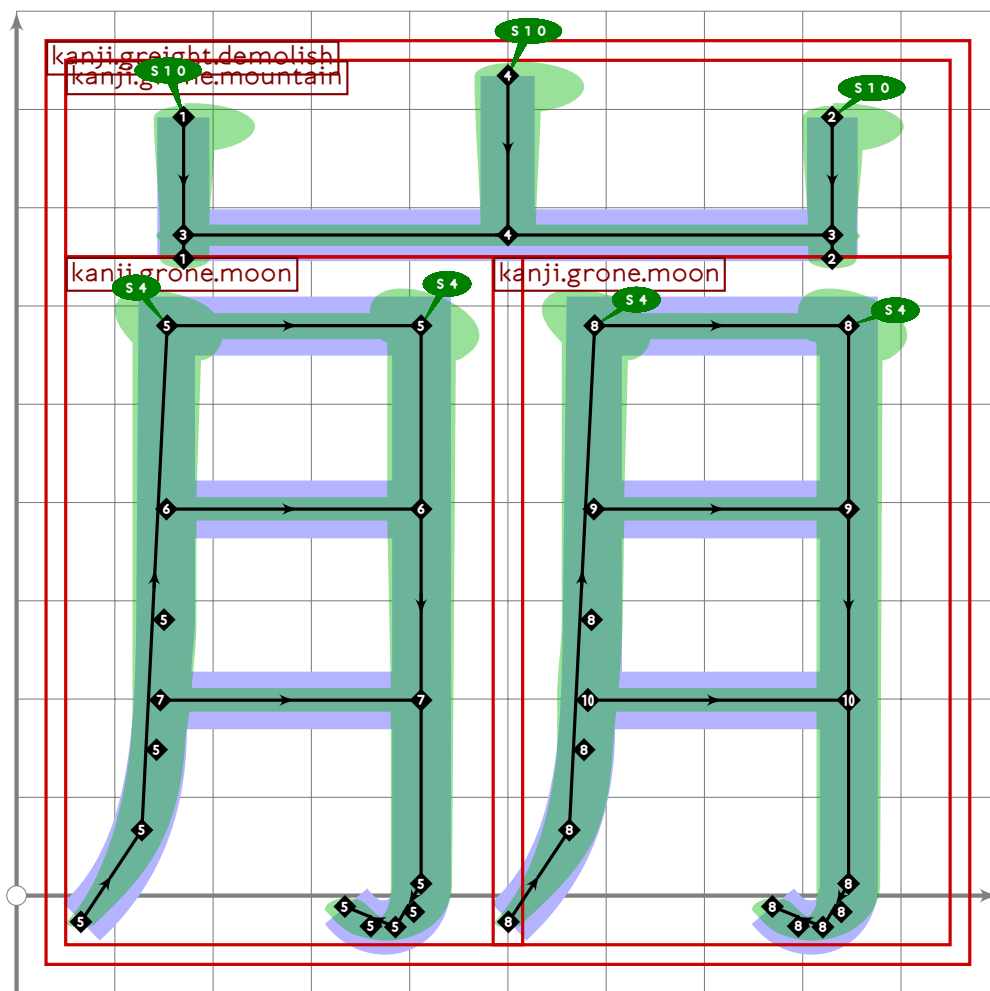
```

162
163 vardef kanji.greight.decapitate =
164   push_pbox_toexpand("kanji.greight.decapitate");
165   build_kanji.lr(480,20)
166     (build_kanji.sscale(yscaled 0.94 shifted (0,30))
167       (kanji.gronewheel))
168     (kanji.greight.axe);
169   expand_pbox;
170 enddef;

```

**EIGH**

U+5D29  
tsuku.uni5D29



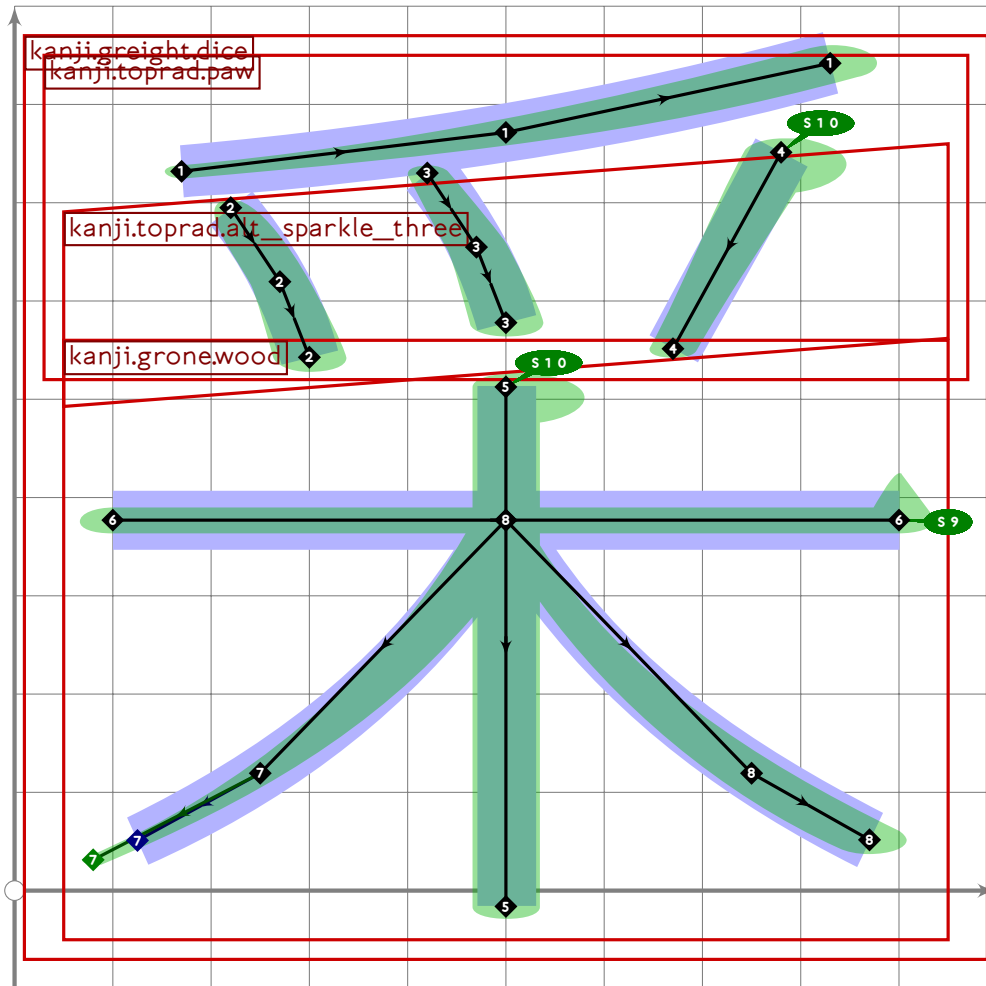
**EIGH**

```

171
172 vardef kanji.greight.demolish =
173   push_pbox__toexpand("kanji.greight.demolish");
174   build_kanji.tb(650,0)
175     (kanji.grone.mountain)
176     (build_kanji.lr(500,30)
177       (kanji.grone.moon)
178       (kanji.grone.moon));
179   expand_pbox;
180 enddef;

```



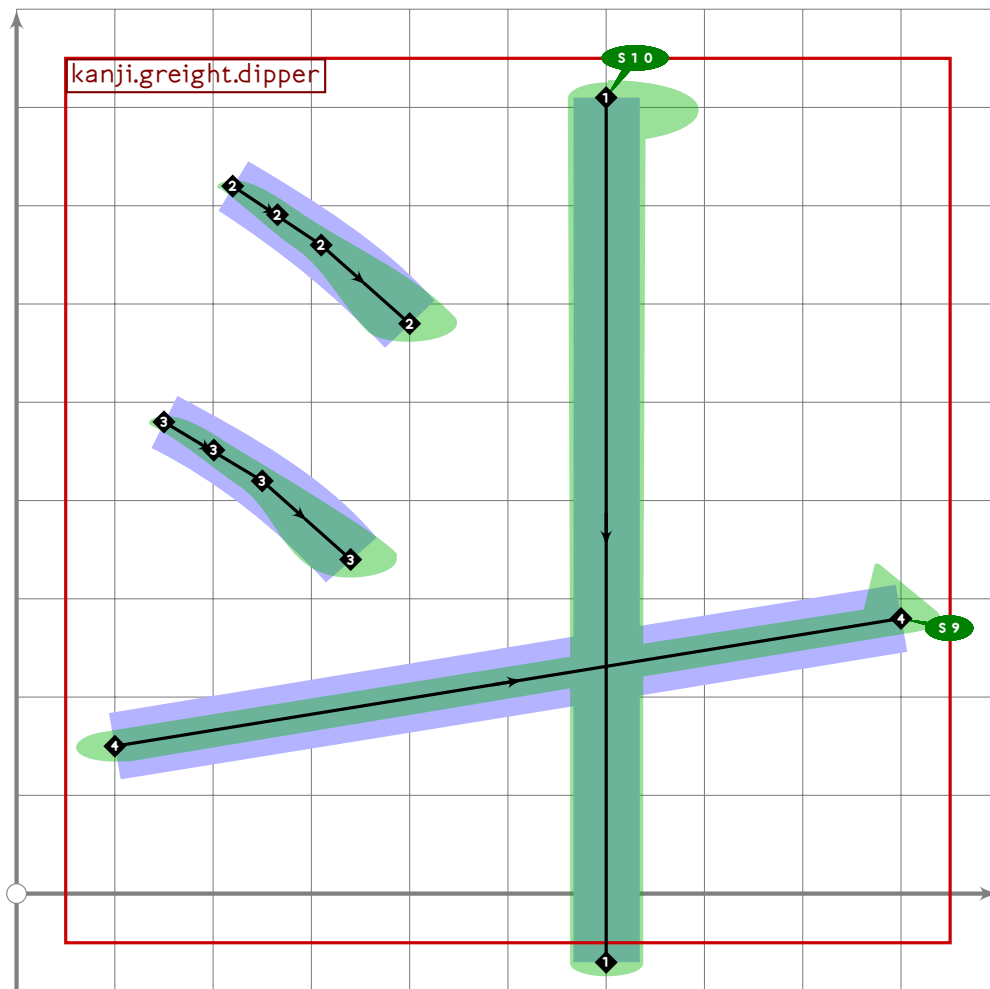


```

181
182 vardef kanji.greight.dice =
183   push_pbox_toexpand("kanji.greight.dice");
184   build_kanji.level(build_kanji.tb(540,40)
185     (kanji.toprad.paw)
186     (kanji.gronewood));
187   expand_pbox;
188 enddef;

```

**EIGH**

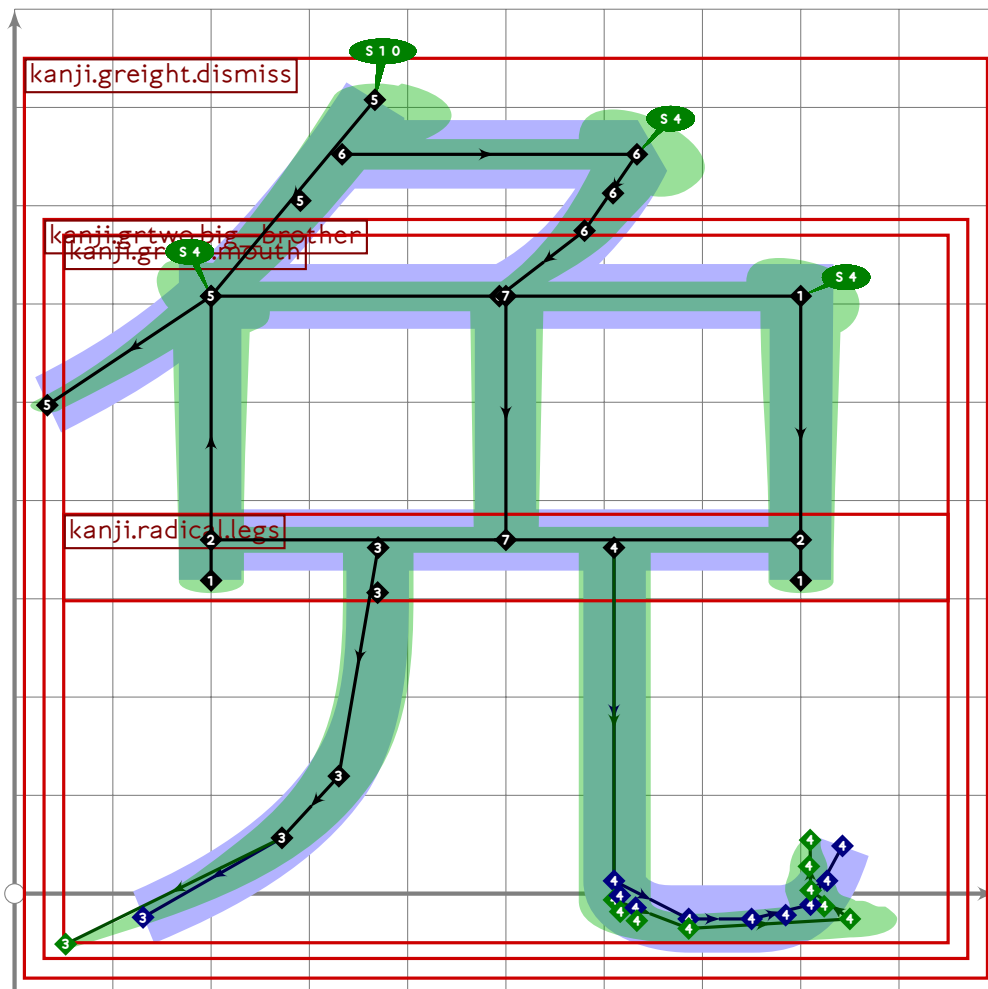


## EIGH

```

189
190 vardef kanji.greight.dipper =
191   push_pbox__toexpand("kanji.greight.dipper");
192   push_stroke((600,810)-(600,70),(1.6,1.6)-(1.5,1.5));
193   set_boserif(0,0,10);
194   push_stroke((220,720)..tension 1.2..(310,660)..(400,580),
195     (1,1)-(1.3,1.3)-(1.9,1.9));
196   set_bosize(0,94);
197   push_stroke((150,480)..tension 1.2..(250,420)..(340,340),
198     (1,1)-(1.3,1.3)-(1.9,1.9));
199   set_bosize(0,94);
200   push_stroke((100,150)-(900,280),(1.6,1.6)-(1.6,1.6));
201   set_boserif(0,19);
202   expand_pbox;
203 enddef;

```

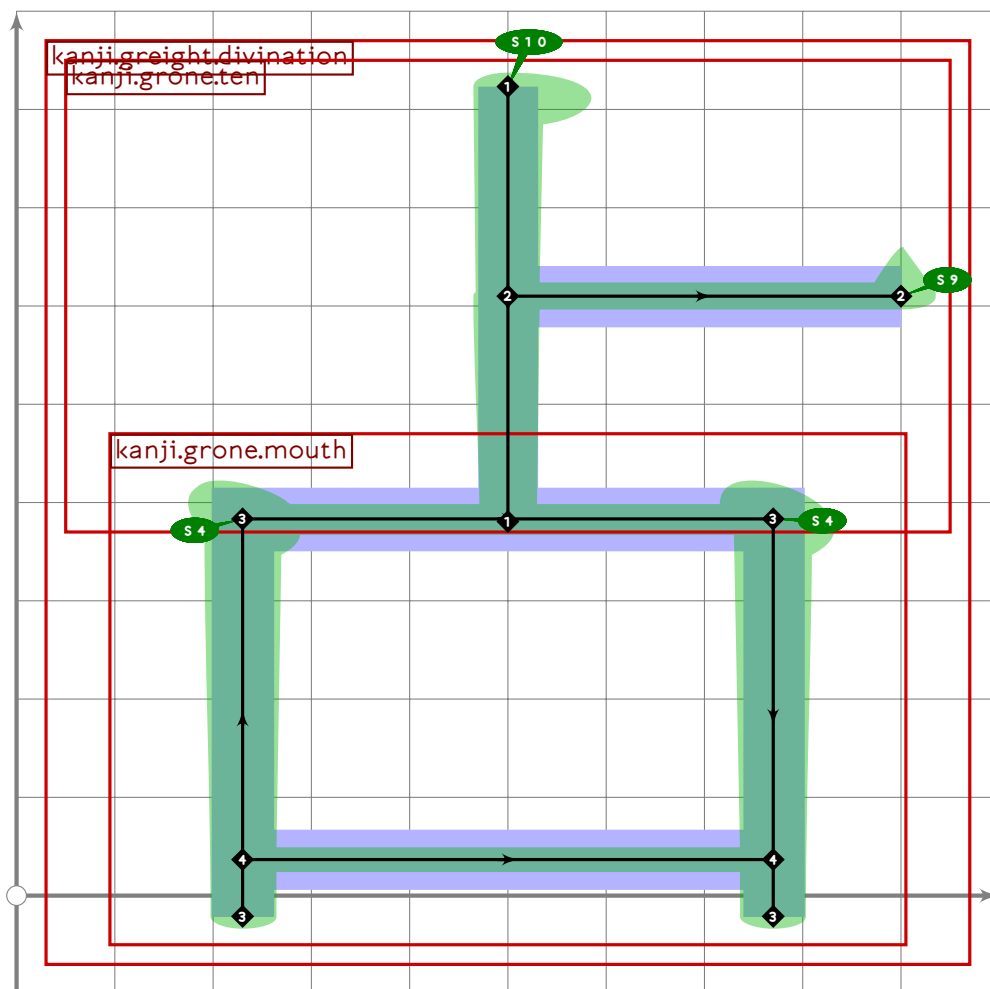


```

204
205 vardef kanji.greight.dismiss =
206   push_pbox_toexpand("kanji.greight.dismiss");
207   build_kanji.attach_fishhook(0.8)(kanji.grtwo.big_brother);
208   push_stroke(
209     (point 1.5 of get_stroke(-5))-(point 0.5 of get_stroke(-4)),
210     (1.6,1.6)-(1.5,1.5));
211   set_bosize(0,get_bosize(-5));
212   expand_pbox;
213 enddef;

```

**EIGH**

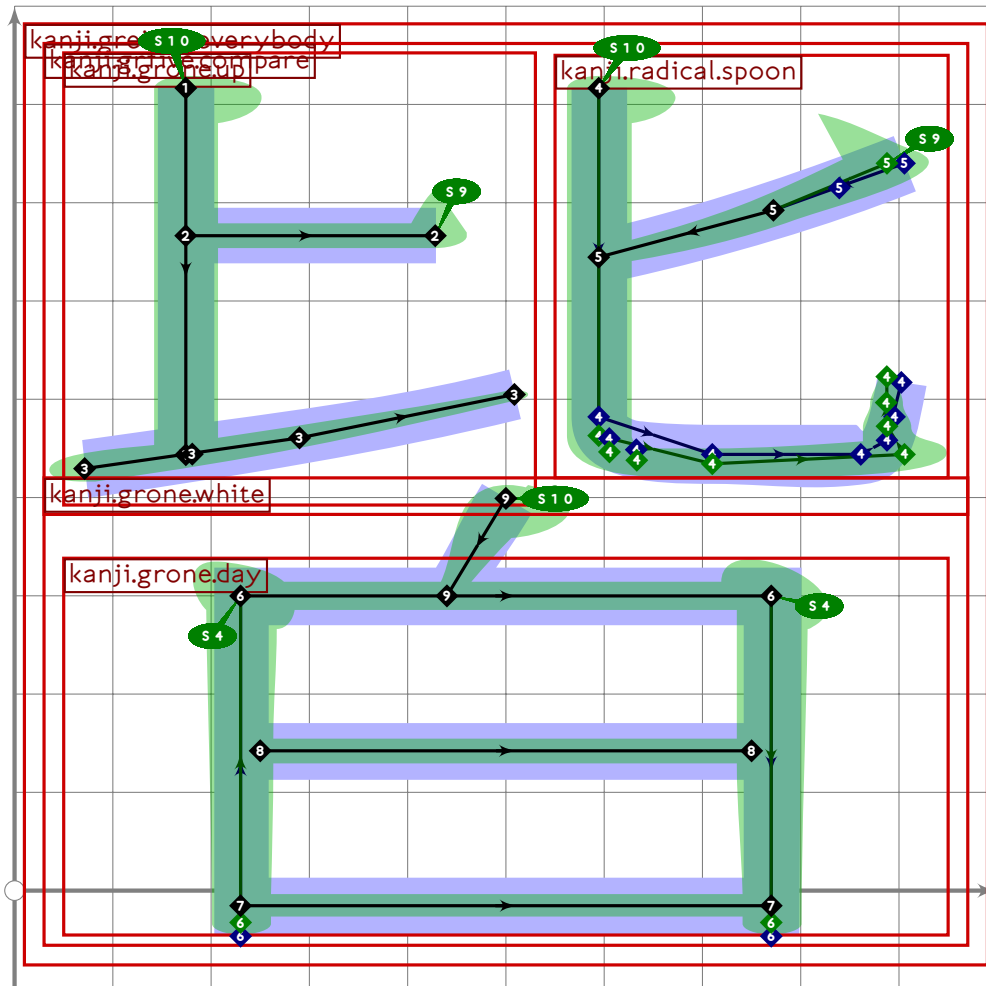


## EIGH

```

214
215 vardef kanji.greight.divination =
216   push_pbox__toexpand("kanji.greight.divination");
217   build_kanji.level(build_kanji.tb(420,100)
218     (kanji.grone.ten;
219       replace_strokep(0)(subpath (0.5,1) of oldp))
220     (build_kanji.sscale(xscaled 0.9)(kanji.grone.mouth)));
221   expand_pbox;
222 enddef;

```



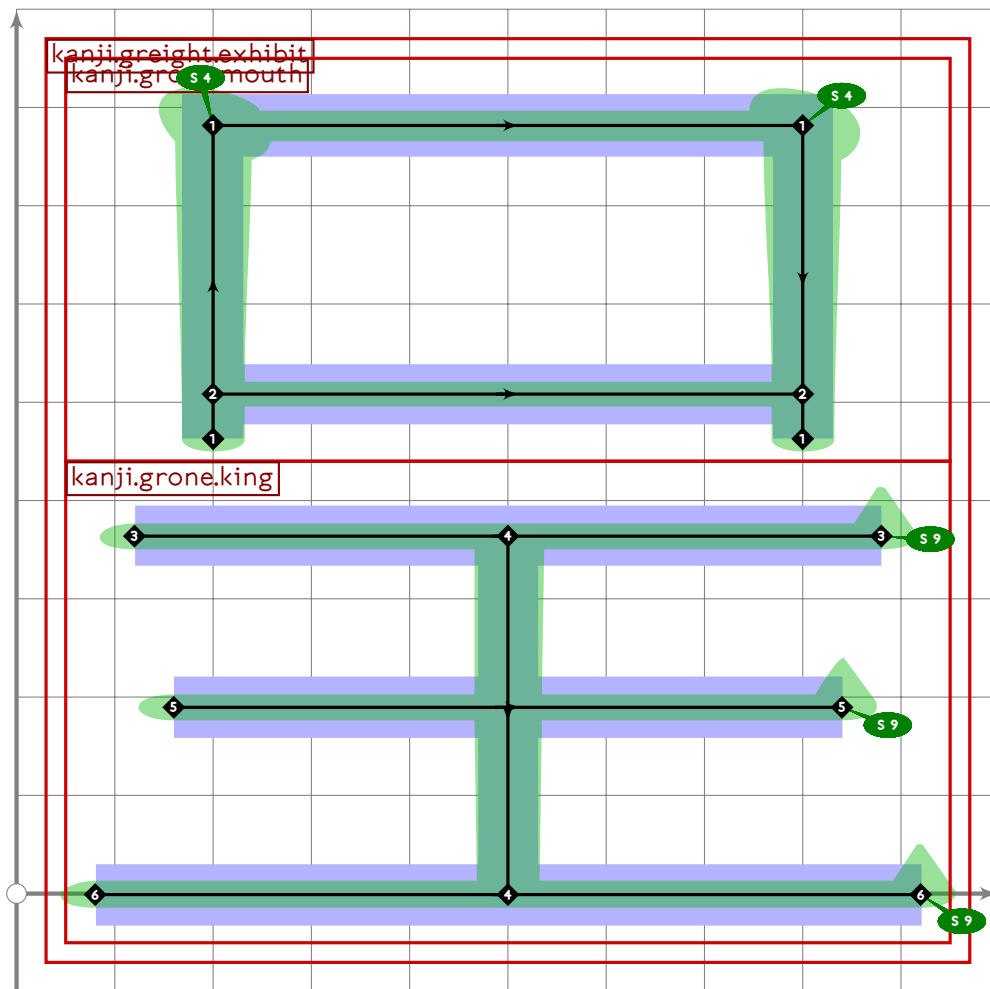
```

223
224 vardef kanji.greight.everybody =
225   push_pbox_toexpand("kanji.greight.everybody");
226   build_kanji.level(build_kanji.tb(420,0)
227     (kanji.grfive.compare)
228     (kanji.grone.white));
229   expand_pbox;
230 enddef;

```

EIGH

U+544E  
tsuku.uni544E

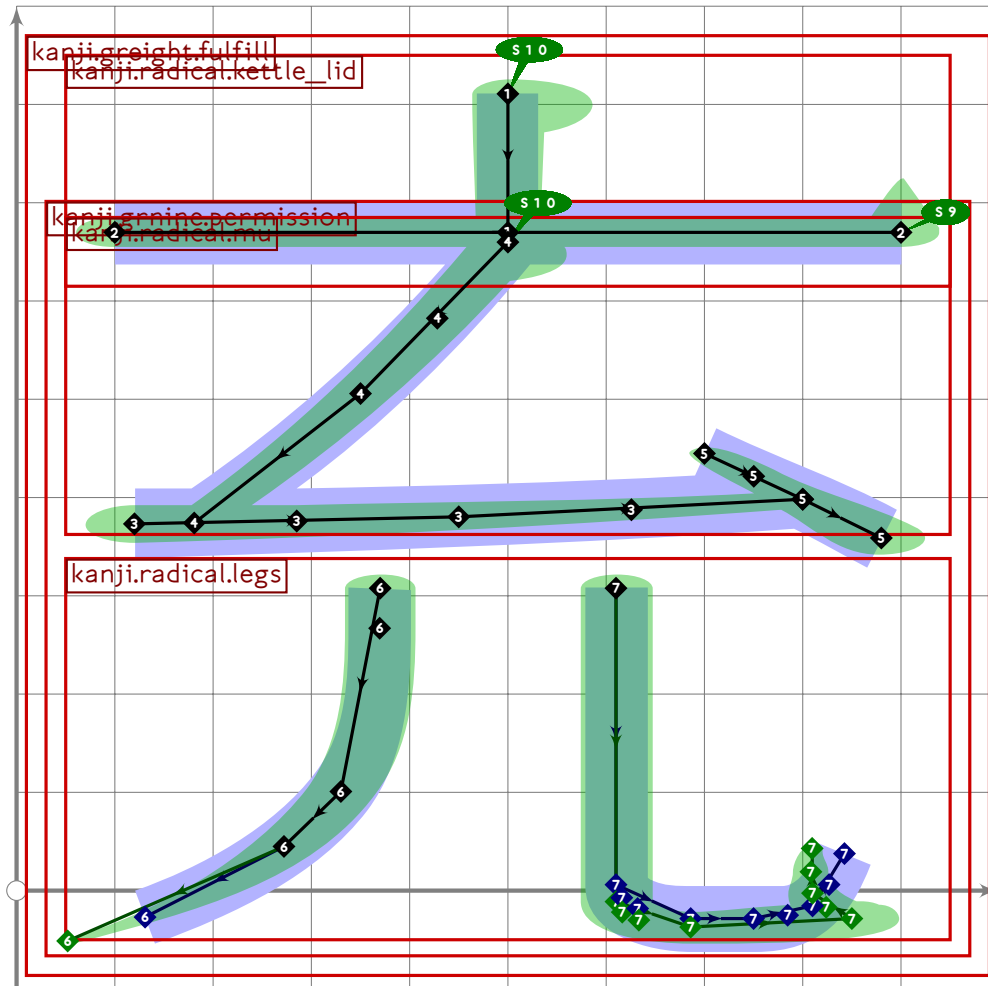


```

231
232 vardef kanji.greight.exhibit =
233   push_pbox_toexpand("kanji.greight.exhibit");
234   build_kanji.level(build_kanji.tb(440,0)
235     (kanji.grone.mouth)
236     (kanji.grone.king));
237   expand_pbox;
238 enddef;

```

**EIGH**



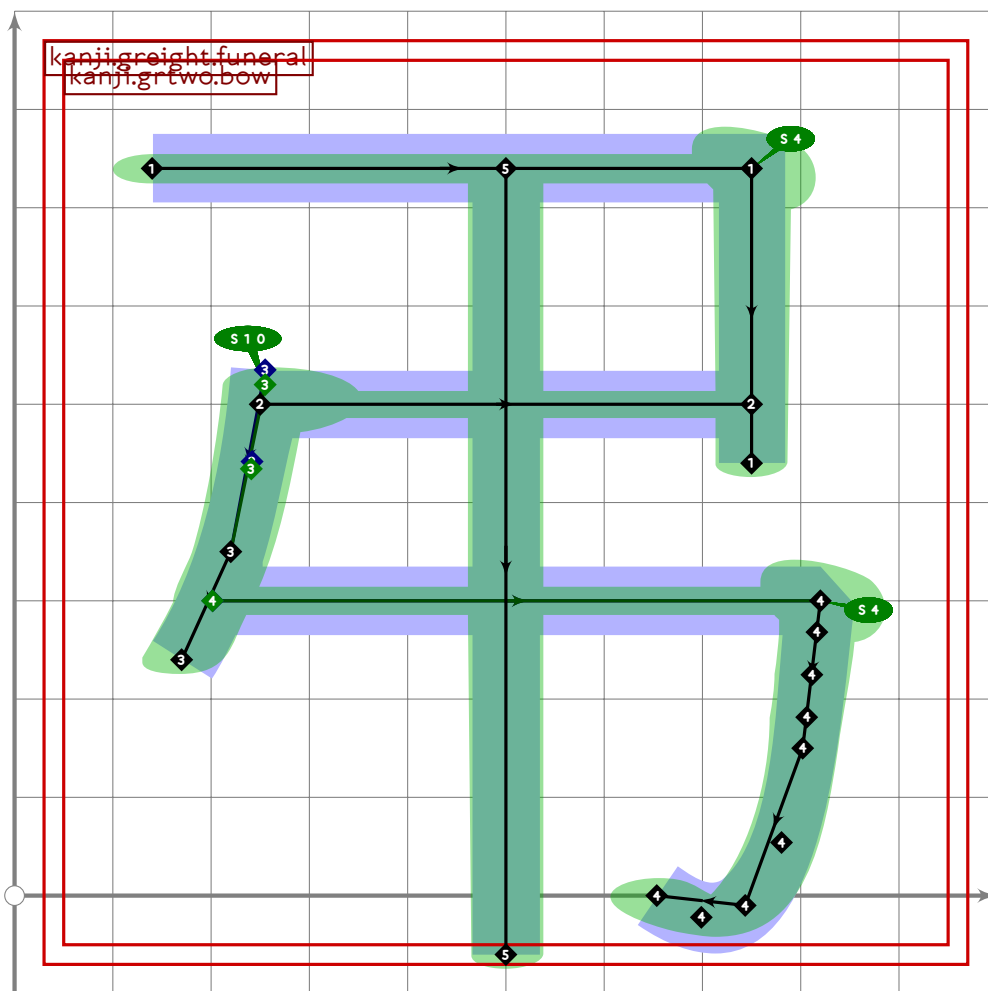
```

239
240 vardef kanji.greight.fulfill =
241   push_pbox_toexpand("kanji.greight.fulfill");
242   build_kanji.level(build_kanji.tb(650,70)
243     (kanji.radical.kettle_lid)
244     (kanji.grnine.permission));
245   expand_pbox;
246 enddef;

```

**EIGH**

U+5F14  
tsuku.uni5F14



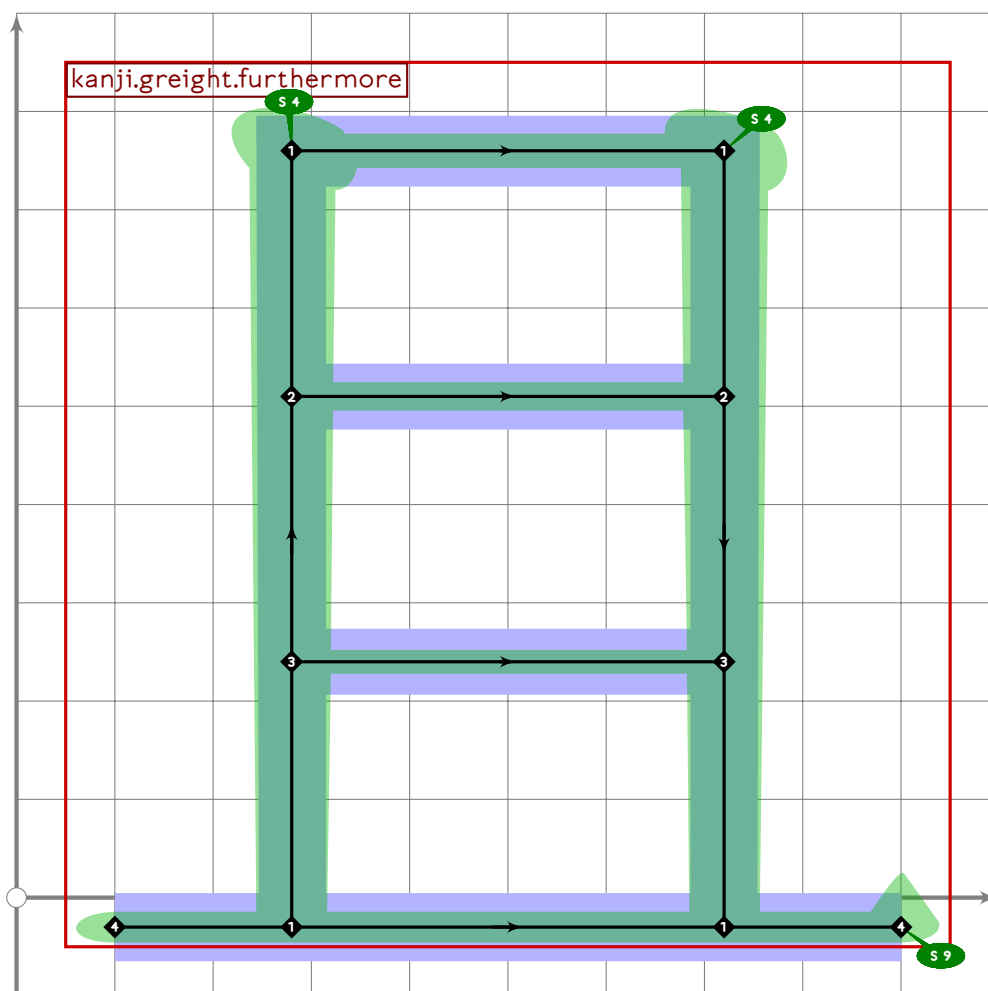
**EIGH**

```

247
248 vardef kanji.greight.funeral =
249   push_pbox__toexpand("kanji.greight.funeral");
250   kanji.grtwo.bow;
251   replace_strokep(0)((point 0 of oldp)-
252     ((subpath (1,infinity) of oldp)
253       shifted (-820,0) xscaled 0.45 shifted (820,0)));
254   push_stroke((500,740)-(500,60),(1.6,1.6)-(1.5,1.5));
255   expand_pbox;
256 enddef;

```



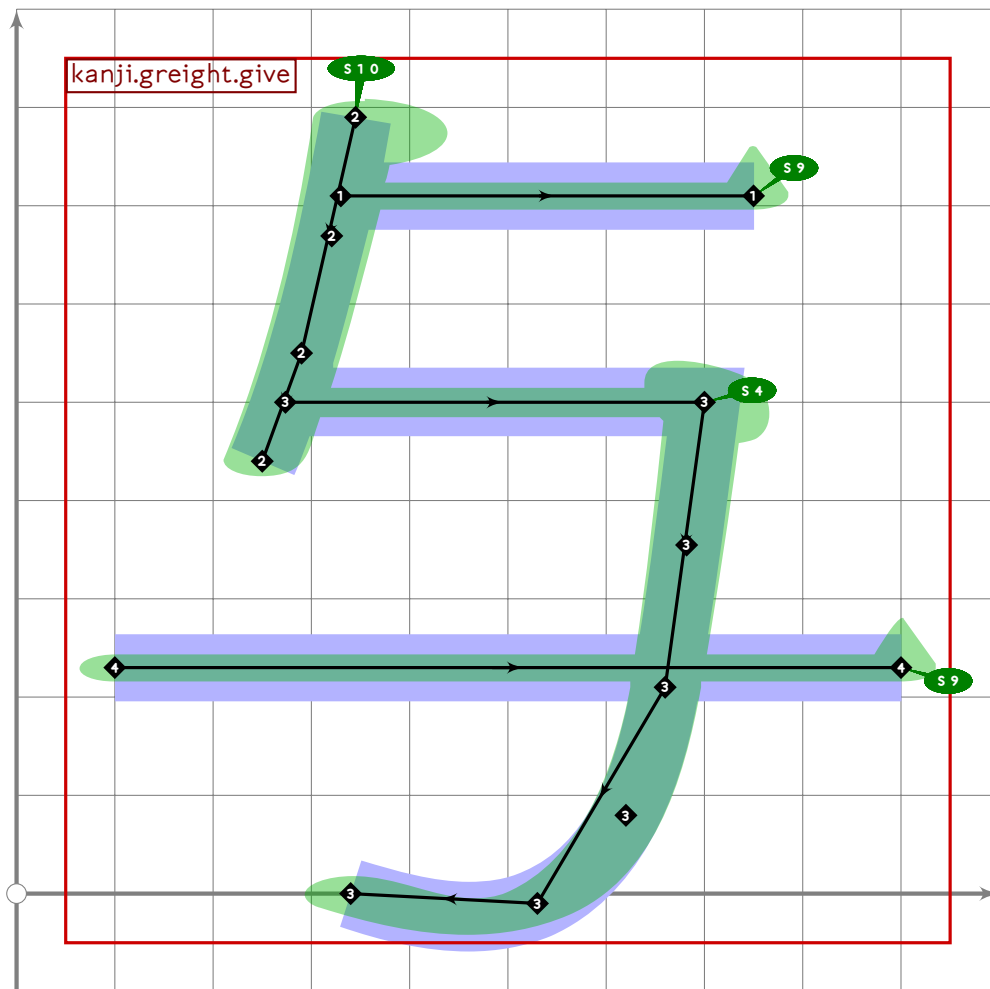


```

257
258 vardef kanji.greight.furthermore =
259   push_pbox_toexpand("kanji.greight.furthermore");
260   push_stroke((280,30)–(280,760)–(720,760)–(720,30),
261     (1.5,1.5)–(1.7,1.7)–(1.7,1.7)–(1.5,1.5));
262   set_botip(0,1,1);
263   set_botip(0,2,1);
264   set_boserif(0,1,4);
265   set_boserif(0,2,4);
266   push_stroke((280,510)–(720,510),
267     (1.5,1.5)–(1.5,1.5));
268   push_stroke((280,240)–(720,240),
269     (1.4,1.4)–(1.4,1.4));
270   push_stroke((100,30)–(900,30),
271     (1.6,1.6)–(1.6,1.6));
272   set_boserif(0,1,9);
273   expand_pbox;
274 enddef;

```

EIGH

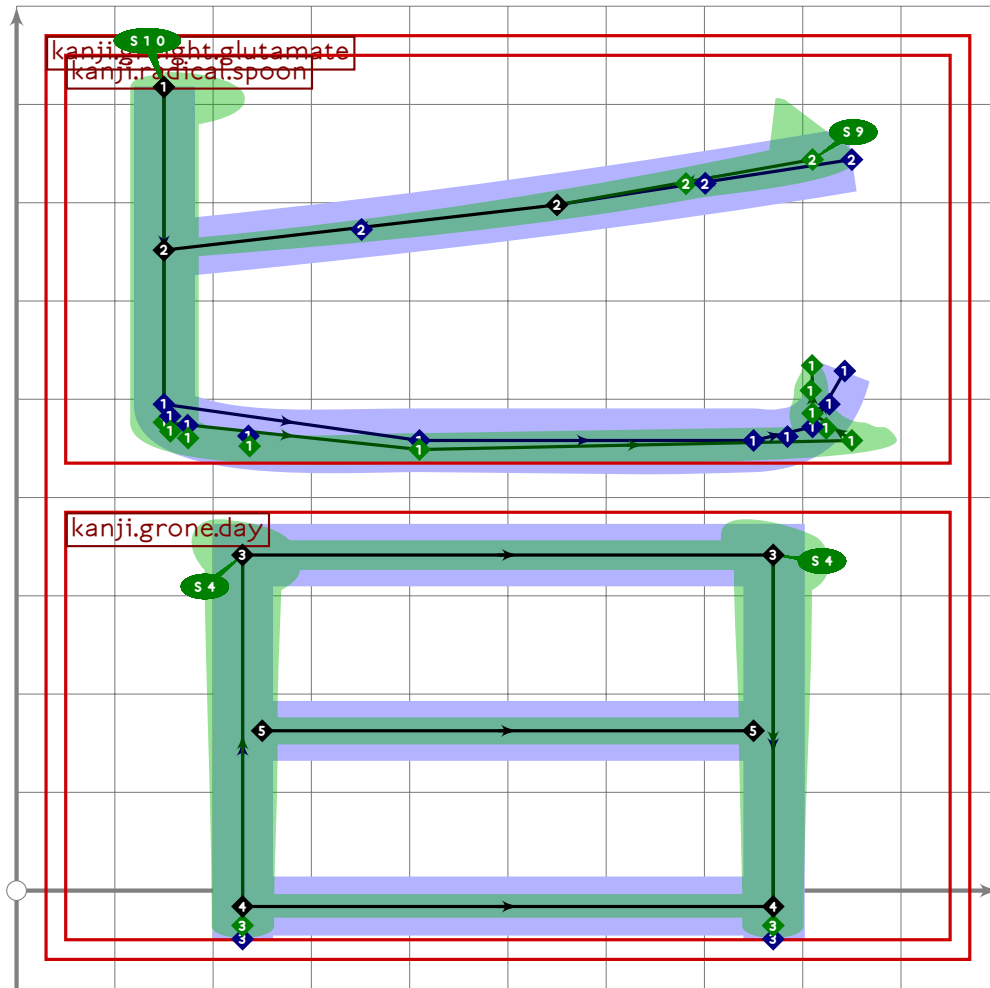


## EIGH

```

275
276 vardef kanji.greight.give =
277   push_pbox_toexpand("kanji.greight.give");
278   push_stroke((330,710)–(750,710),(1.5,1.5)–(1.5,1.5));
279   set_boserif(0,19);
280   push_stroke((345,790)..tension 1.2..(290,550)..(250,440),
281     (1.7,1.7)–(1.6,1.6)–(1.6,1.6));
282   set_boserif(0,0,10);
283   push_stroke((get_strokep(0) intersectionpoint ((0,500)–(1000,500)))–
284     (700,500)..tension 1.4..(660,210)..(530,-10)..{curl 0.1}(340,0),
285     (1.6,1.6)–(1.6,1.6)–(1.5,1.5)–(1.7,1.7)–(1.8,1.8));
286   set_botip(0,1,1);
287   set_boserif(0,14);
288   push_stroke((100,230)–(900,230),(1.5,1.5)–(1.5,1.5));
289   set_boserif(0,19);
290   expand_pbox;
291 enddef;
292

```

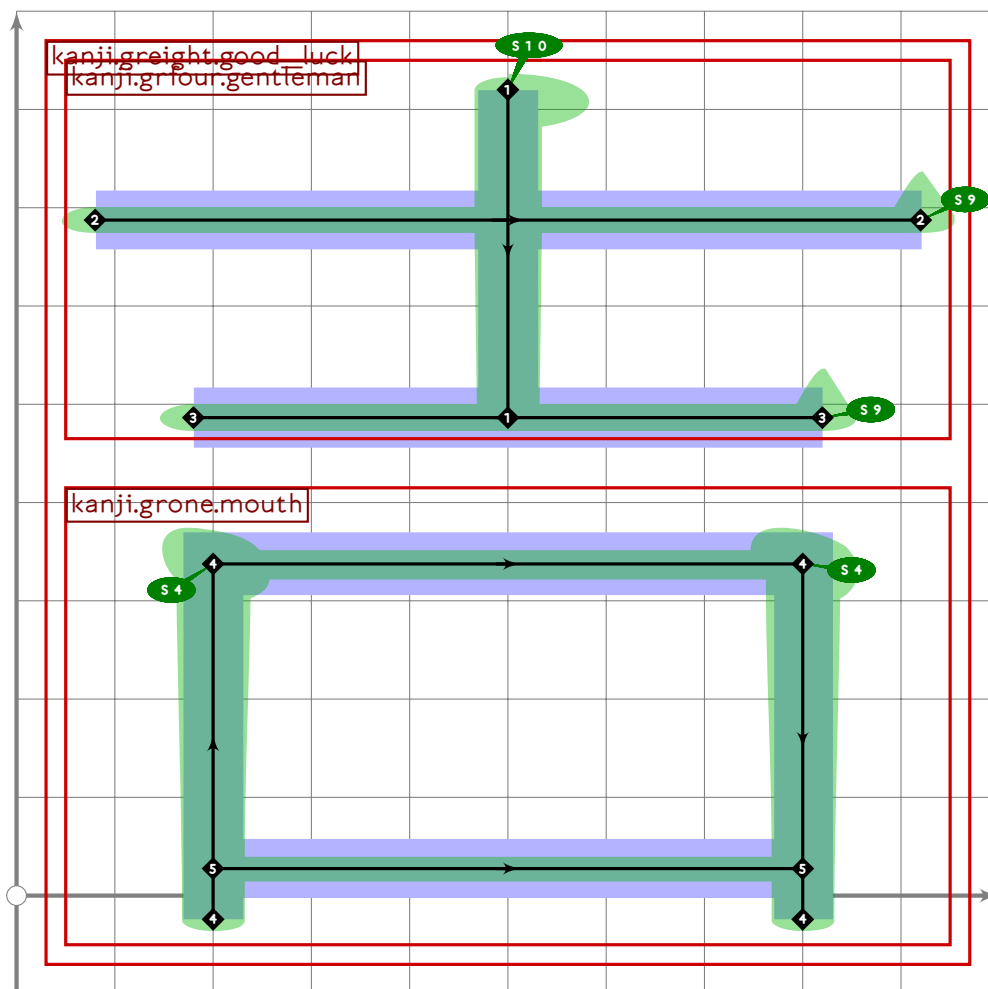


```

293 % this actually means sort of generically "good", but it's "uma" in
294 % "umami" and needs to be distinguished from other vague kanji
295 vardef kanji.greight.glutamate =
296   push_pbox_toexpand("kanji.greight.glutamate");
297   build_kanji.level(build_kanji.tb(410;50)
298     (kanji.radical.spoon)
299     (kanji.grone.day));
300   expand_pbox;
301 enddef;

```

**EIGH**

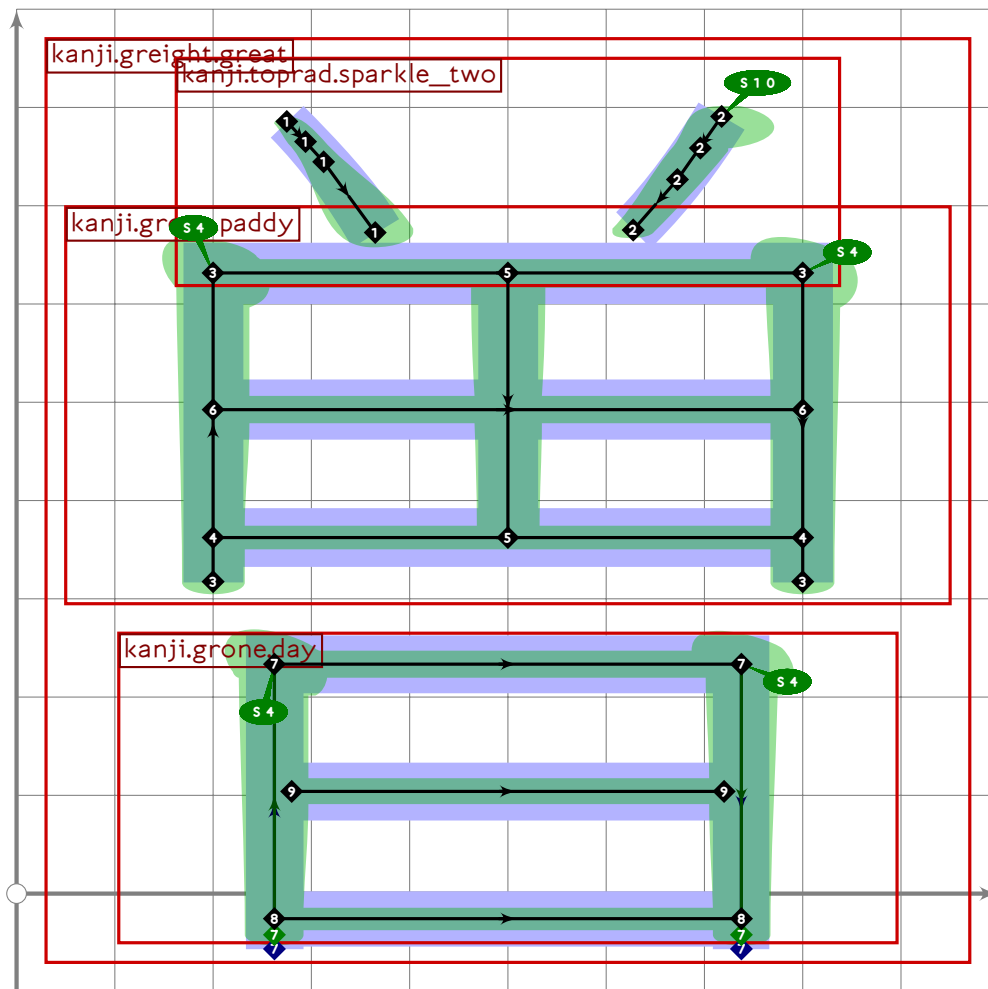


**EIGH**

```

302
303 vardef kanji.greight.good_luck =
304   push_pbox_toexpand("kanji.greight.good_luck");
305   build_kanji.level(build_kanji.tb(440;50)
306     (kanji.grfour.gentleman)
307     (kanji.grone.mouth));
308   expand_pbox;
309 enddef;

```

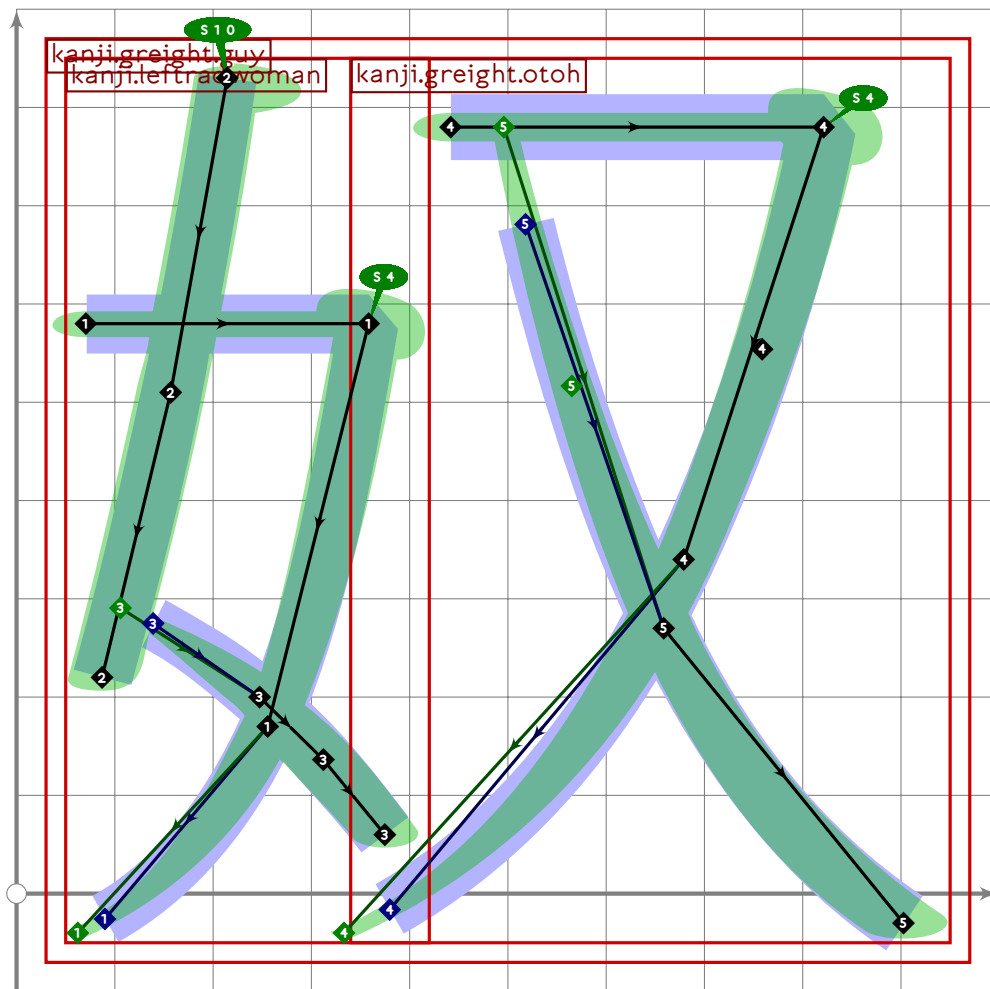


```

310
311 vardef kanji.greight.great =
312   push_pbox_toexpand("kanji.greight.great");
313   build_kanji.tb(280,30)
314     (build_kanji.tb(540,130)
315       (build_kanji.sscale(xscaled 0.75)(kanji.toprad.sparkle_two))
316       (kanji.grone.paddy))
317     (build_kanji.sscale(xscaled 0.88)(kanji.grone.day));
318   expand_pbox;
319 enddef;

```

EIGH

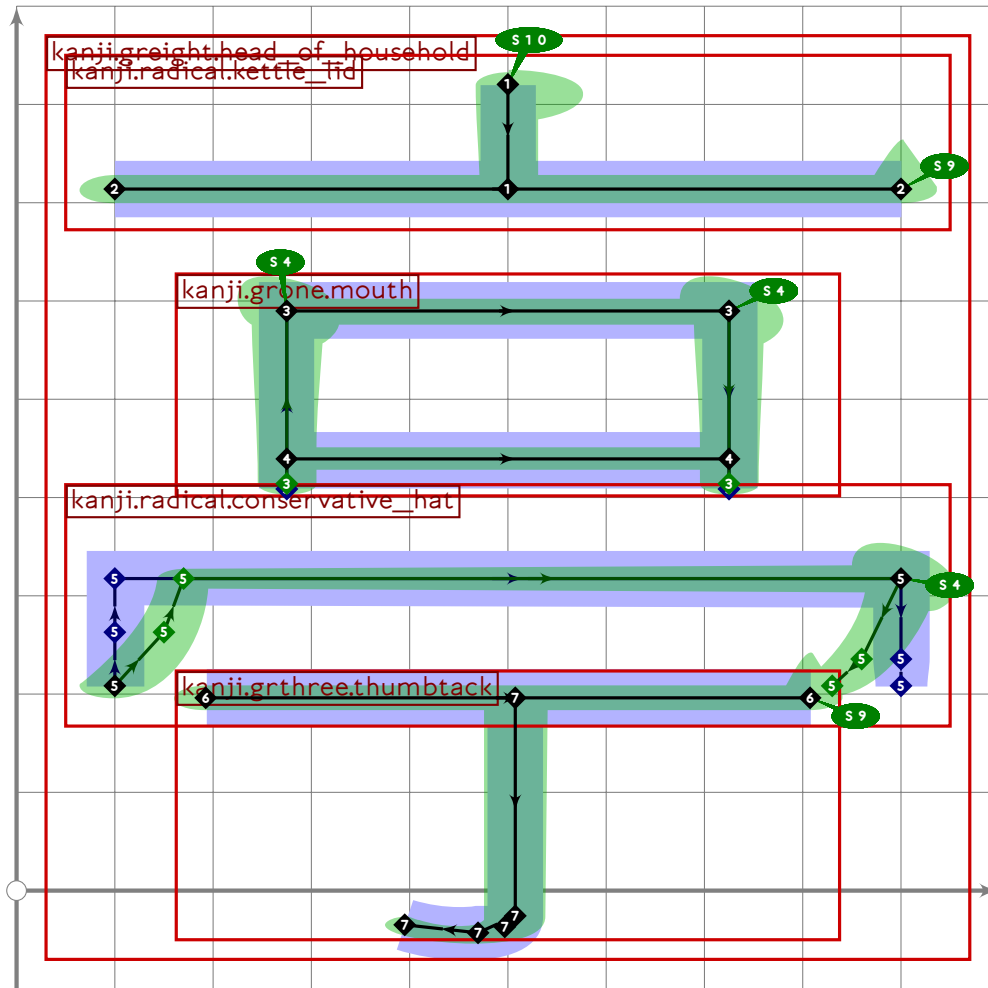


**EIGH**

```

320
321 vardef kanji.greight.guy =
322   push_pbox__toexpand("kanji.greight.guy");
323   build_kanji.lr(380,80)
324     (kanji.leftrad.woman)
325     (kanji.greight.otoh);
326   expand_pbox;
327 enddef;

```

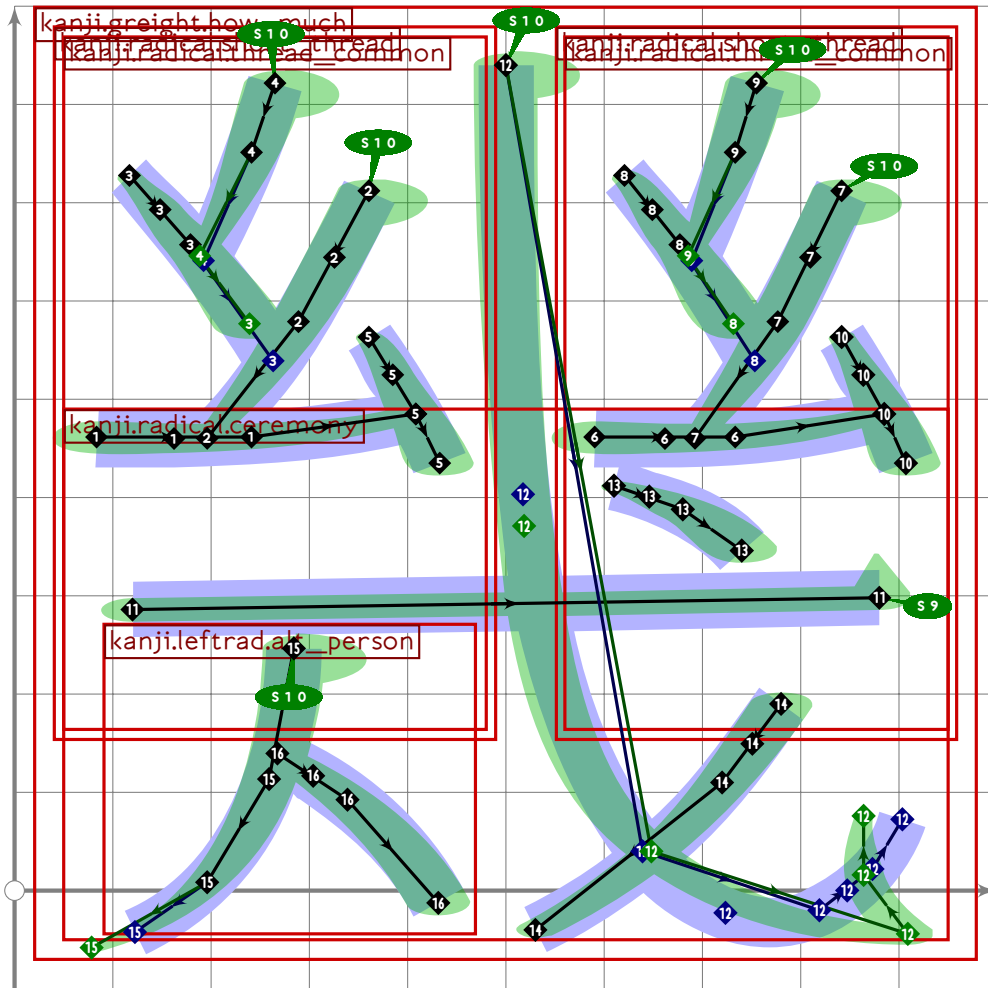


```

328
329 vardef kanji.greight.head_of_household =
330   push_pbox_toexpand("kanji.greight.head_of_household");
331   build_kanji.level(build_kanji.tb(650,-45)
332     (kanji.radical.kettle_lid)
333     (build_kanji.tb(550,0)
334       (build_kanji.sscale(xscaled 0.75)(kanji.grone.mouth))
335       (build_kanji.tb(450,90)
336         (build_kanji.sscale(yscaled 1.1)(kanji.radical.conservative_hat))
337         (build_kanji.sscale(xscaled 0.75)(kanji.grthree.thumbtack)))));
338   expand_pbox;
339 enddef;

```

EIGH

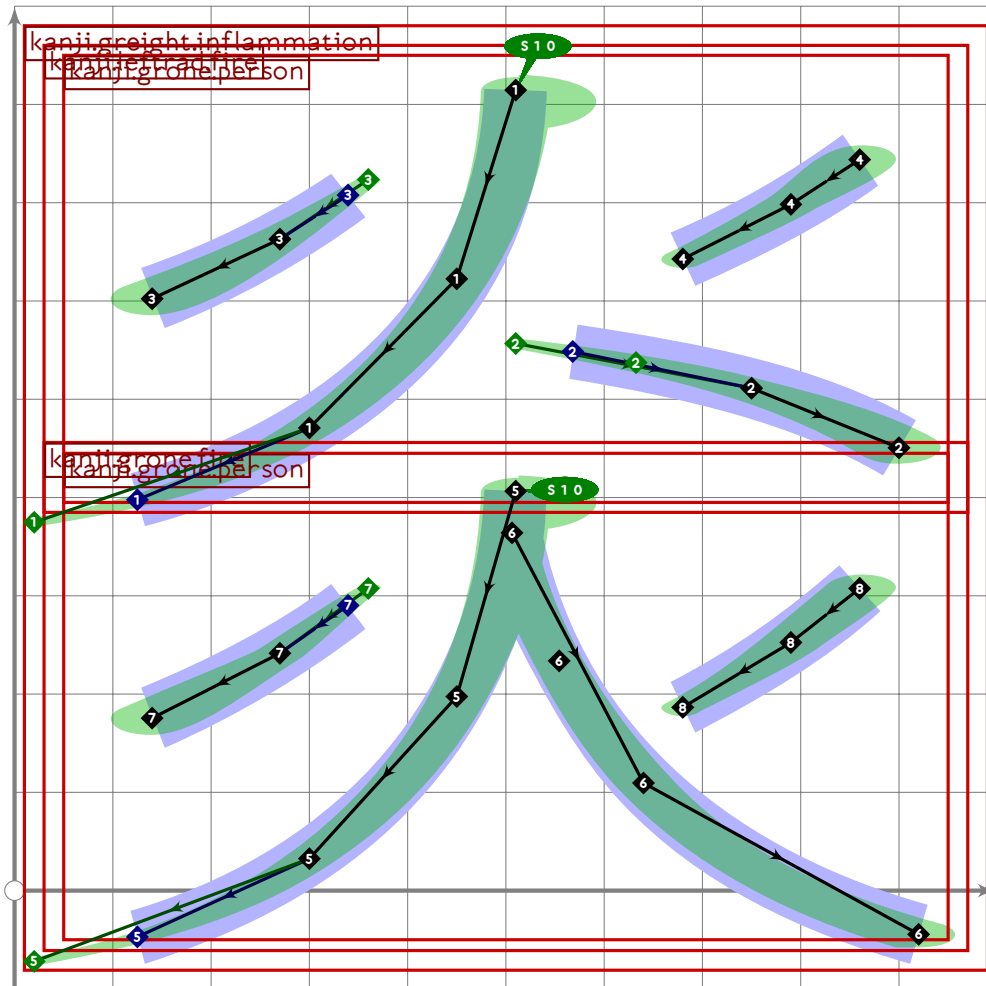


```

340
341 vardef kanji.greight.how_much =
342   push_pbox_toexpand("kanji.greight.how_much");
343   build_kanji.level(
344     build_kanji.tb(440,100)
345       (build_kanji.lr(520,80)
346         (kanji.radical.short_thread)
347         (kanji.radical.short_thread))
348       (kanji.radical.ceremony);
349   replace_stroke(-1)
350     (oldp shifted (-900,60) xscaled 0.9 shifted (900,-60));
351   replace_stroke(-1)((500,840){down}...subpath (1,infinity) of oldp);
352   push_stroke((780,190)..tension 1.2..(720,110)..(530,40),
353     (1.6,1.6)-(1.4,1.4)-(1.2,1.2));
354   build_kanji.sscale(xyscaled (0.42,0.35) shifted (-220,-280))
355     (kanji.leftrad.alt_person);
356 );
357 expand_pbox;
358 enddef;

```



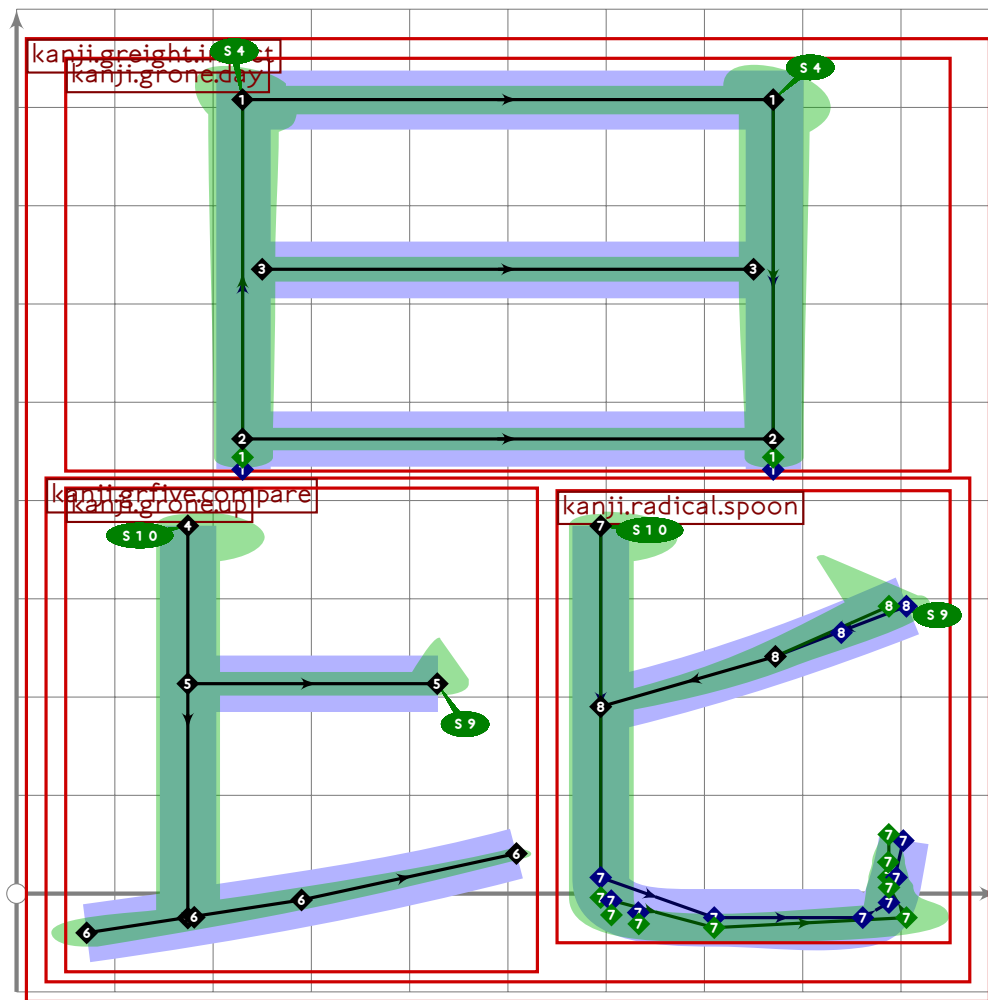


```

359
360 vardef kanji.greight.inflammation =
361   push_pbox_toexpand("kanji.greight.inflammation");
362   build_kanji.level(build_kanji.tb(420,50)
363     (kanji.leftrad.fire)
364     (kanji.grone.fire));
365   expand_pbox;
366 enddef;

```

EIGH

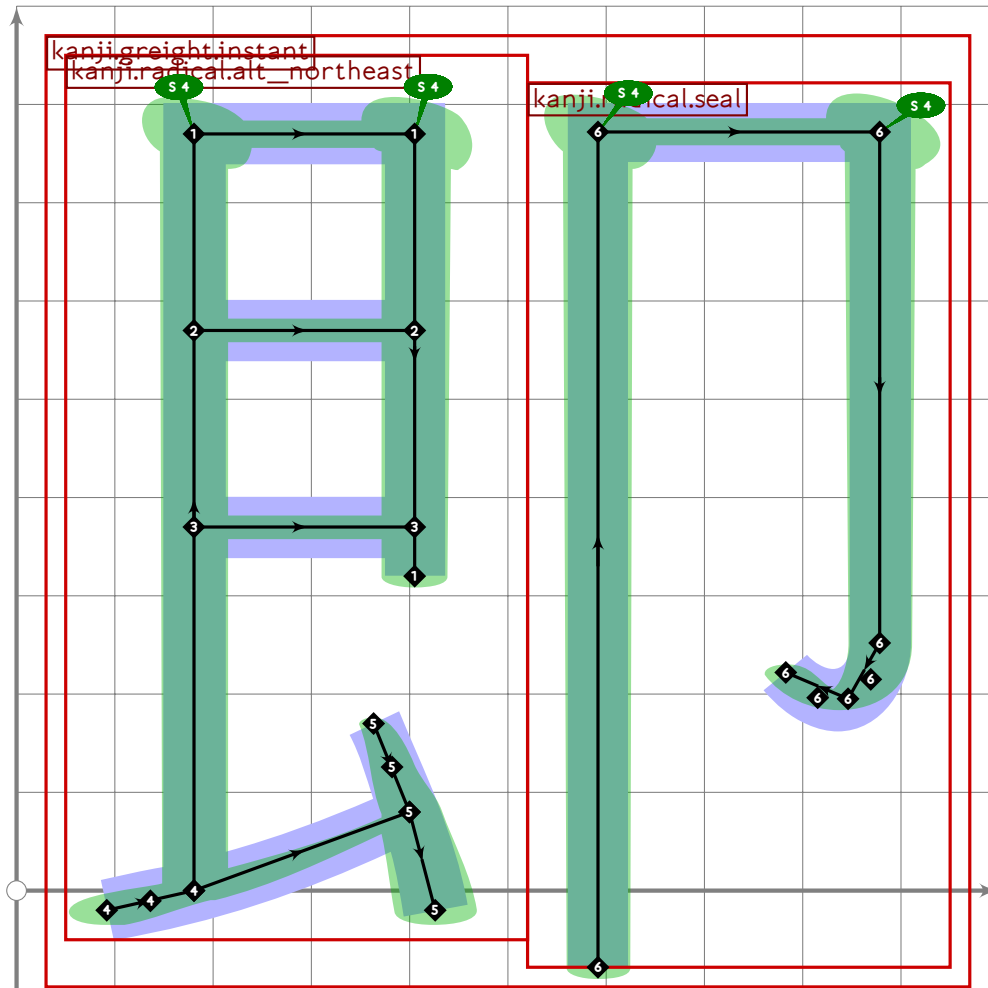


**EIGH**

```

367
368 vardef kanji.greight.insect =
369   push_pbox_toexpand("kanji.greight.insect");
370   build_kanji.level(build_kanji.tb(420;20)
371     (kanji.grone.day)
372     (kanji.grfive.compare));
373   expand_pbox;
374 enddef;

```

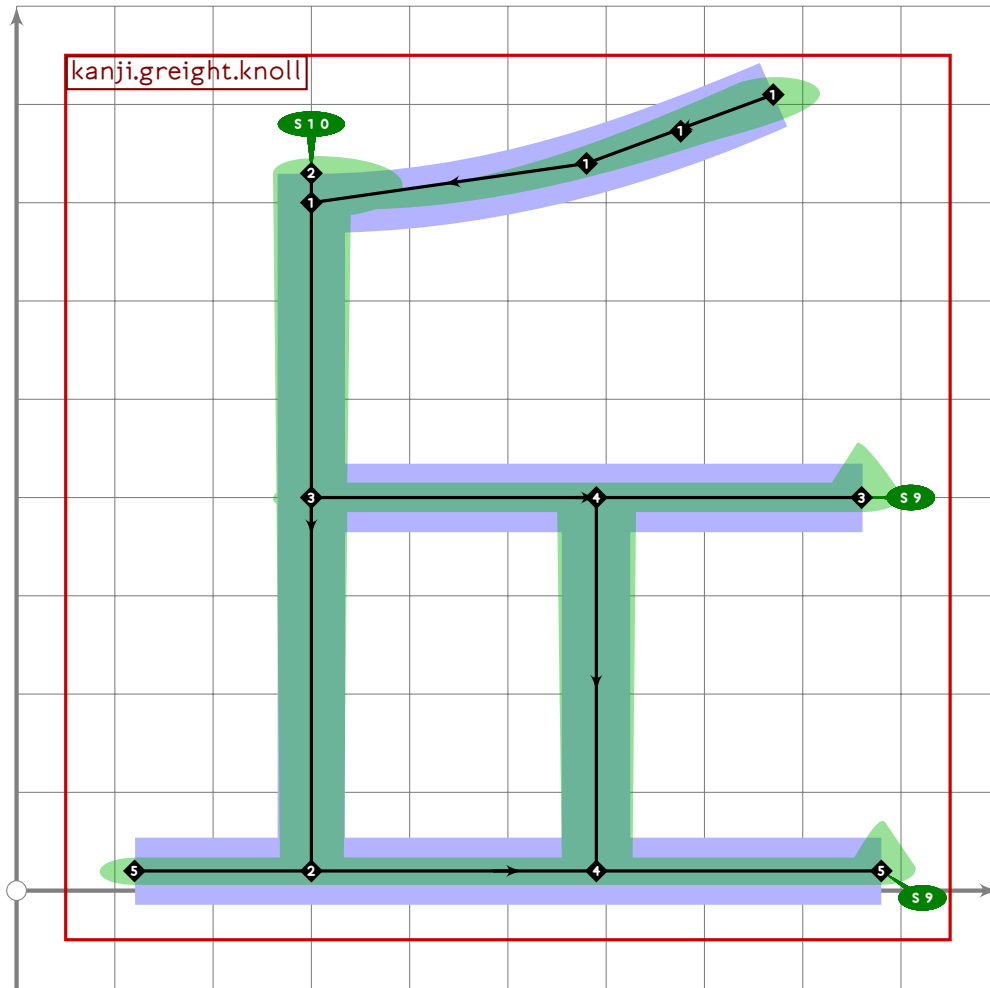


```

375
376 vardef kanji.greight.instant =
377   push_pbox__toexpand("kanji.greight.instant");
378   build_kanji.level(build_kanji.lr(520,0)
379     (kanji.radical.alt_northeast)
380     (build_kanji.sscale(shifted (0,28))(kanji.radical.seal)));
381   expand_pbox;
382 enddef;

```

**EIGH**

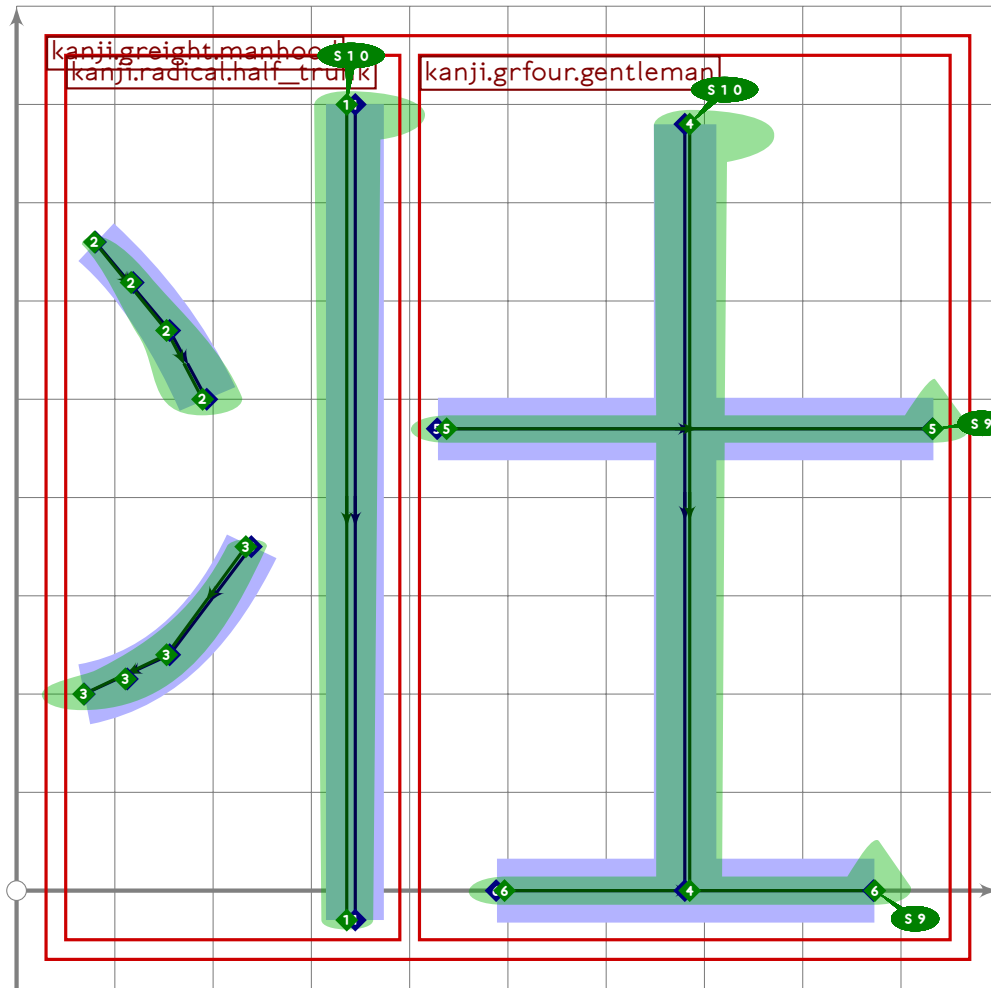


## EIGH

```

383
384 vardef kanji.greight.knoll =
385   push_pbox__toexpand("kanji.greight.knoll");
386   push_stroke((770,810)..tension 1.2..(580,740)..(300,700),
387     (1.8,1.8)–(1.5,1.5)–(1,1));
388   push_stroke((300,730)–(300,20),
389     (1.6,1.6)–(1.4,1.4));
390   set_bosserif(0,0,10);
391   push_stroke((300,400)–(860,400),(1.6,1.6)–(1.6,1.6));
392   set_bosserif(0,19);
393   push_stroke((590,400)–(590,20),(1.6,1.6)–(1.5,1.5));
394   push_stroke((120,20)–(880,20),(1.5,1.5)–(1.5,1.5));
395   set_bosserif(0,19);
396   expand_pbox;
397 enddef;

```



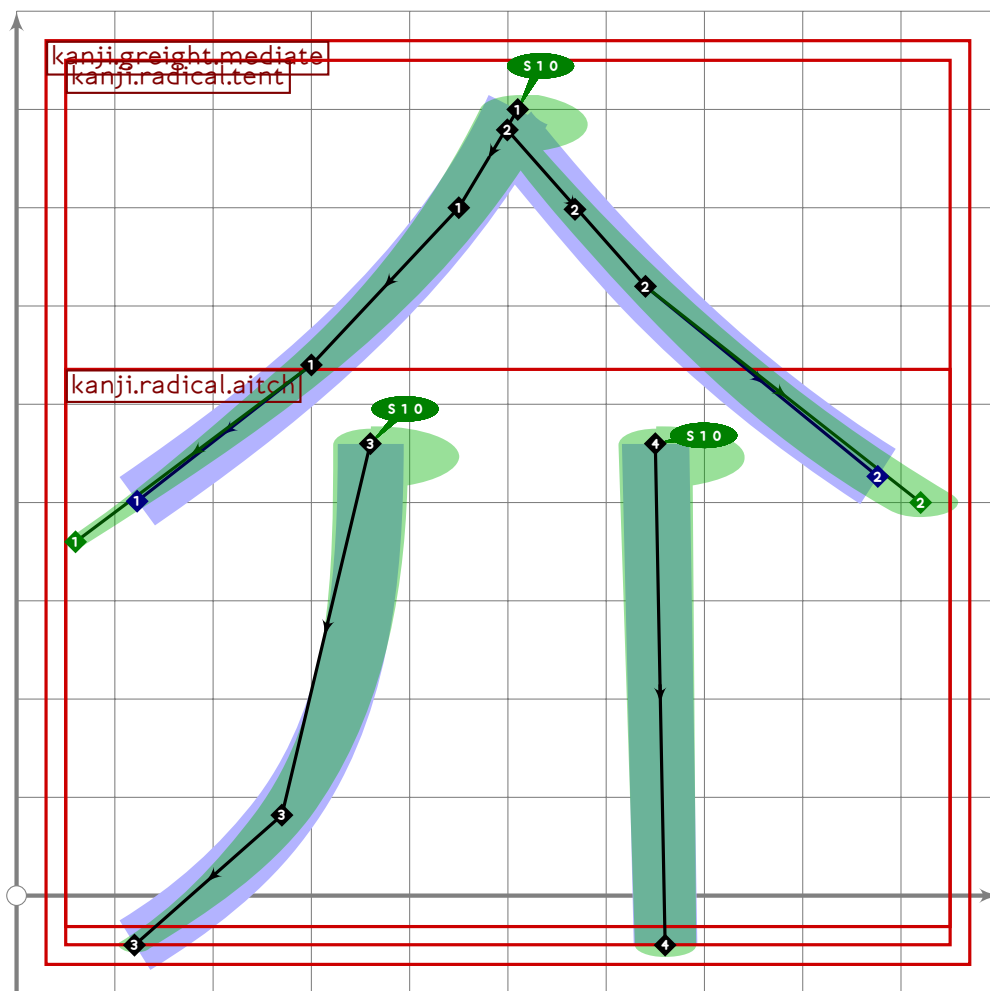
```

398
399 vardef kanji.greight.manhood =
400   push_pbox__toexpand("kanji.greight.manhood");
401   build_kanji.lr(400;20-20*mincho)
402     (kanji.radical.half_trunk)
403     (kanji.grfour.gentleman);
404   expand_pbox;
405 enddef;

```

EIGH

U+4ECB  
tsuku.uni4ECB

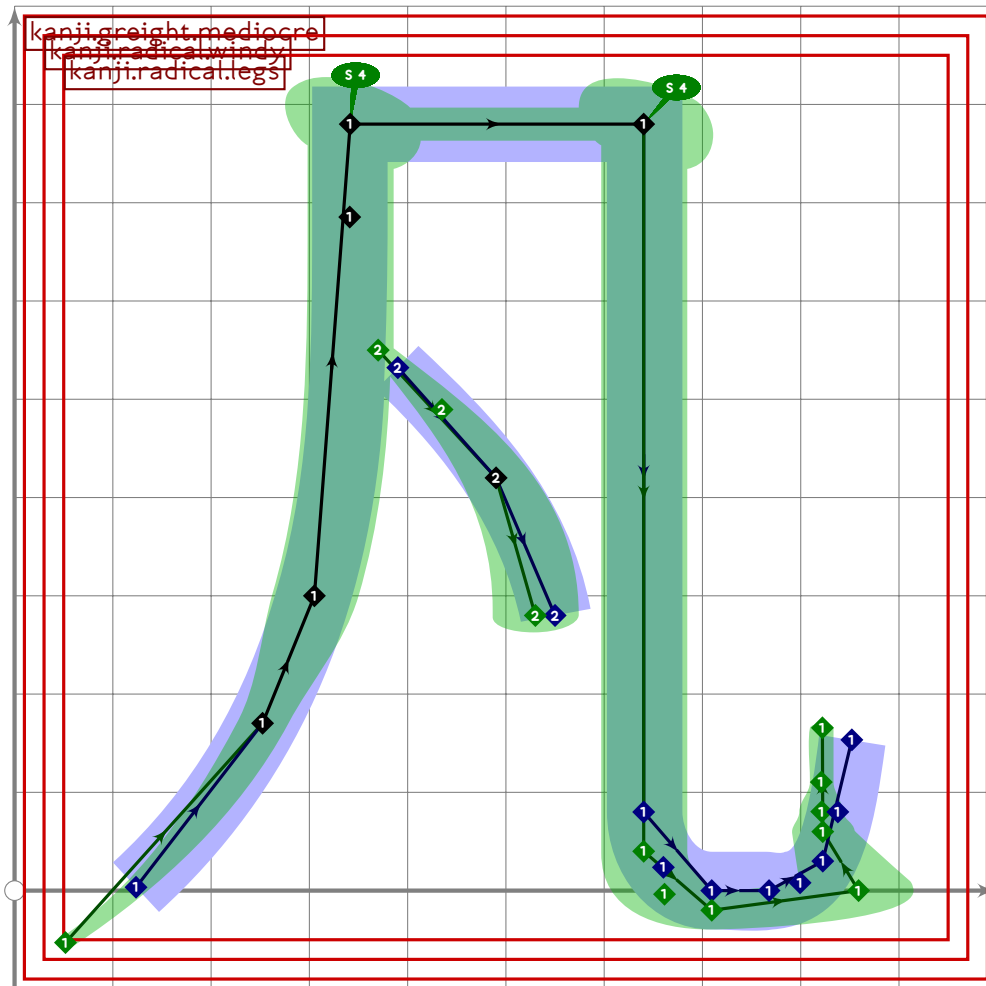


**EIGH**

```

406
407 vardef kanji.greight.mediate =
408   push_pbox__toexpand("kanji.greight.mediate");
409   build_kanji.level(
410     kanji.radical.tent;
411     pop_stroke;
412     tsu_xform(identity yscaled 0.63)(kanji.radical.aitch);
413     obstacktype[find_whatsoever(otstroke,2)]:=otnull;
414   );
415   expand_pbox;
416 enddef;

```

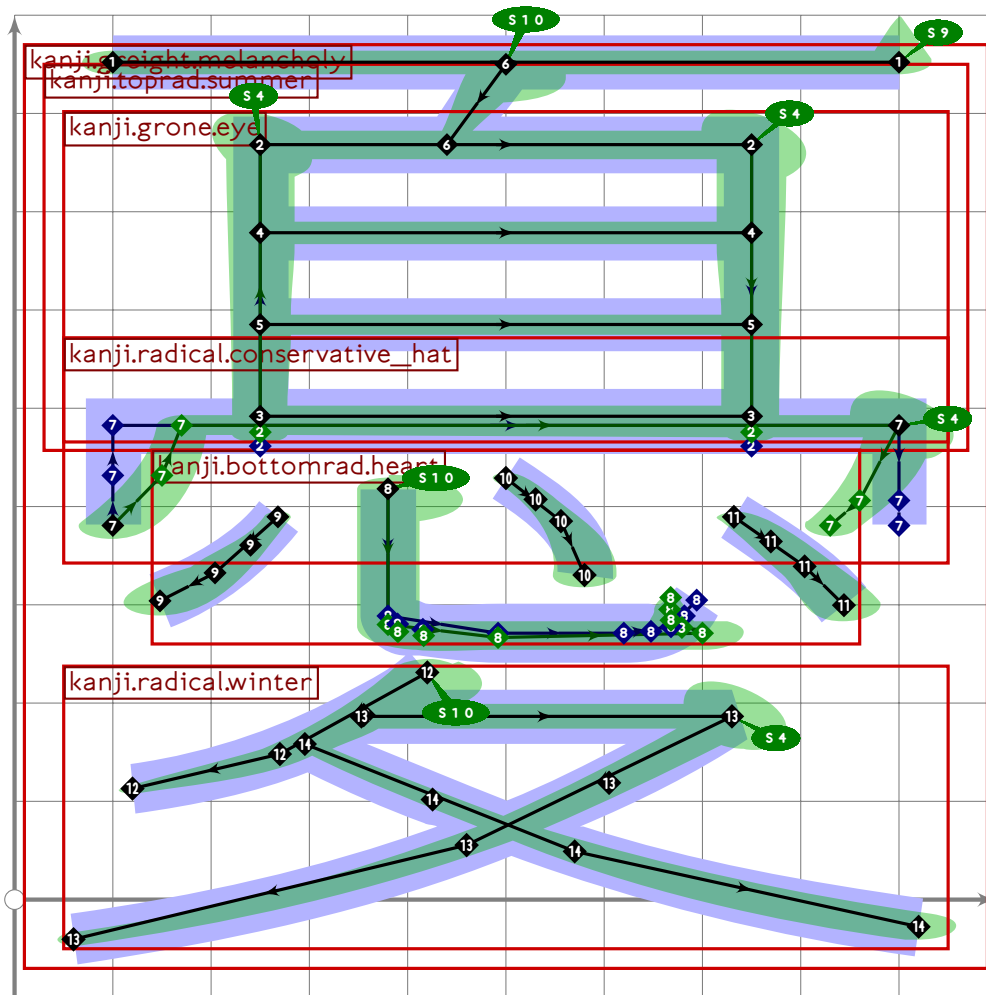


```

417
418 vardef kanji.greight.mediocre =
419   push_pbox__toexpand("kanji.greight.mediocre");
420   kanji.radical.windy;
421   push_stroke((370,550)..tension 1.2..(490,420)..(550-20*mincho,280),
422     (0.9,0.9)-(1.5,1.5)-(1.7,1.7));
423   expand_pbox;
424 enddef;

```

**EIGH**



## EIGH

```

425
426 vardef kanji.greight.melancholy =
427   push_pbox_toexpand("kanji.greight.melancholy");
428   build_kanji.level(build_kanji.tb(400,115)
429     (build_kanji.tb(260,193)
430       (kanji.toprad.summer)
431       (kanji.radical.conservative_hat))
432     (build_kanji.tb(480,-40)
433       (build_kanji.sscale(xscaled 0.8)(kanji.bottomrad.heart))
434       (kanji.radical.winter)));
435   expand_pbox;
436 enddef;
437
438 vardef hook.mortar(expr sides_one_i,sides_two_i,bottom_two_i) =
439   if (obstacktype[sides_one_i]=otstroke)
440     and (obstacktype[sides_two_i]=otstroke)
441     and (obstacktype[bottom_two_i]=otstroke):
442     if (3=length obstackp[sides_one_i]) and (3=length obstackp[sides_two_i])
443       and (1=length obstackp[bottom_two_i]):
444       obstackp[sides_one_i]:=
445         reverse(subpath (0,1) of obstackp[sides_one_i]);

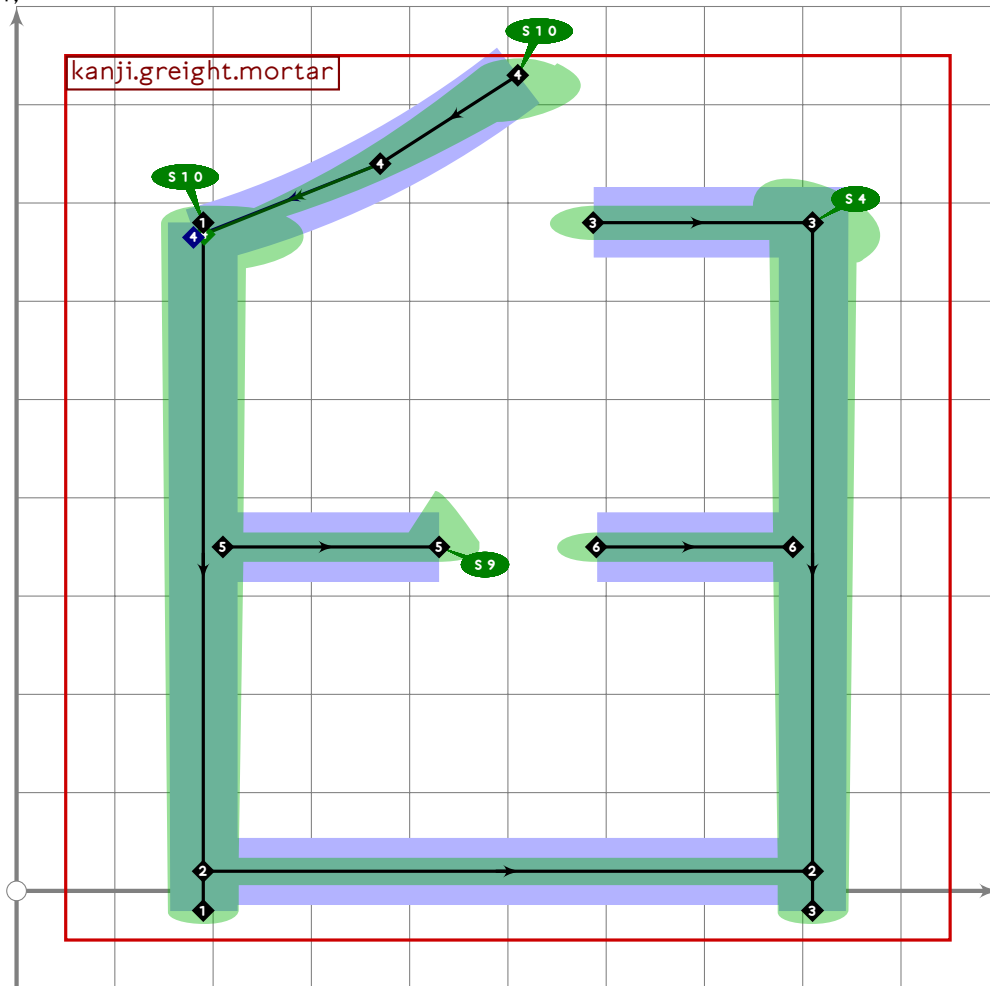
```



```

446   obstackq[sides_one_i]:=
447     reverse(subpath (0,1) of obstackq[sides_one_i]);
448   obstacknaa.boserif[sides_one_i][0]:=10;
449   obstacknaa.boserif[sides_one_i][1]:=whatever;
450   obstacknaa.botip[sides_one_i][1]:=whatever;
451   obstackp[sides_two_i]:=subpath (1,64,3) of obstackp[sides_two_i];
452   obstackq[sides_two_i]:=subpath (1,64,3) of obstackq[sides_two_i];
453   obstacknaa.boserif[sides_two_i][2]:=whatever;
454   obstacknaa.botip[sides_two_i][2]:=whatever;
455   obstacktype[bottom_two_i]:=otnull;
456   fi;
457   fi;
458 enddef;

```



```

459
460 vardef kanji.greight.mortar =
461   push_pbox_toexpand("kanji.greight.mortar");
462   perl_structure:=perl_structure&"eids.1_";
463   build_kanji.box((190,680),(810,20));
464   build_kanji.box((190,680),(810,20));
465   push_hook(hsmain_render,
466     "hook.mortar("&(decimal find_stroke(-3))&";

```

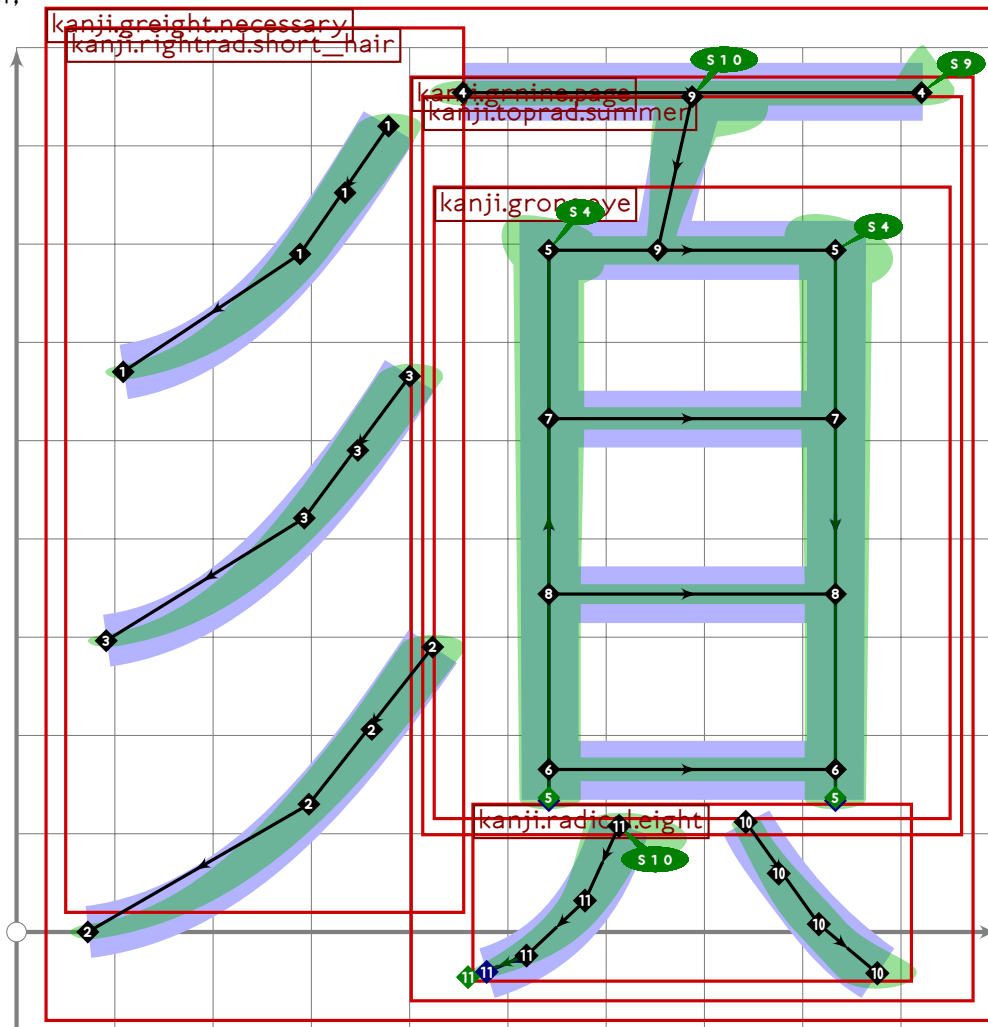
EIGH

U+9808  
tsuku.uni9808

```

467             &(decimal find_stroke(-1))&";
468             &(decimal find_stroke(0))&";" );
469     push_stroke((510,830)..(370,740)..(180,665),
470       (1,7,1,7)-(1,4,1,4)-(0,8,1,0));
471     set_boserif(0,0,10);
472     push_stroke((210,350)-(430,350),
473       (1,6,1,6)-(1,6,1,6));
474     set_boserif(0,1,9);
475     push_stroke((590,350)-(790,350),
476       (1,6,1,6)-(1,6,1,6));
477     expand_pbox;
478 endif;

```

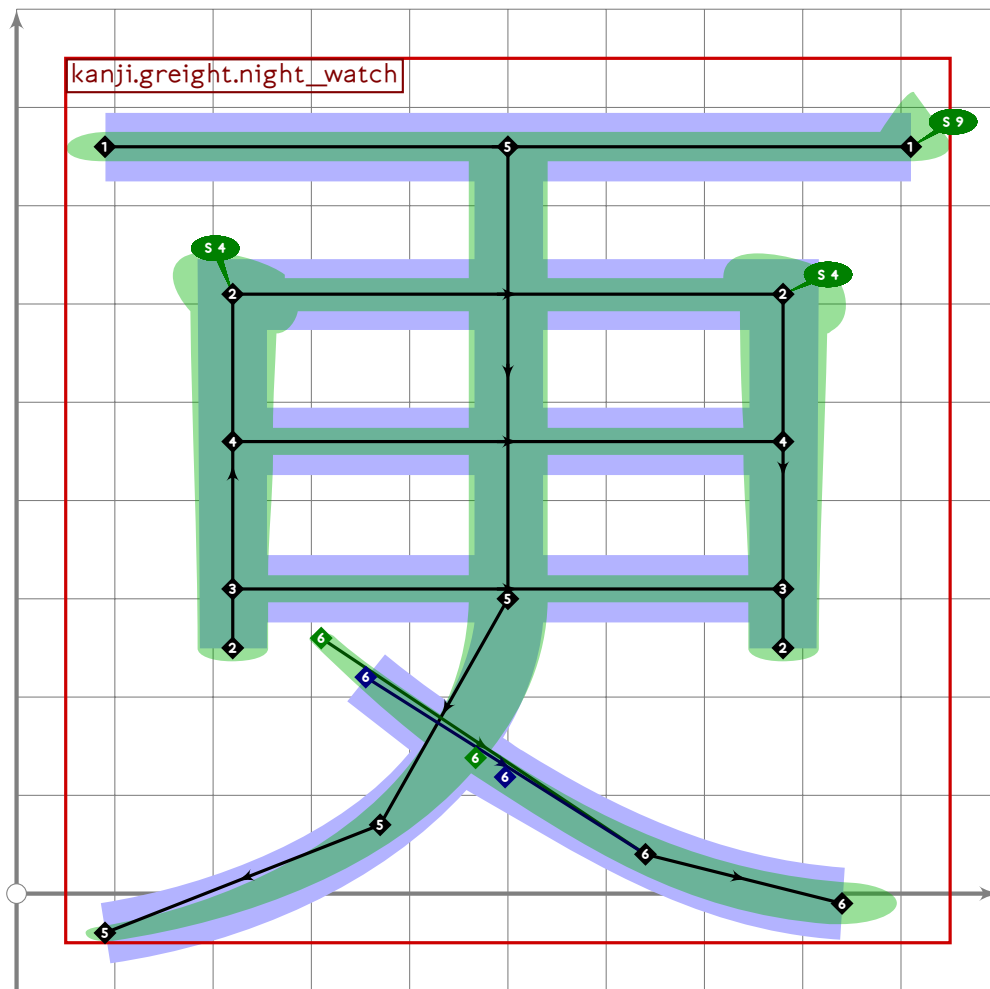


```

479
480 vardef kanji.greight.necessary =
481   push_pbox_toexpand("kanji.greight.necessary");
482   build_kanji.level(build_kanji.lr(440,30)
483     (build_kanji.sscale(shifted (0,70))(kanji.rightrad.short_hair))
484     (kanji.grnine.page));
485   expand_pbox;
486 endif;

```

EIGH



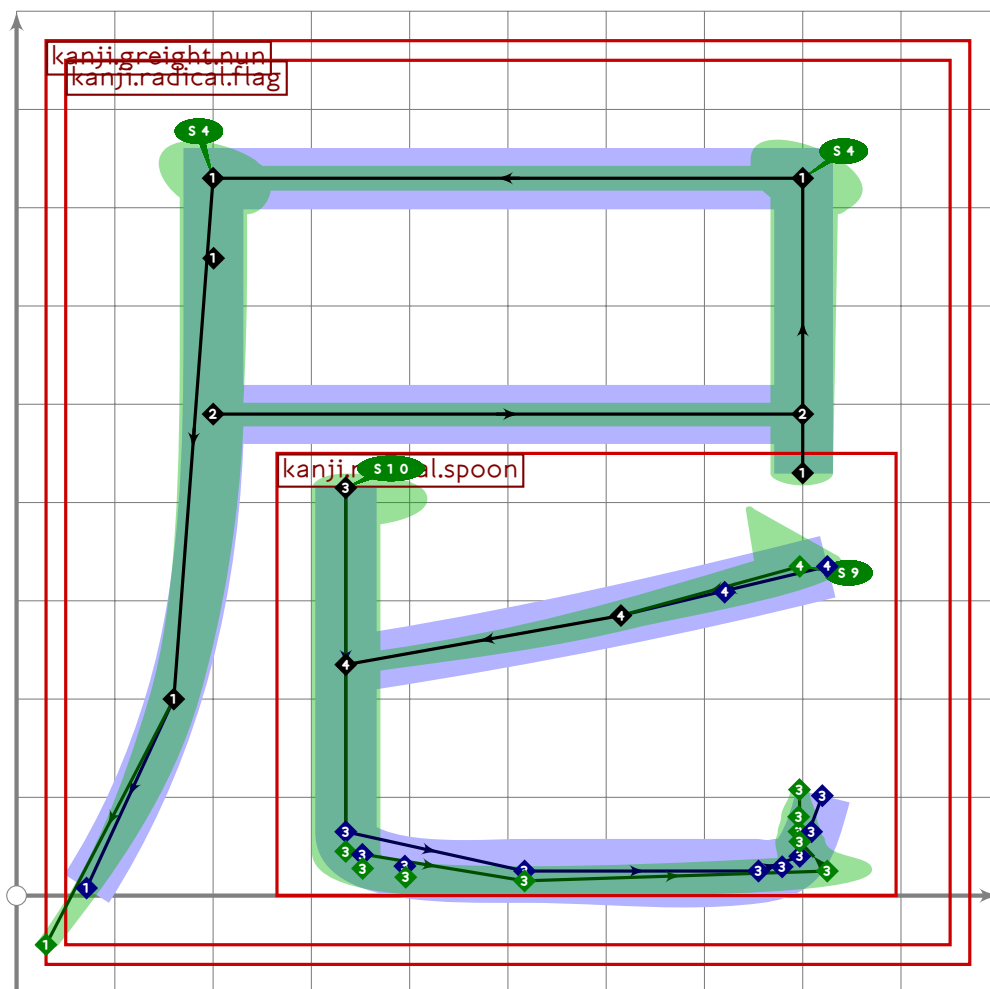
```

487
488 vardef kanji.greight.night_watch =
489   push_pbox__toexpand("kanji.greight.night_watch");
490   push_stroke((90,760)–(910,760),(1,6,1,6)–(1,6,1,6));
491   set_boserif(0,19);
492   build_kanji.box((220,610),(780,310));
493   push_stroke((220,460)–(780,460),(1,5,1,5)–(1,5,1,5));
494   push_stroke((500,760)–(500,300){down}{.370,70}{.fcurl 0.5}{90,-40},
495     (1,6,1,6)–(1,6,1,6)–(1,4,1,4)–(1,1,1,1));
496   push_stroke((310,260)..tension 1.2..(640,40)..(840,-10),
497     (0,9,0,9)–(1,5,1,5)–(2,2));
498   expand_pbox;
499 enddef;

```

EIGH

U+5C3C  
tsuku.uni5C3C

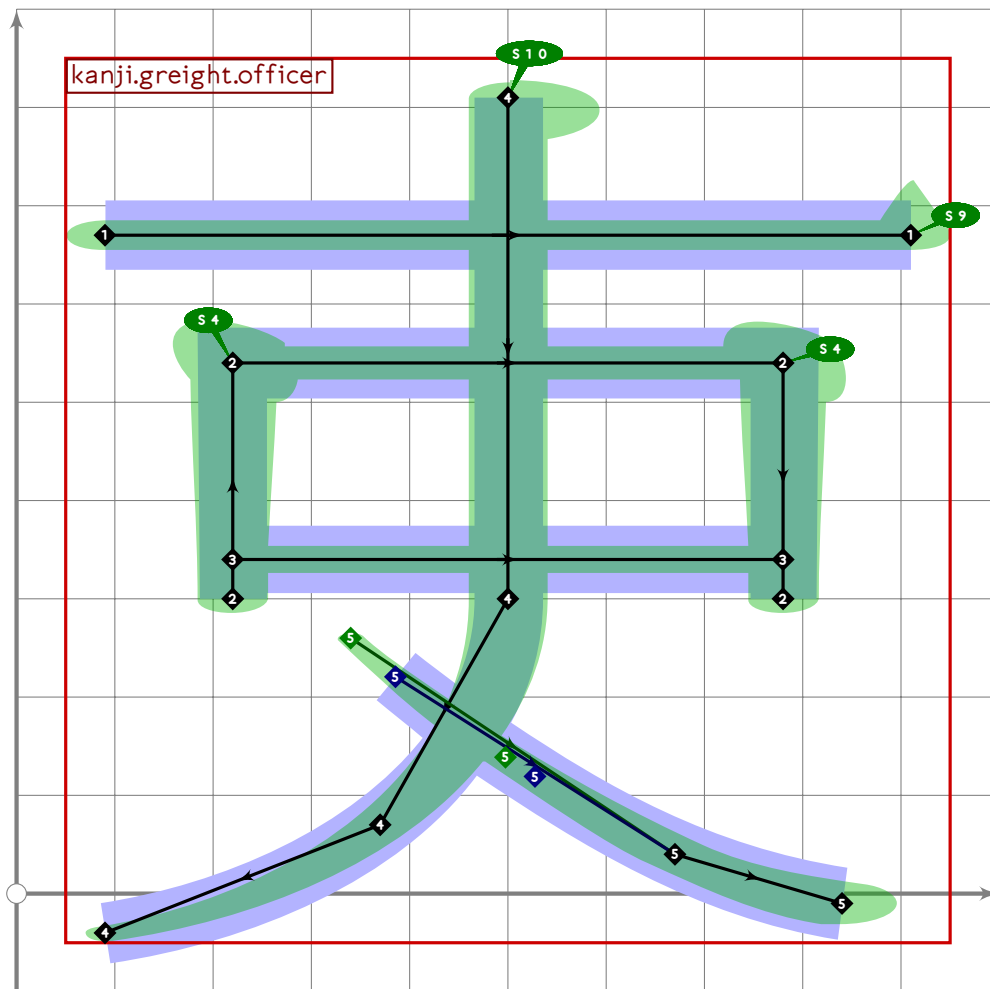


```

500
501 vardef kanji.greight.nun =
502   push_pbox__toexpand("kanji.greight.nun");
503   build_kanji.level(
504     kanji.radical.flag;
505     build_kanji.sscale(xyscaled (0.7,0.5) shifted (80,-170))
506       (kanji.radical.spoon));
507   expand_pbox;
508 enddef;

```

**EIGH**



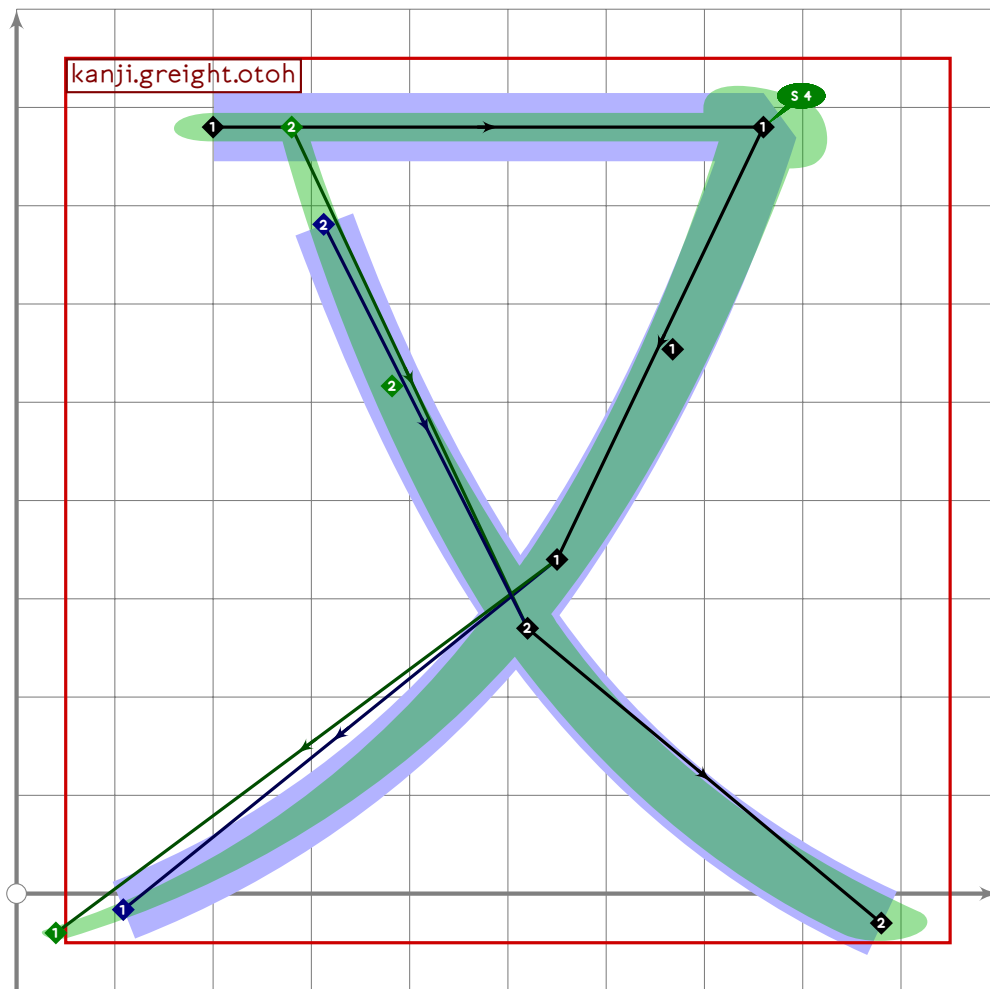
509

```

510 vardef kanji.greight.officer =
511   push_pbox__toexpand("kanji.greight.officer");
512   push_stroke((90,670)–(910,670),(1.6,1.6)–(1.6,1.6));
513   set_boserif(0,19);
514   build_kanji.box((220,540),(780,340));
515   push_stroke((500,810)–(500,300){down}..(370,70)..{curl 0.5}(90,-40),
516     (1.6,1.6)–(1.6,1.6)–(1.4,1.4)–(1.1,1.1));
517   set_boserif(0,0,10);
518   push_stroke((340,260)..tension 1.2..(670,40)..(840,-10),
519     (0.9,0.9)–(1.5,1.5)–(2,2));
520   expand_pbox;
521 enddef;

```

EIGH

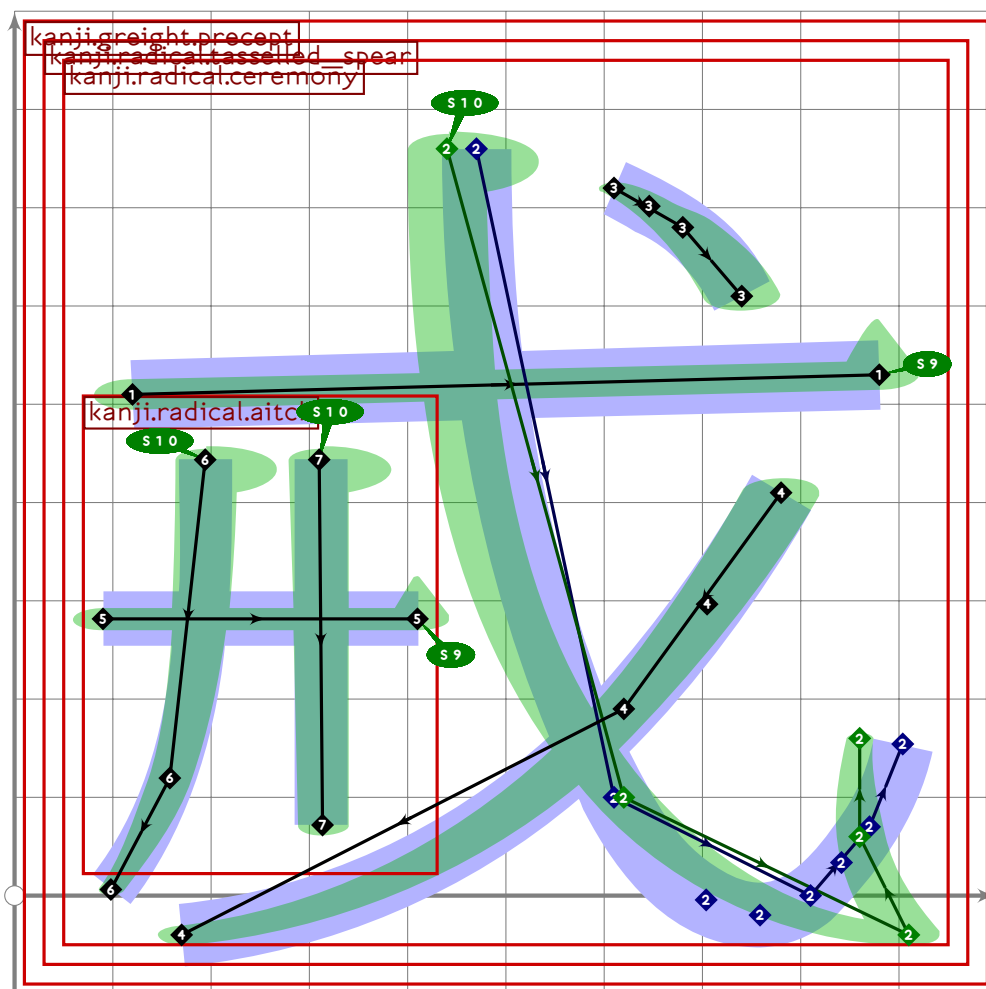


**EIGH**

```

522
523 vardef kanji.greight.otoh =
524   push_pbox__toexpand("kanji.greight.otoh");
525   push_stroke(
526     (200,780)–(760,780)..tension 1.2..(550,340)..(40,-40),
527     (1.6,1.6)–(1.6,1.6)–(1.4,1.4)–(0.9,0.95));
528   set_botip(0,1,0);
529   set_boserif(0,1,4);
530   push_stroke((280,780)..tension 1.2..(520,270)..(880,-30),
531     (0.9,0.9)–(1.4,1.4)–(1.8,1.8));
532   expand_pbox;
533 enddef;

```



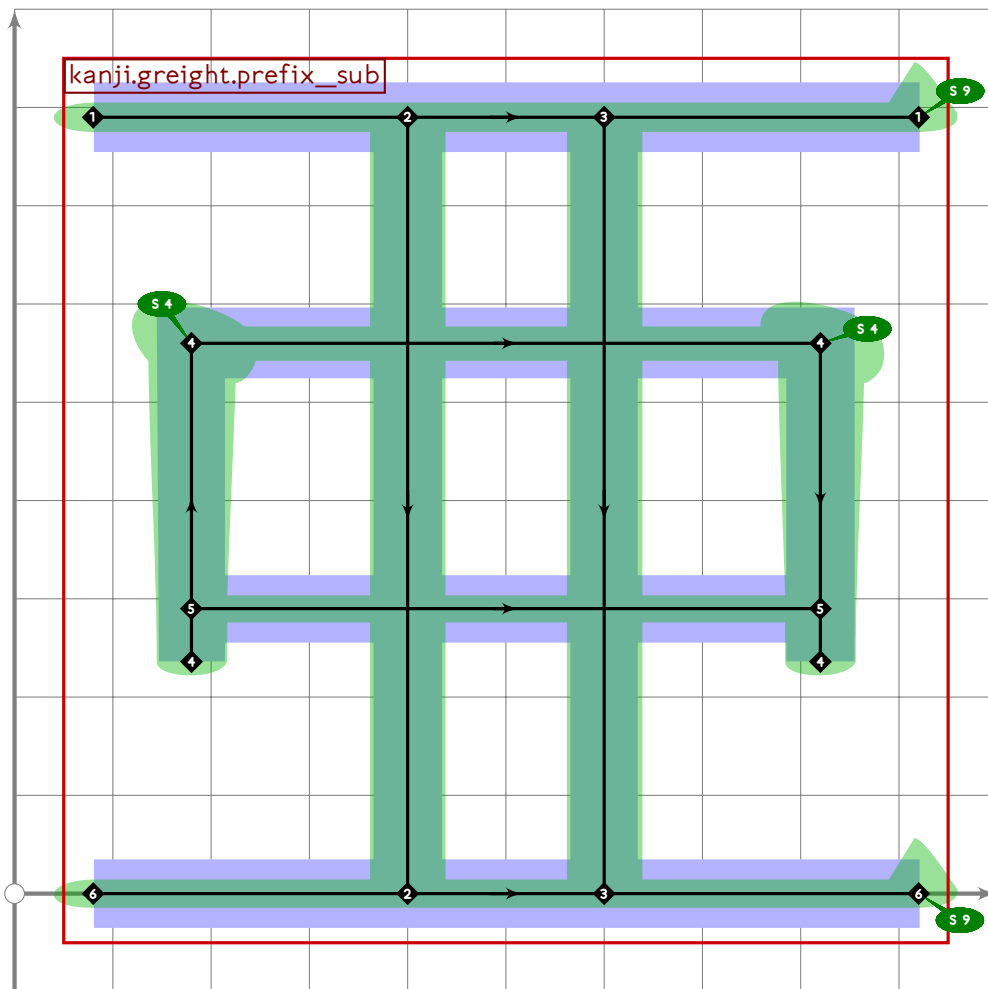
```

534
535 vardef kanji.greight.precept =
536   push_pbox__toexpand("kanji.greight.precept");
537   perl_structure:=perl_structure&"eids.u2FF9._2.1_1";
538   kanji.radical.tasselled_spear;
539   build_kanji.sscale(xyscaled (0.4,0.54) shifted (-250;130))
540     (kanji.radical.aitch;
541       replace_stroke(0)(subpath (0,0.85) of oldp));
542   expand_pbox;
543 enddef;

```

EIGH

U+4E9C  
tsuku.uni4E9C



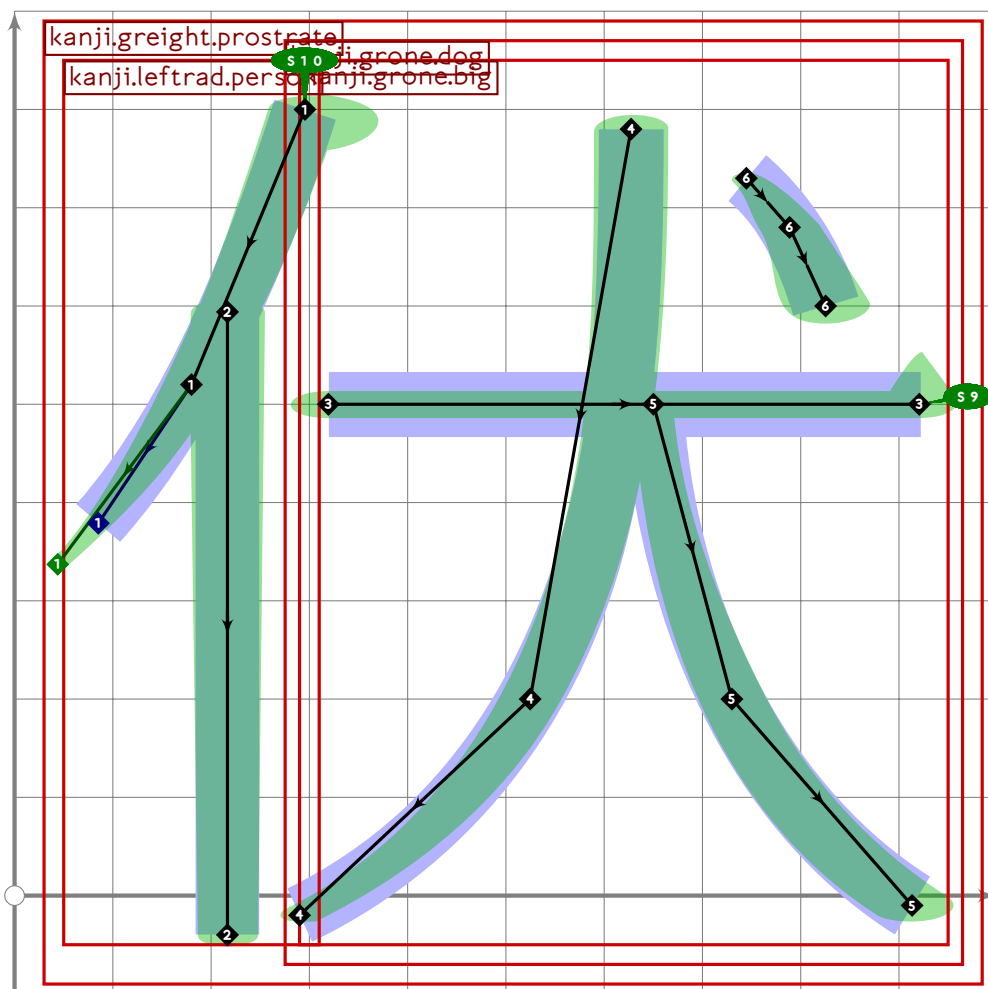
**EIGH**

```

544
545 vardef kanji.greight.prefix_sub =
546   push_pbox__toexpand("kanji.greight.prefix_sub");
547   push_stroke((80,790)–(920,790),(1.6,1.6)–(1.6,1.6));
548   set_boserif(0,19);
549   push_stroke((400,790)–(400,0),(1.6,1.6)–(1.5,1.5));
550   push_stroke((600,790)–(600,0),(1.6,1.6)–(1.5,1.5));
551   build_kanji.box((180,560),(820,290));
552   push_stroke((80,0)–(920,0),(1.6,1.6)–(1.6,1.6));
553   set_boserif(0,19);
554   expand_pbox;
555 enddef;

```





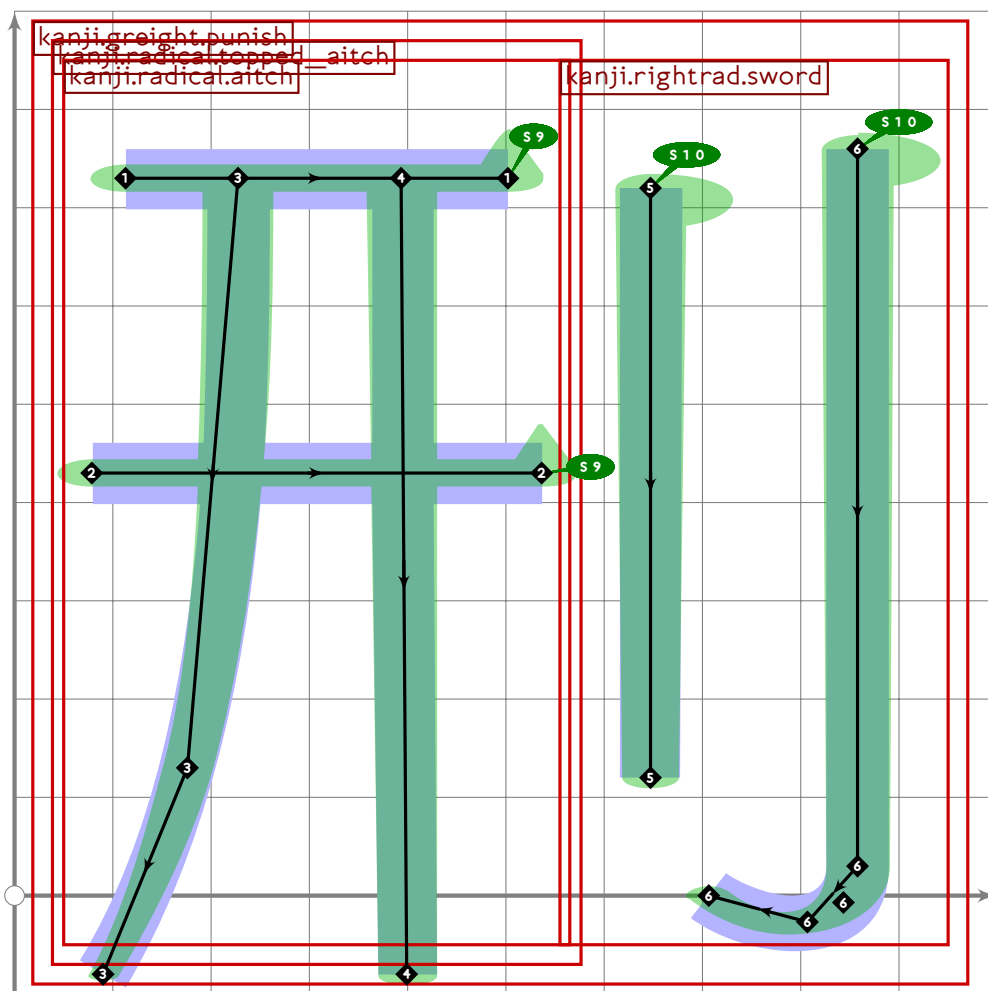
```

556
557 vardef kanji.greight.prostrate =
558   push_pbox__toexpand("kanji.greight.prostrate");
559   build_kanji.lr(300,20)
560     (kanji.leftrad.person)
561     (kanji.grone.dog);
562   expand_pbox;
563 enddef;

```

EIGH

U+5211  
tsuku.uni5211

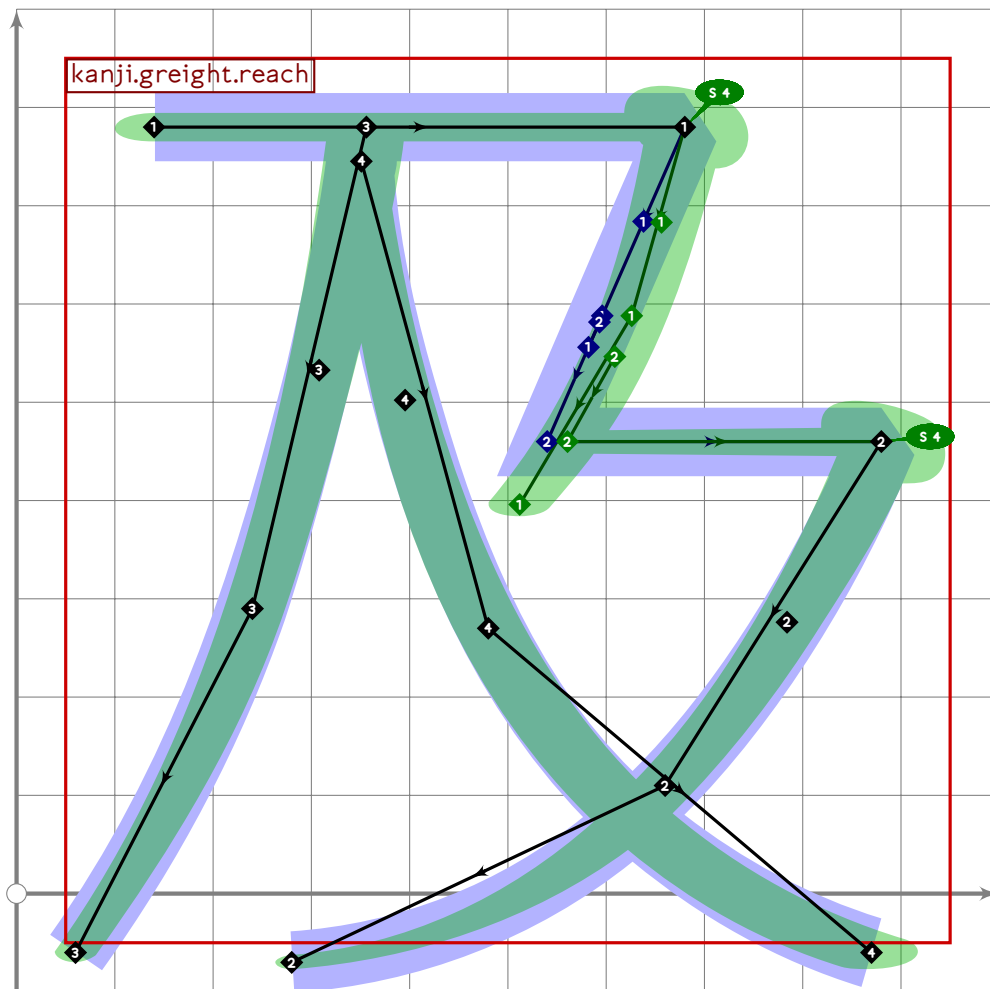


**EIGH**

```

564
565 vardef kanji.greight.punish =
566   push_pbox_toexpand("kanji.greight.punish");
567   build_kanji.level(build_kanji.lr(560,10)
568     (kanji.radical.topped_aitch)
569     (kanji.rightrad.sword));
570   expand_pbox;
571 enddef;

```



```

572
573 vardef kanji.greight.reach =
574   push_pbox_toexpand("kanji.greight.reach");
575   begingroup
576     save x,y;
577     numeric x[],y[];
578     x1=140;
579     x2=680;
580     x4=540;
581     y1=y2=780;
582     y4=460;
583     z3=0.4[z4,z2]+mincho*(30,0);
584     z5=(0.3-0.5*mincho)[z4,z2];
585     push_stroke(z1-z2..tension 1.2..z3..z5,
586       (1.6,1.6)-(1.6,1.6)-(1.6-0.1*mincho,1.6-0.1*mincho)-
587       (1.6-0.2*mincho,1.6-0.2*mincho));
588     set_boserif(0,1,4);
589     set_botip(0,1,0);
590     x7=0;
591     x9=880;
592     x10=660;

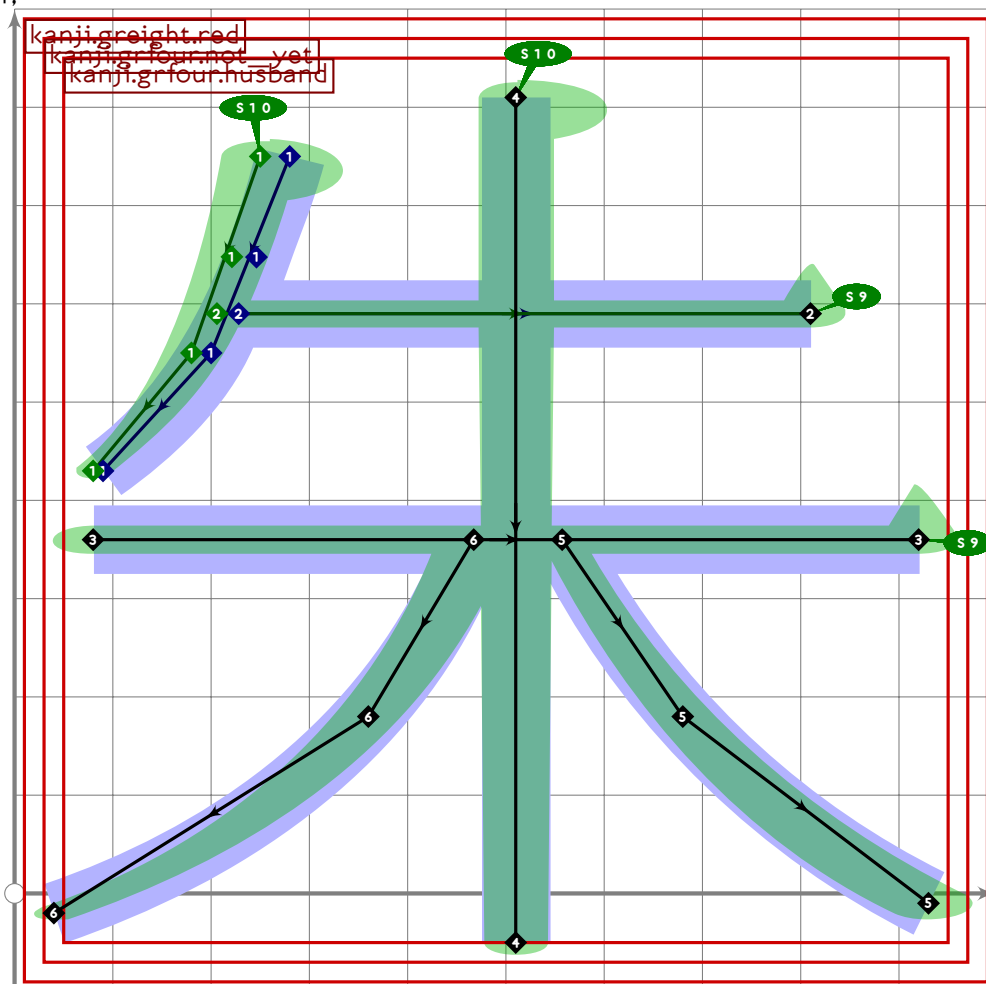
```

EIGH

U+6731  
tsuku.uni6731

```
593 x11=280;  
594 y7=y9=y4;  
595 y10=110;  
596 y11=-70;  
597 z6=point 2.2 of get_strokep(0);  
598 z8=(z7-z9) intersectionpoint (get_strokep(0)-((-1)[z4,z2]));  
599 push_stroke(z6-z8-z9.tension 1.2..z10..z11,  
600 (1.6-0.5*mincho,1.6-0.5*mincho)-(1.5-0.1*mincho,1.5-0.1*mincho)-  
601 (1.6,1.6)-(14,14)-(1,1));  
602 set_boserif(0,2,4);  
603 set_botip(0,1,1);  
604 set_botip(0,2,0);  
605 endgroup;  
606 push_stroke((point 0.4 of get_strokep(-1)).tension 1.2..  
607 (240,290)..(60,-60),  
608 (1.6,1.6)-(14,14)-(1,1,1));  
609 push_stroke((point 0.08 of get_strokep(0)).tension 1.2..  
610 (480,270)..(870,-60),  
611 (1.2,1.2)-(1.5,1.5)-(1.8,1.8));  
612 expand_pbox;  
613 enddef;
```

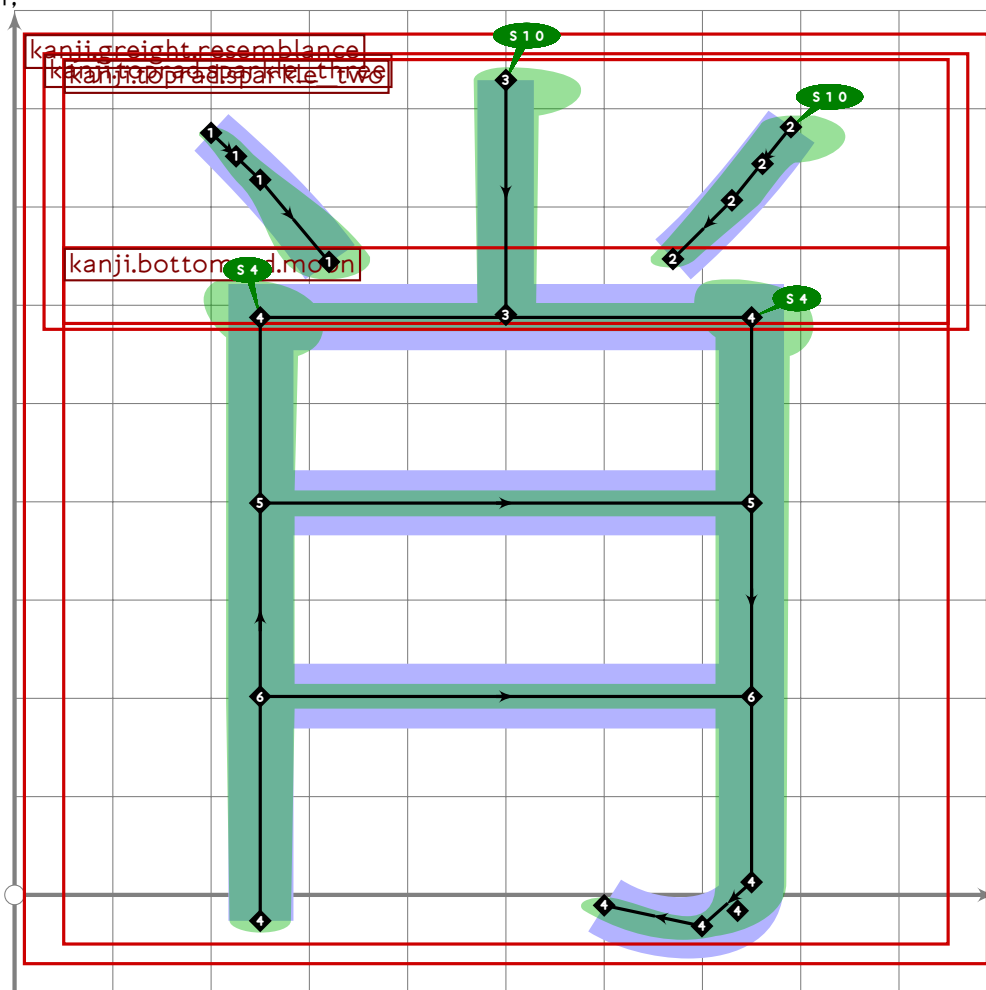
EIGH



```

614
615 vardef kanji.greight.red =
616   push_pbox_toexpand("kanji.greight.red");
617   push_stroke((280-30*mincho,750)..tension 1.2..
618     (200-20*mincho,550)..(90-10*mincho,430),
619     (1,6,1,6)-(14,1,4)-(1,1));
620   set_boserif(0,0,10);
621   kanji.grfour.not_yet;
622   replace_stroke(-4)((100,590)-(810,590));
623   replace_stroke(-4)(subpath
624     (0,01*xpart (oldp intersectiontimes get_stroke(-5)),1) of oldp);
625   expand_pbox;
626 enddef;

```

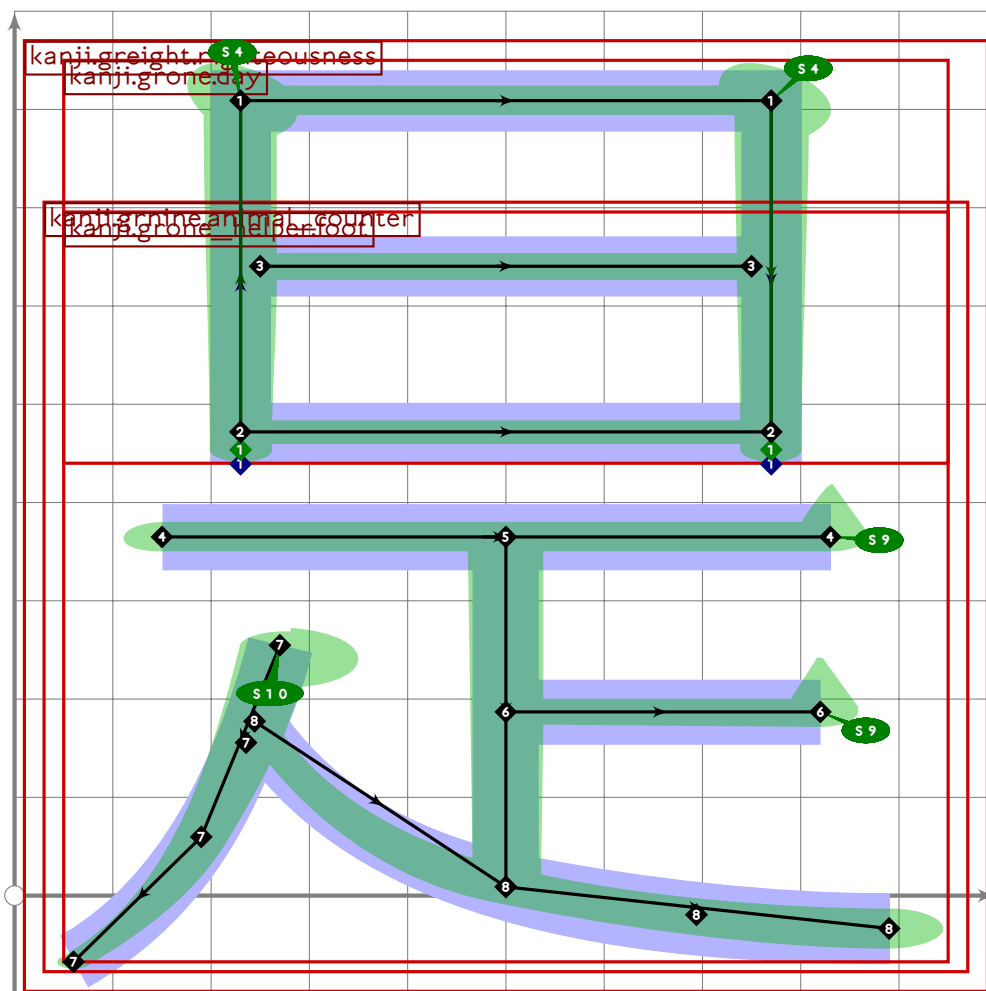


```

627
628 vardef kanji.greight.resemblance =
629   push_pbox_toexpand("kanji.greight.resemblance");
630   build_kanji.tb(620,77)
631     (kanji.toprad.sparkle_three)
632     (kanji.bottomrad.moon);
633   expand_pbox;
634 enddef;

```

EIGH

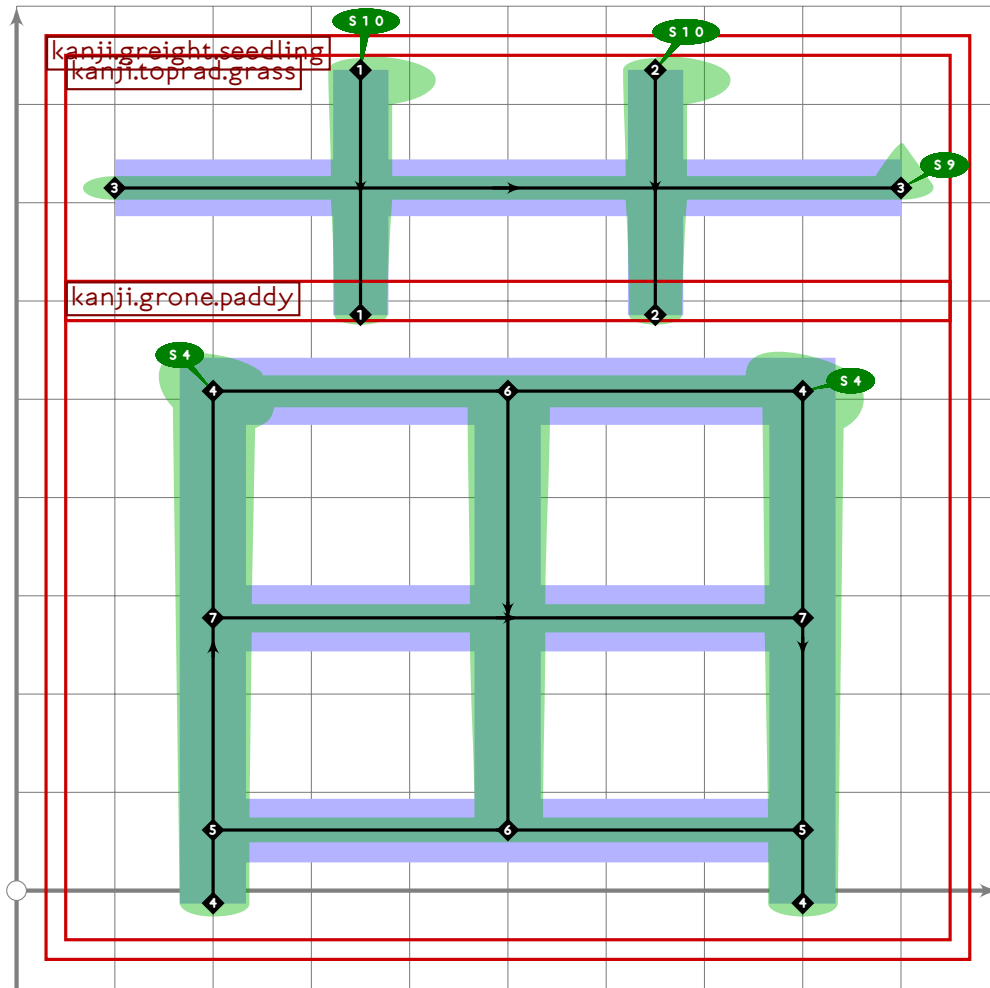


EIGH

```

635
636 vardef kanji.greight.righteousness =
637   push_pbox__toexpand("kanji.greight.righteousness");
638   build_kanji.tb(420,-40)
639     (kanji.grone.day)
640     (kanji.grnine.animal_counter;
641       replace_strokep(-4)(subpath (0,1) of oldp);
642       set_botip(-4,1,whatever);
643       replace_strokeq(-4)((1.6,1.6)-(1.6,1.6));
644       set_boserif(-4,19));
645   expand_pbox;
646 enddef;

```



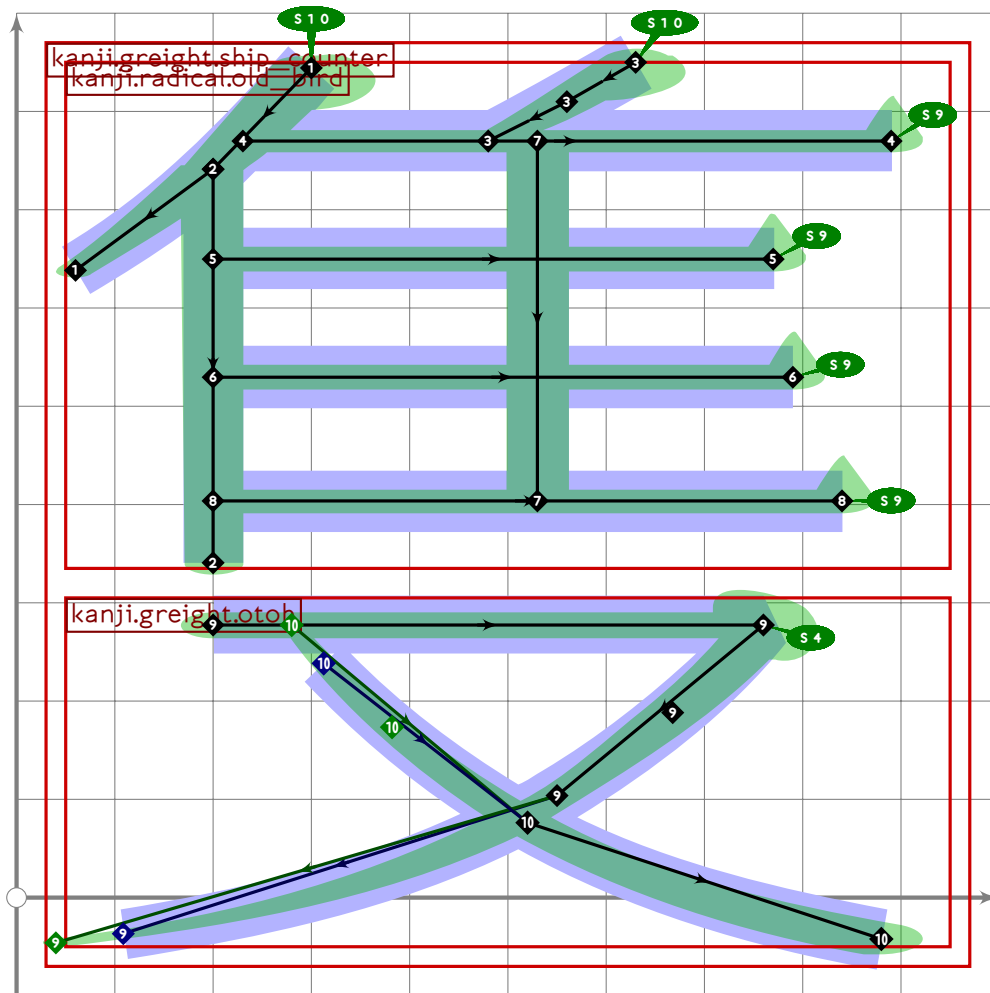
```

647
648 vardef kanji.greight.seedling =
649   push_pbox__toexpand("kanji.greight.seedling");
650   build_kanji.tb(60040)
651     (kanji.toprad.grass)
652     (kanji.grone.paddy);
653   expand_pbox;
654 enddef;

```

**EIGH**

U+96BB  
tsuku.uni96BB



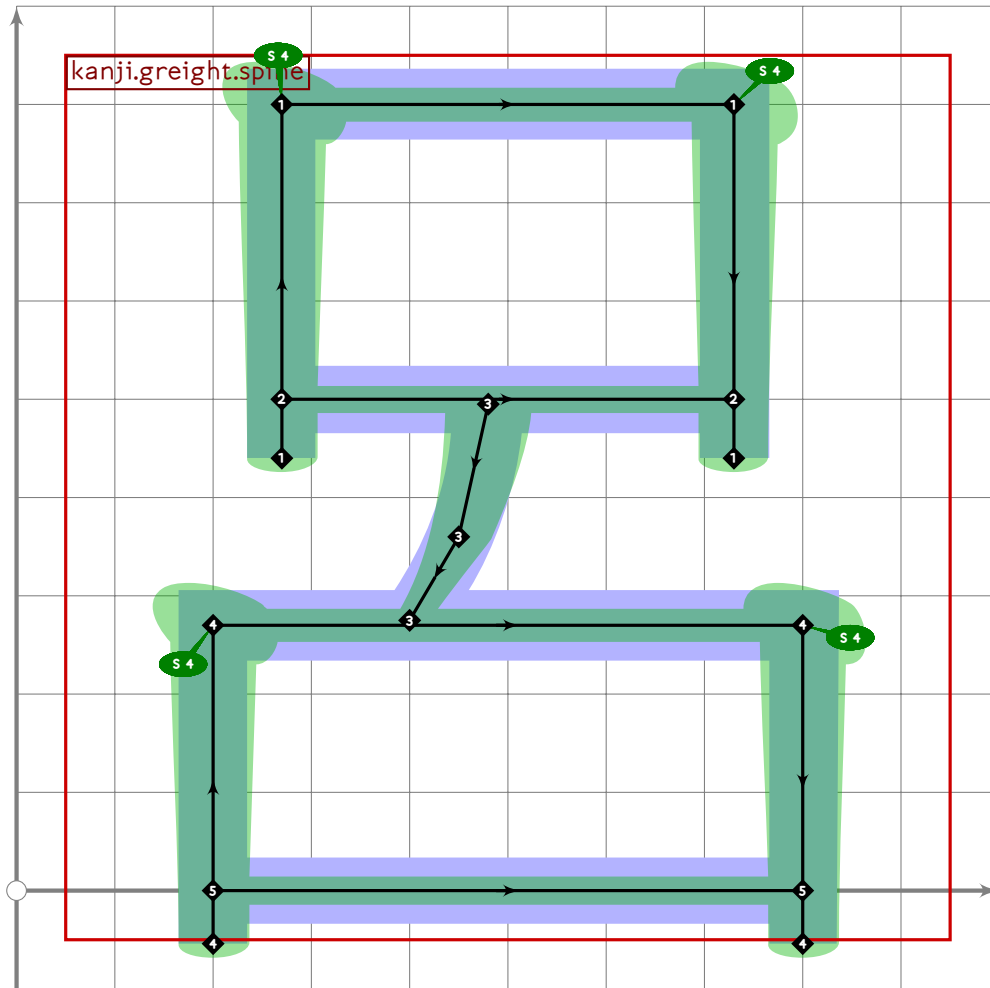
EIGH

```

655
656 vardef kanji.greight.ship_counter =
657   push_pbox_toexpand("kanji.greight.ship_counter");
658   build_kanji.tb(320-30)
659     (kanji.radical.old_bird)
660     (kanji.greight.otoh);
661   expand_pbox;
662 enddef;

```



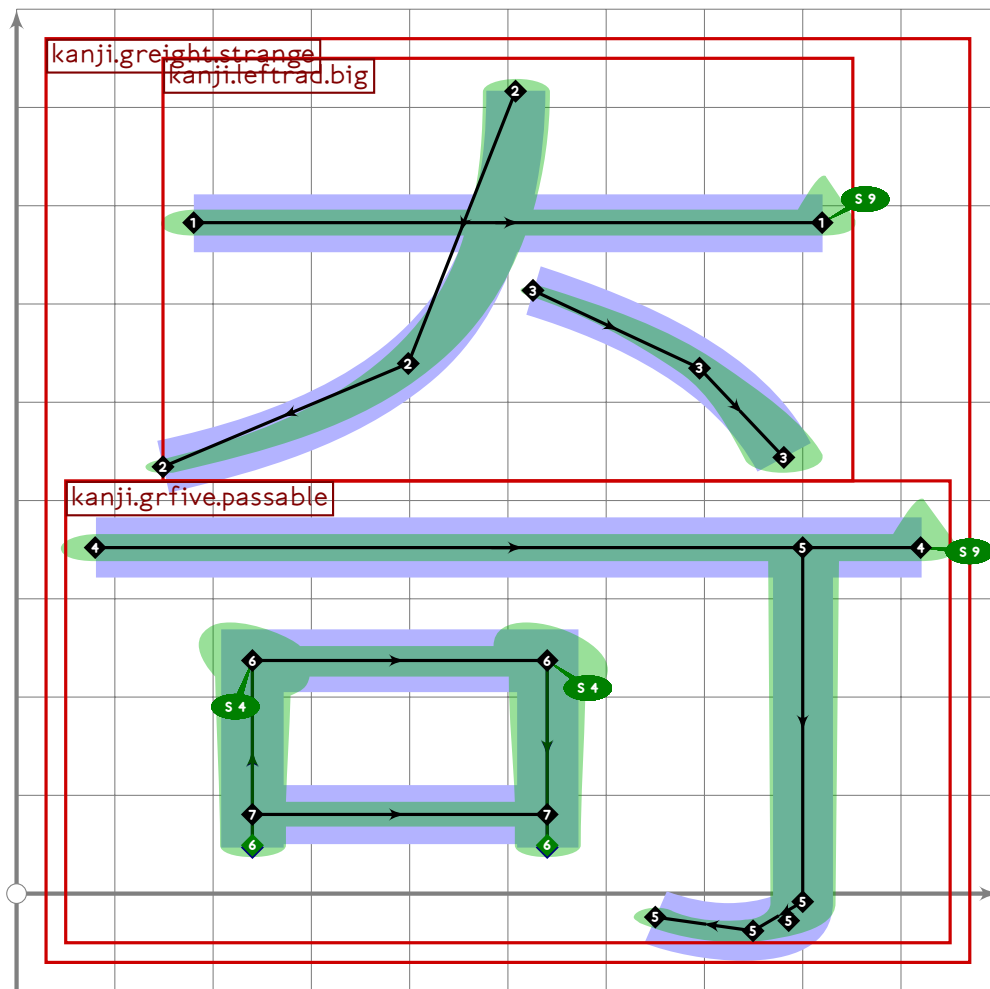


```

663
664 vardef kanji.greight.spine =
665   push_pbox_toexpand("kanji.greight.spine");
666   build_kanji.box((270,800),(730,500));
667   push_stroke((480,495)..(450,360)..(400,275),
668     (1,7,1,7)-(14,14)-(1,1));
669   build_kanji.box((200,270),(800,0));
670   expand_pbox;
671 enddef;

```

**EIGH**

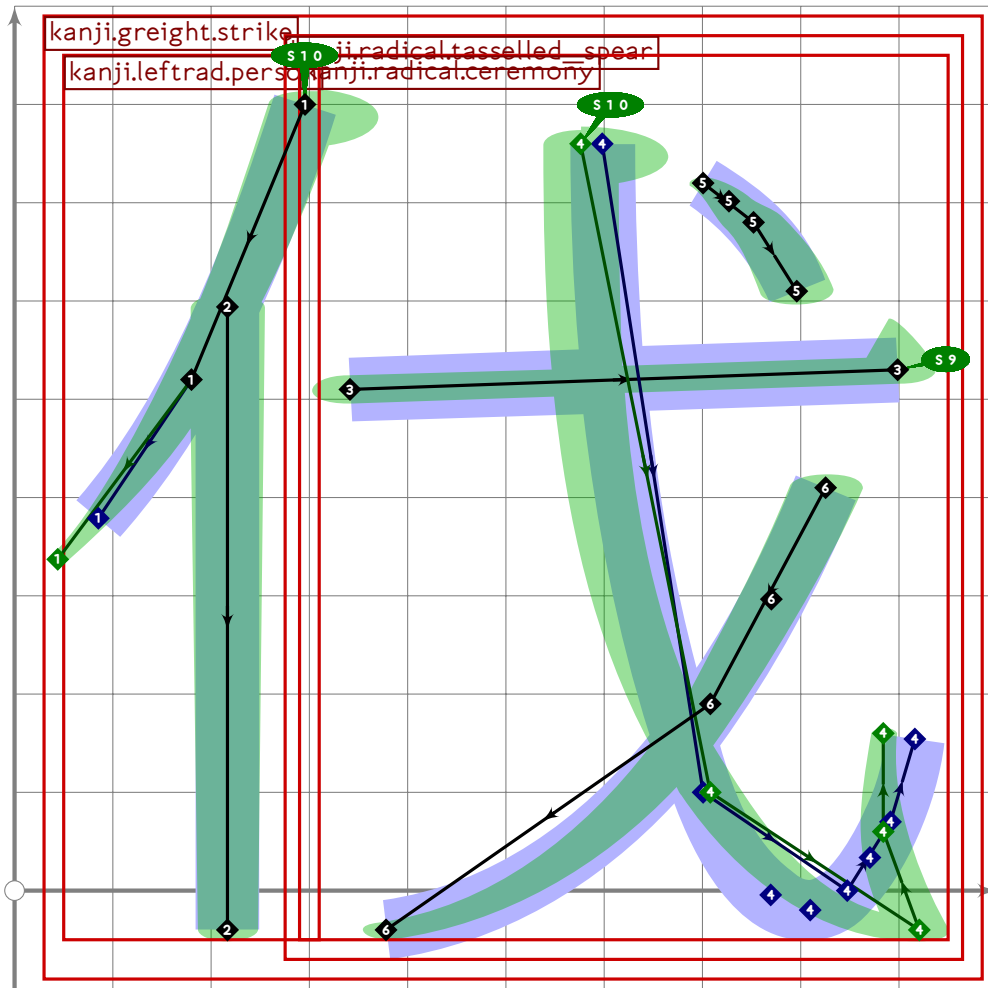


## EIGH

```

672
673 vardef kanji.greight.strange =
674   push_pbox__toexpand("kanji.greight.strange");
675   build_kanji.tb(420,0)
676     (build_kanji.sscale(xscaled 0.78)(kanji.leftrad.big))
677     (kanji.grfive.passable);
678   expand_pbox;
679 enddef;

```



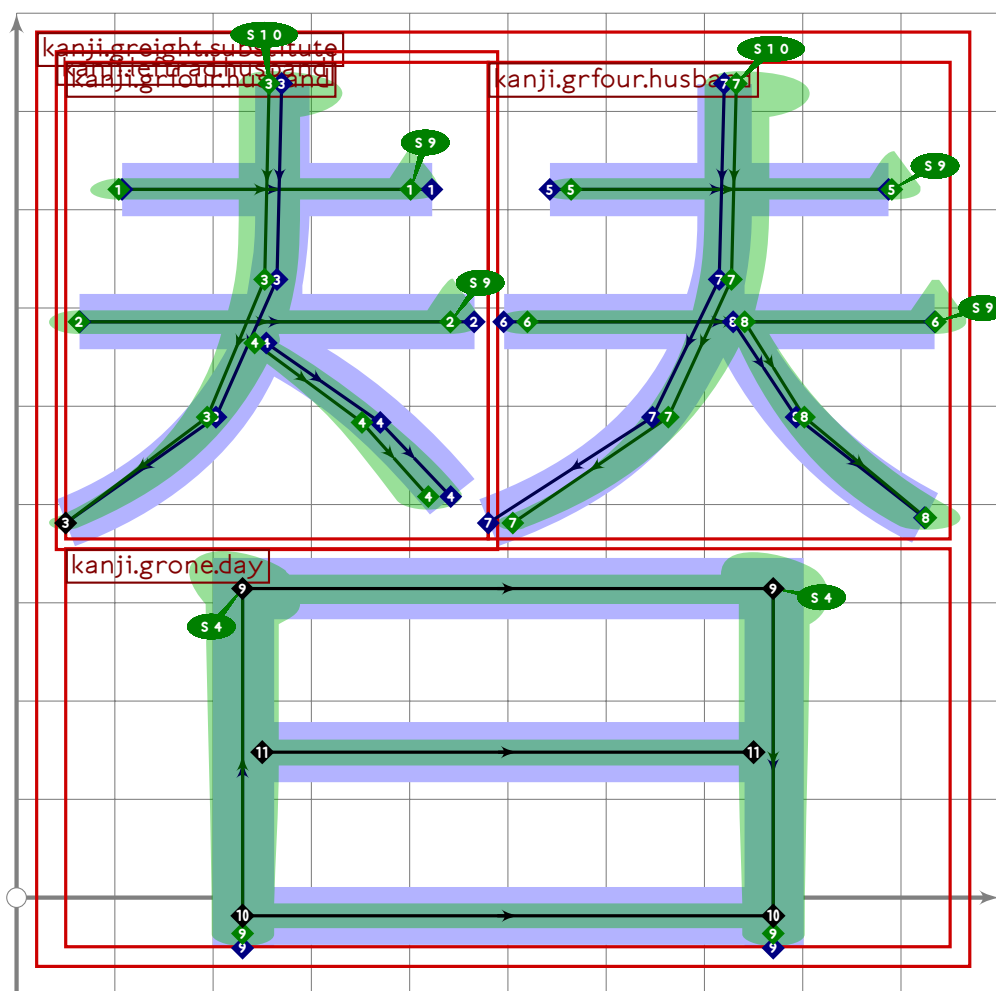
```

680
681 vardef kanji.greight.strike =
682   push_pbox_toexpand("kanji.greight.strike");
683   build_kanji.lr(300,20)
684     (kanji.leftrad.person)
685     (kanji.radical.tasselled_spear);
686   expand_pbox;
687 enddef;

```

EIGH

U+66FF  
tsuku.uni66FF

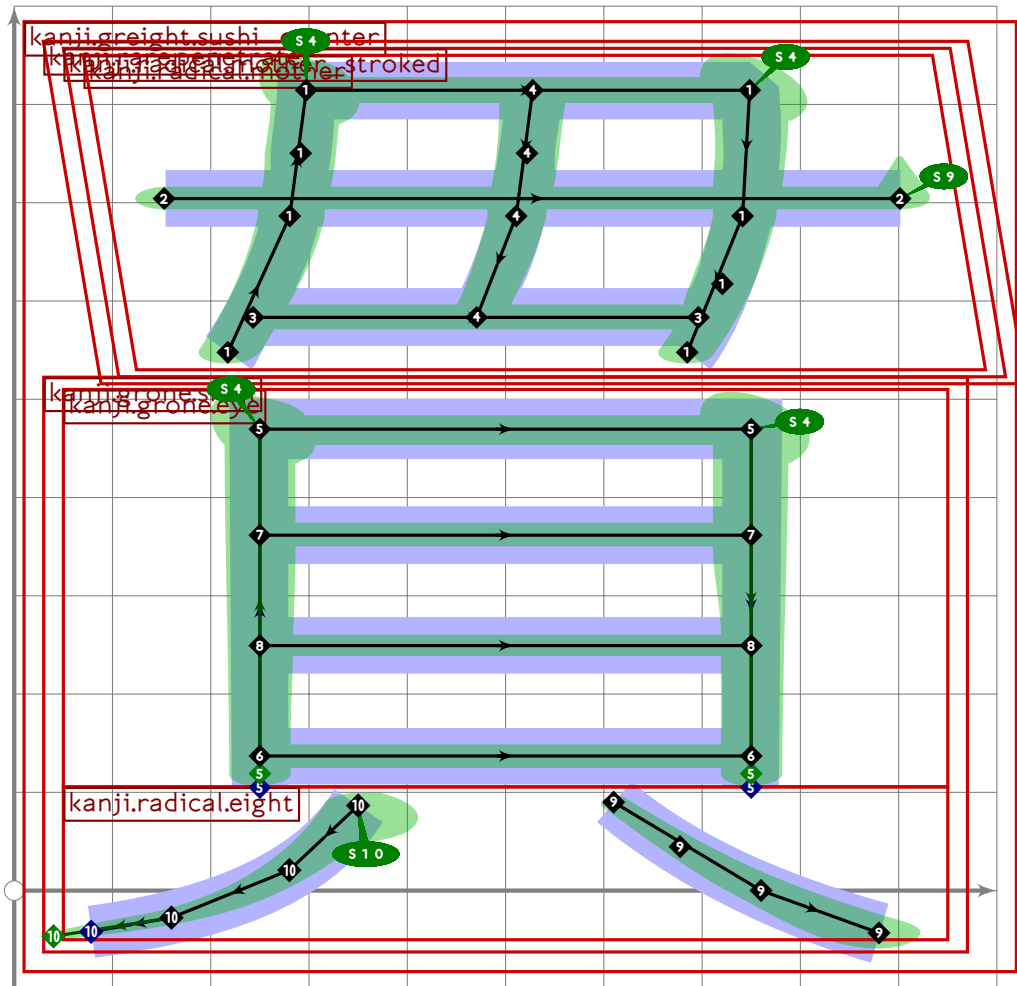


```

688
689 vardef kanji.greight.substitute =
690   push_pbox__toexpand("kanji.greight.substitute");
691   build_kanji.tb(360,-10)
692     (build_kanji.lr(480;50*mincho)
693       (kanji.leftrad.husband)
694       (kanji.grfour.husband))
695     (kanji.grone.day);
696   expand_pbox;
697 enddef;

```

EIGH



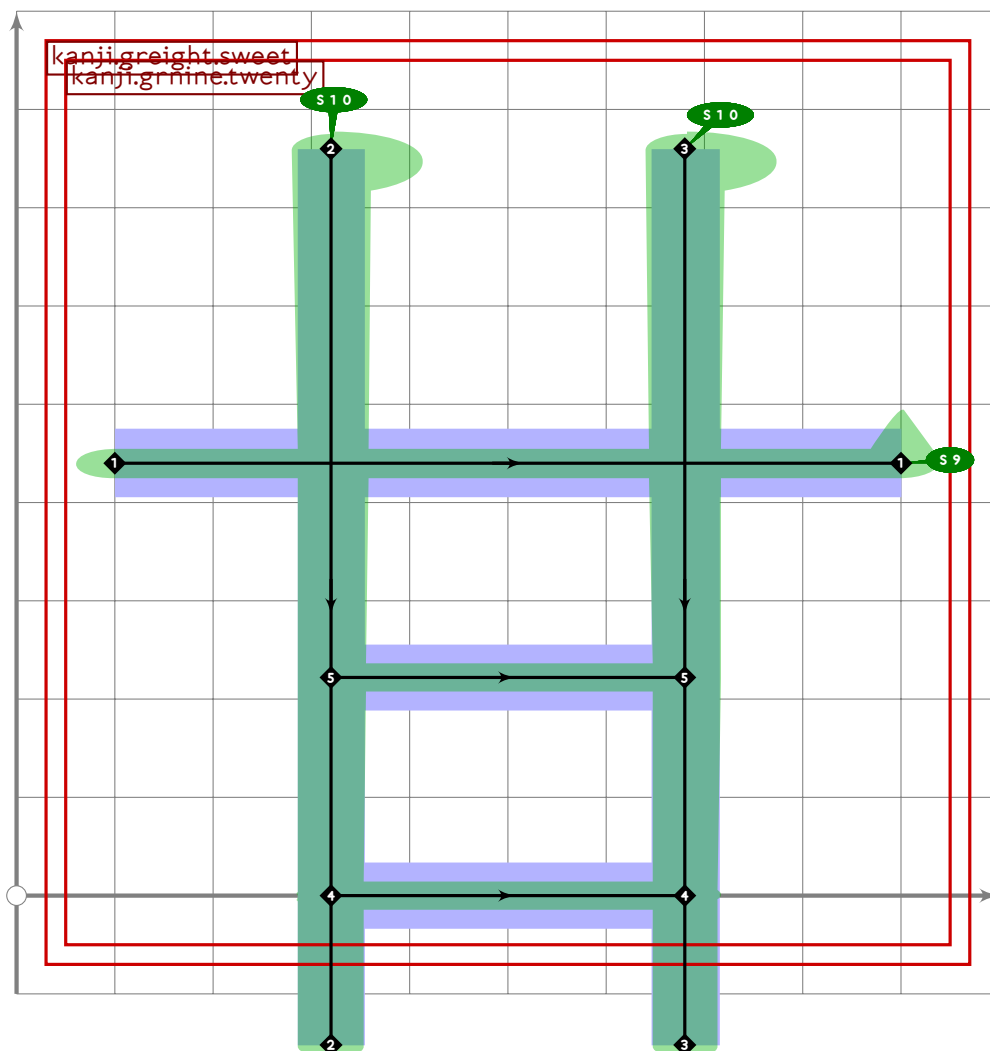
```

698
699 vardef kanji.greight.sushi_counter =
700   push_pbox_toexpand("kanji.greight.sushi_counter");
701   build_kanji.tb(520,-20)
702     (build_kanji.sscale(xscaled 0.96 shifted (30,0) slanted -0.06)
703       (kanji.rare.penetrate))
704     (kanji.grone.shell);
705   expand_pbox;
706 enddef;

```

EIGH

U+7518  
tsuku.uni7518

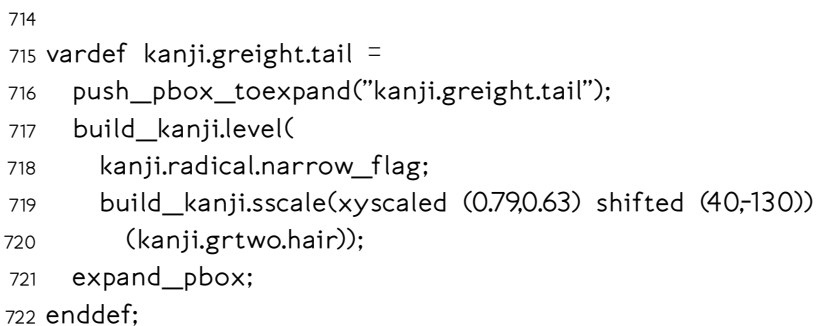


**EIGH**

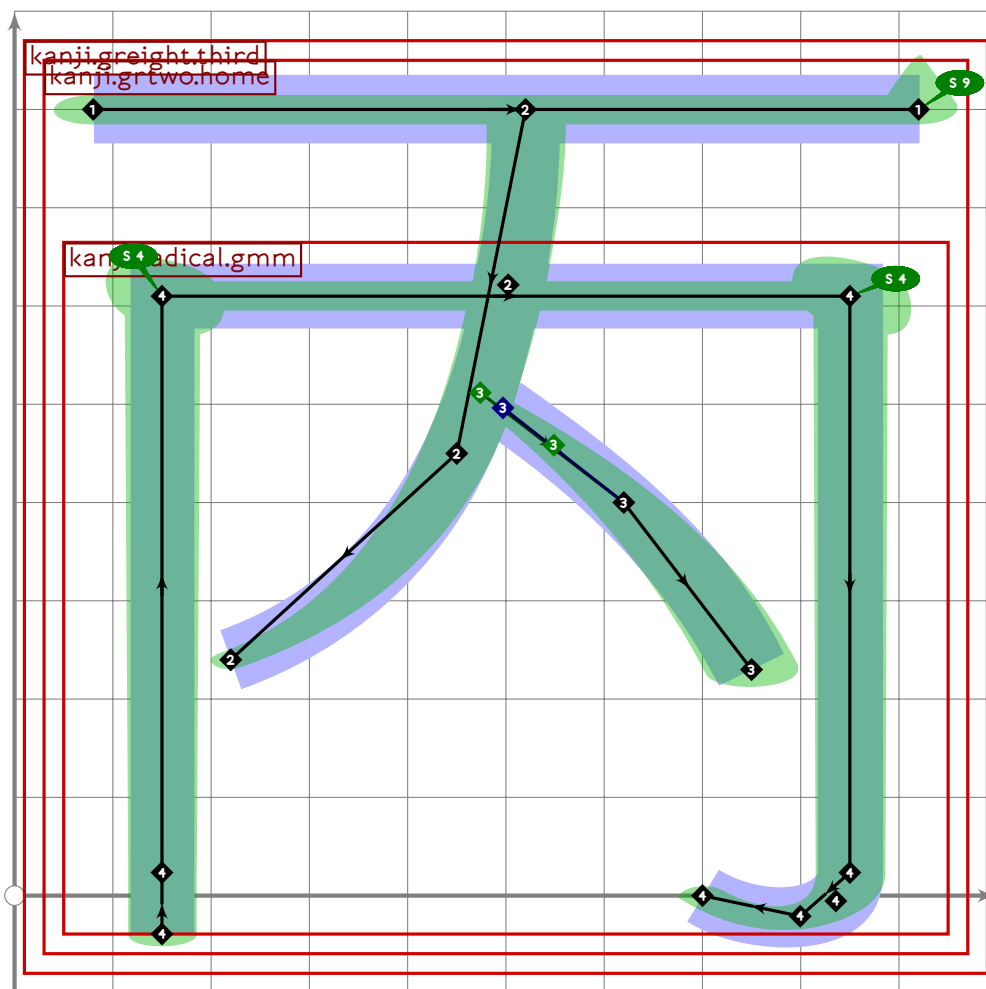
```

707
708 vardef kanji.greight.sweet =
709   push_pbox__toexpand("kanji.greight.sweet");
710   kanji.grnine.twenty;
711   push_stroke((320,222)-(680,222),(1.5,1.5)-(1.5,1.5));
712   expand_pbox;
713 enddef;

```



U+4E19  
tsuku.uni4E19



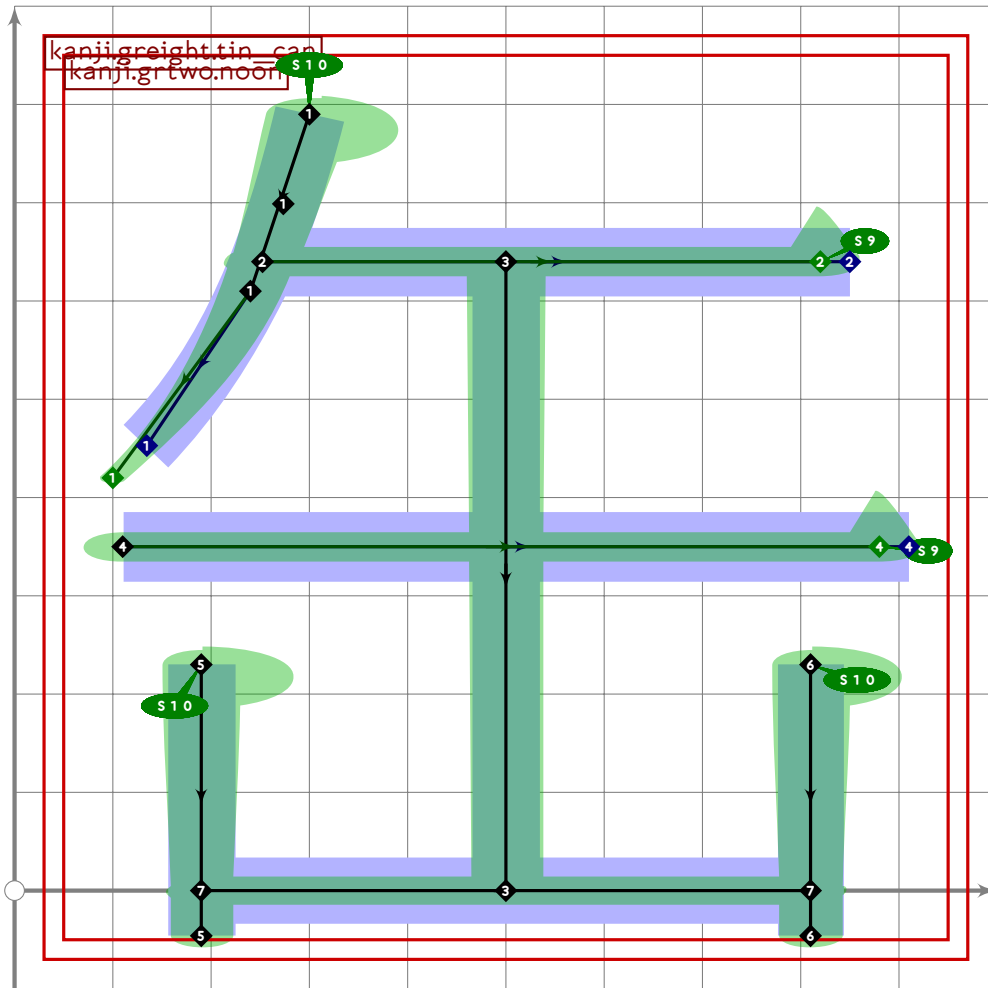
**EIGH**

```

723
724 vardef kanji.greight.third =
725   push_pbox__toexpand("kanji.greight.third");
726   push_stroke((80,800)-(920,800),(1.6,1.6)-(1.6,1.6));
727   set_boserif(0,19);
728   kanji.grtwo.home;
729   set_boserif(-2,0,whatever);
730   expand_pbox;
731 enddef;

```



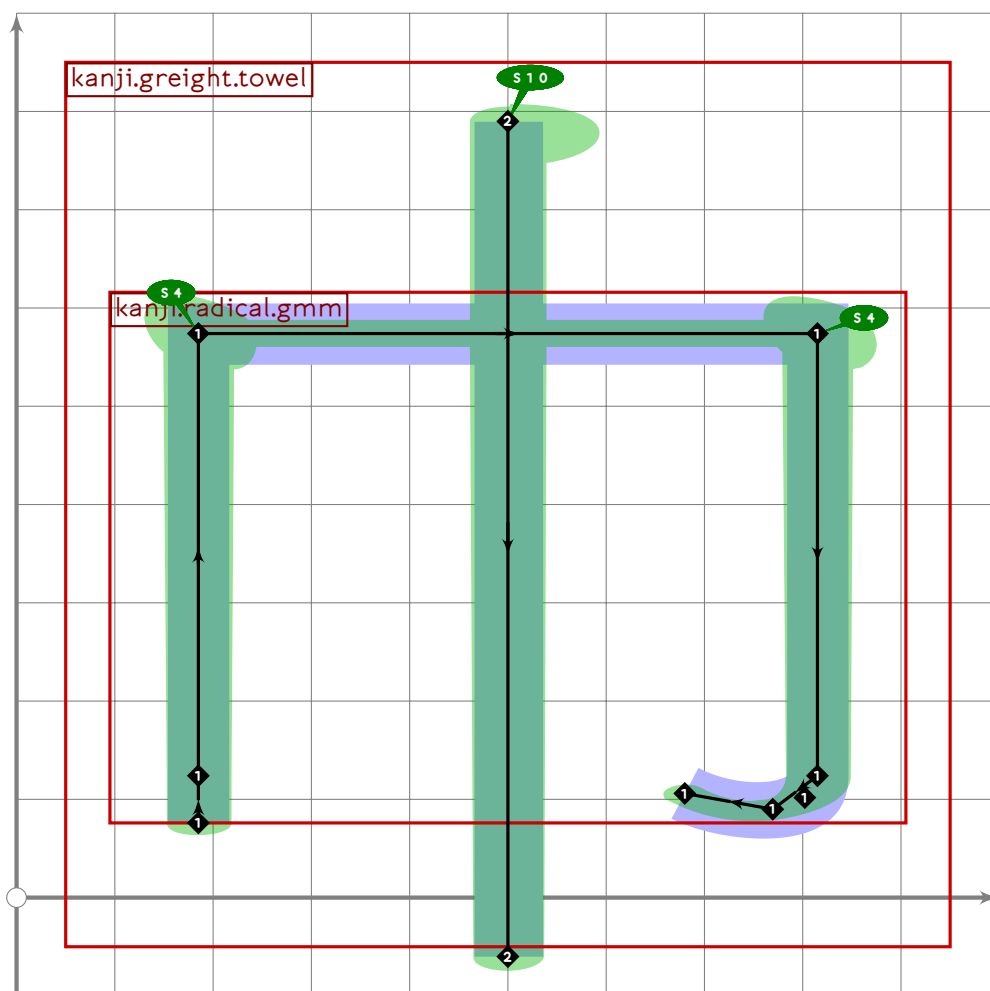


```

732
733 vardef kanji.greight.tin_can =
734   push_pbox__toexpand("kanji.greight.tin_can");
735   kanji.grtwo.noon;
736   replace_strokep(-1)((500,640)-(500,0));
737   replace_strokep(0)(oldp shifted (0,20));
738   build_kanji.cup((190,230),(810,0));
739   expand_pbox;
740 enddef;

```

EIGH

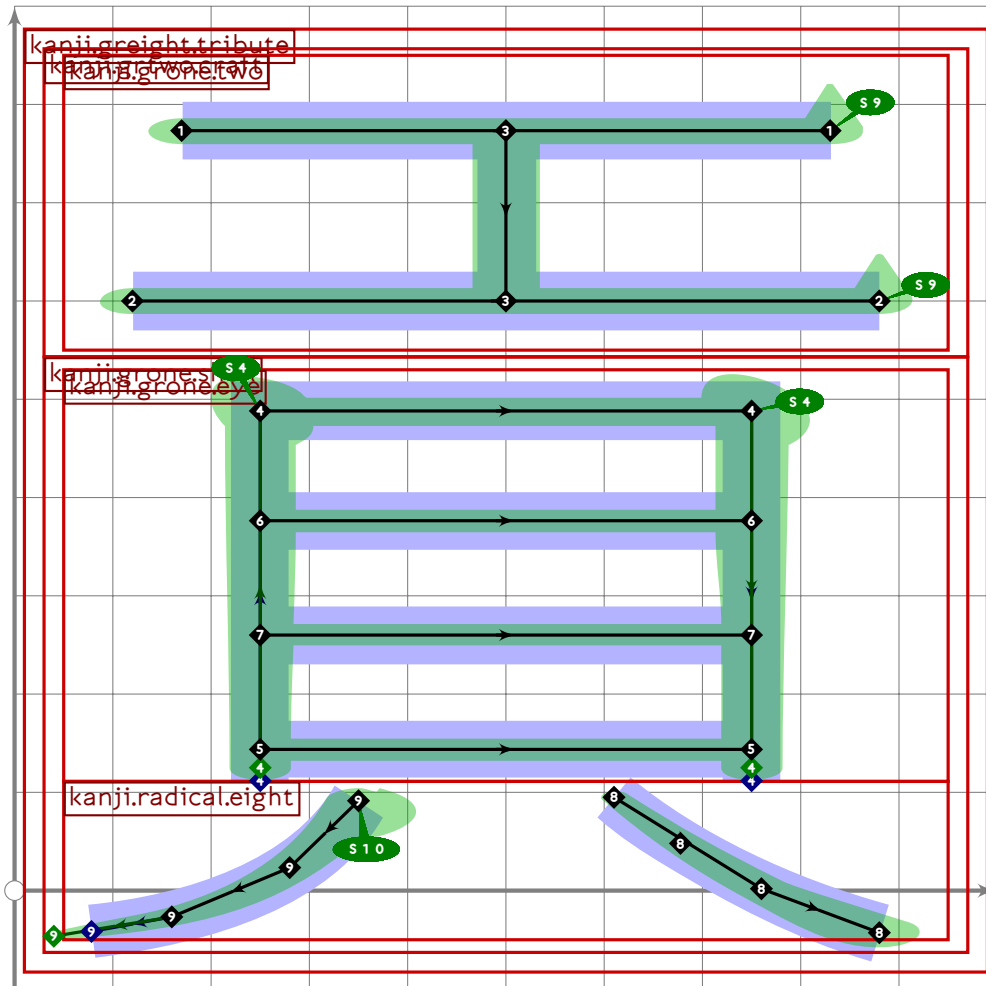


**EIGH**

```

741
742 vardef kanji.greight.towel =
743   push_pbox__toexpand("kanji.greight.towel");
744   build_kanji.sscaled(xyscaled (0.9,0.6) shifted (0,-50))
745     (kanji.radical.gmm);
746   push_stroke((500,790)-(500,-60),
747     (1.6,1.6)-(1.5,1.5));
748   set_boserif(0,0,10);
749   expand_pbox;
750 enddef;

```



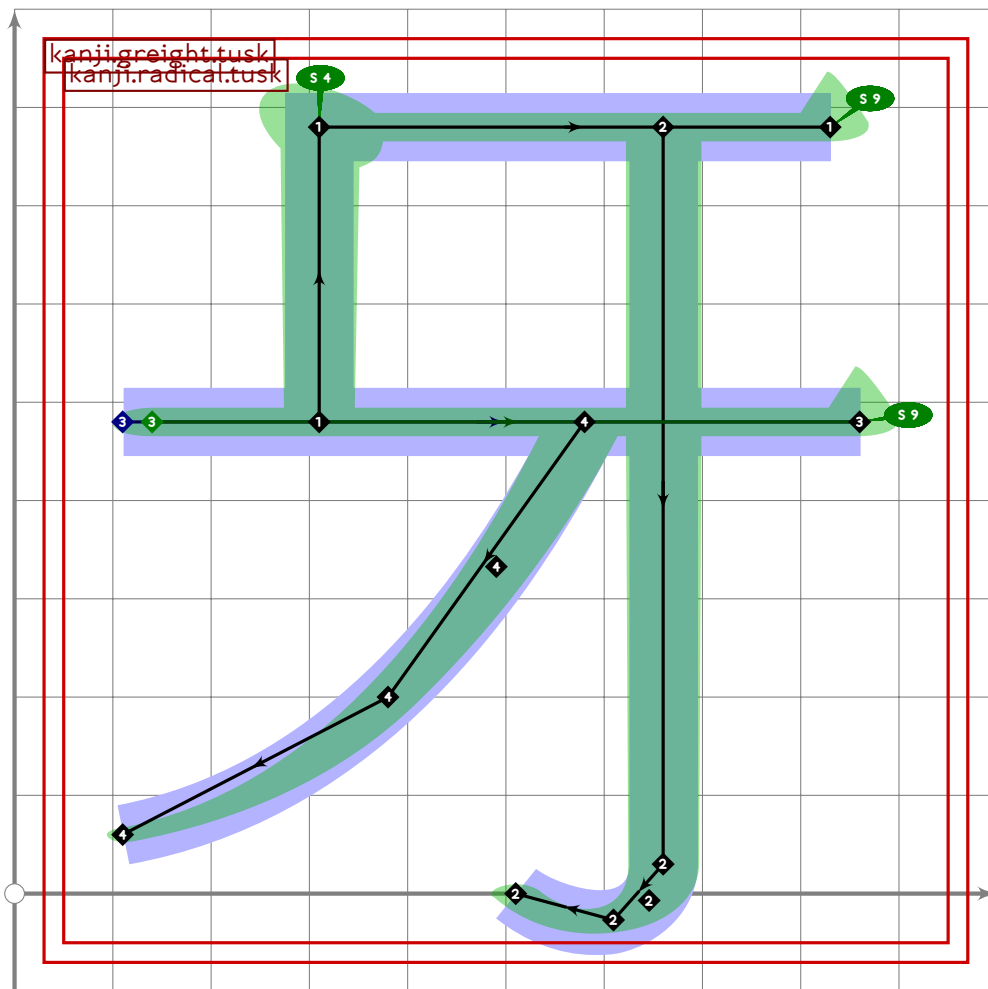
```

751
752 vardef kanji.greight.tribute =
753   push_pbox_toexpand("kanji.greight.tribute");
754   build_kanji.level(build_kanji.tb(540;20)
755     (kanji.grtwo.craft)
756     (kanji.grone.shell));
757   expand_pbox;
758 enddef;

```

**EIGH**

U+7259  
tsuku.uni7259

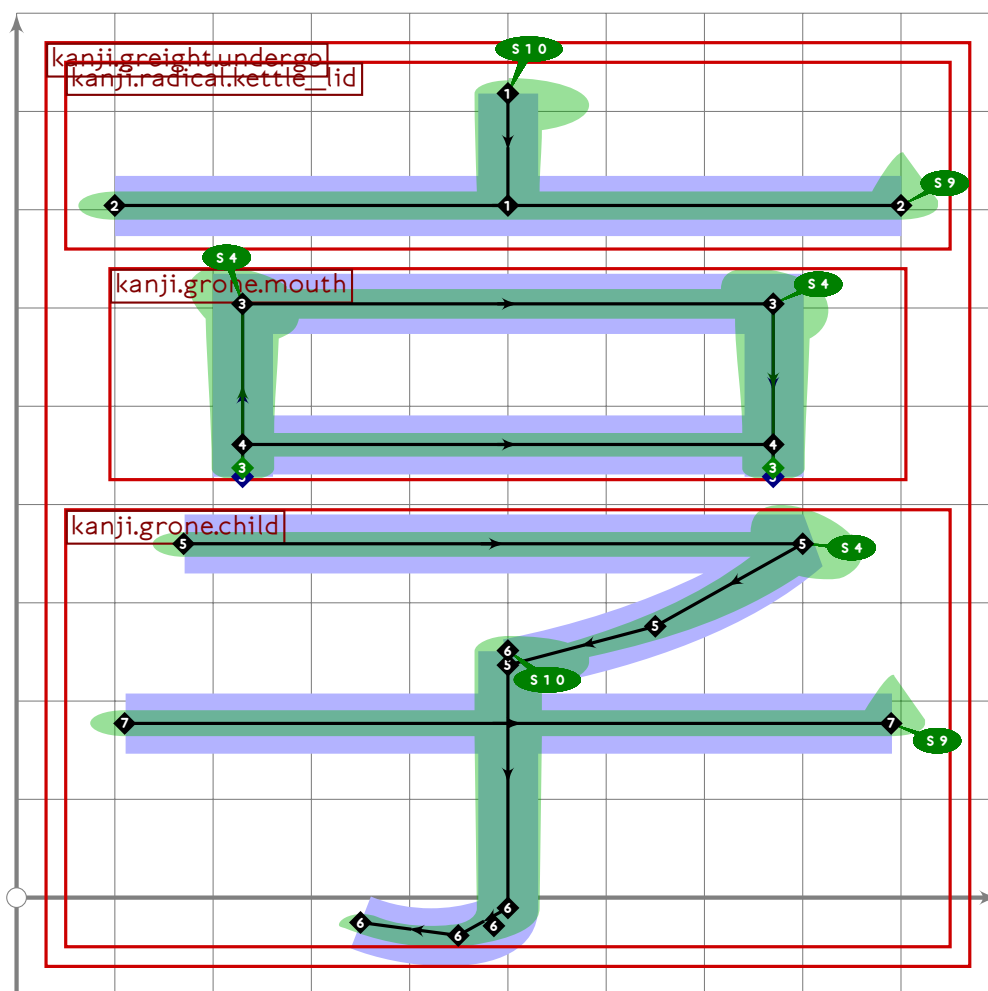


**EIGH**

```

759
760 vardef kanji.greight.tusk =
761   push_pbox__toexpand("kanji.greight.tusk");
762   kanji.radical.tusk;
763   replace_strokep(-4)((310,480)-(310,780)-(830,780));
764   replace_strokeq(-4)((1.5,1.5)-(1.6,1.6)-(1.6,1.6));
765   set_boserif(-4,1,4);
766   set_boserif(-4,2,9);
767   set_botip(-4,1,1);
768   obstacktype[find_whatever(otstroke,2)]:=otnull;
769   expand_pbox;
770 enddef;

```

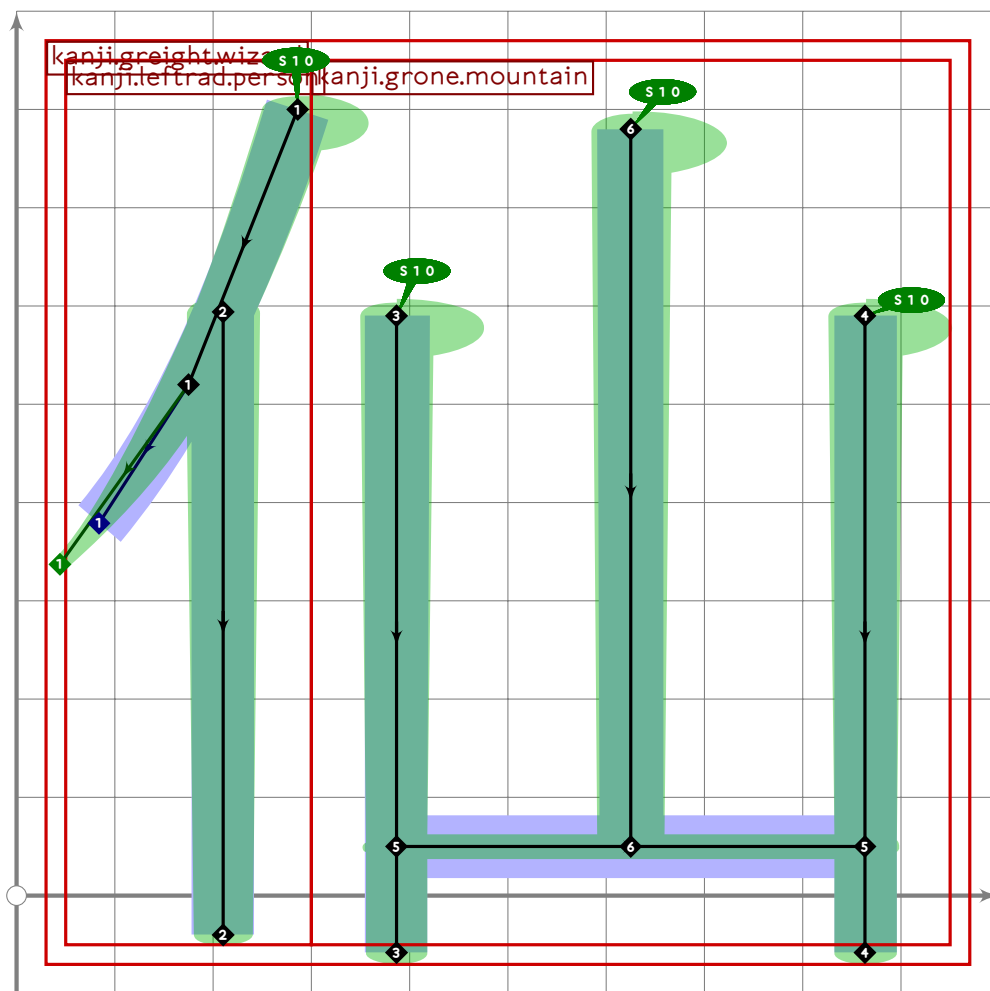


```

771
772 vardef kanji.greight.undergo =
773   push_pbox__toexpand("kanji.greight.undergo");
774   build_kanji.level(build_kanji.tb(650;-20)
775     (kanji.radical.kettle_lid)
776     (build_kanji.tb(550;-40)
777       (build_kanji.sscale(xscaled 0.9)(kanji.grone.mouth))
778       (kanji.grone.child)));
779   expand_pbox;
780 enddef;

```

EIGH



**EIGH**

```

781
782 vardef kanji.greight.wizard =
783   push_pbox_toexpand("kanji.greight.wizard");
784   build_kanji.lr(300,0)
785     (kanji.leftrad.person)
786     (kanji.grone.mountain);
787   expand_pbox;
788 enddef;

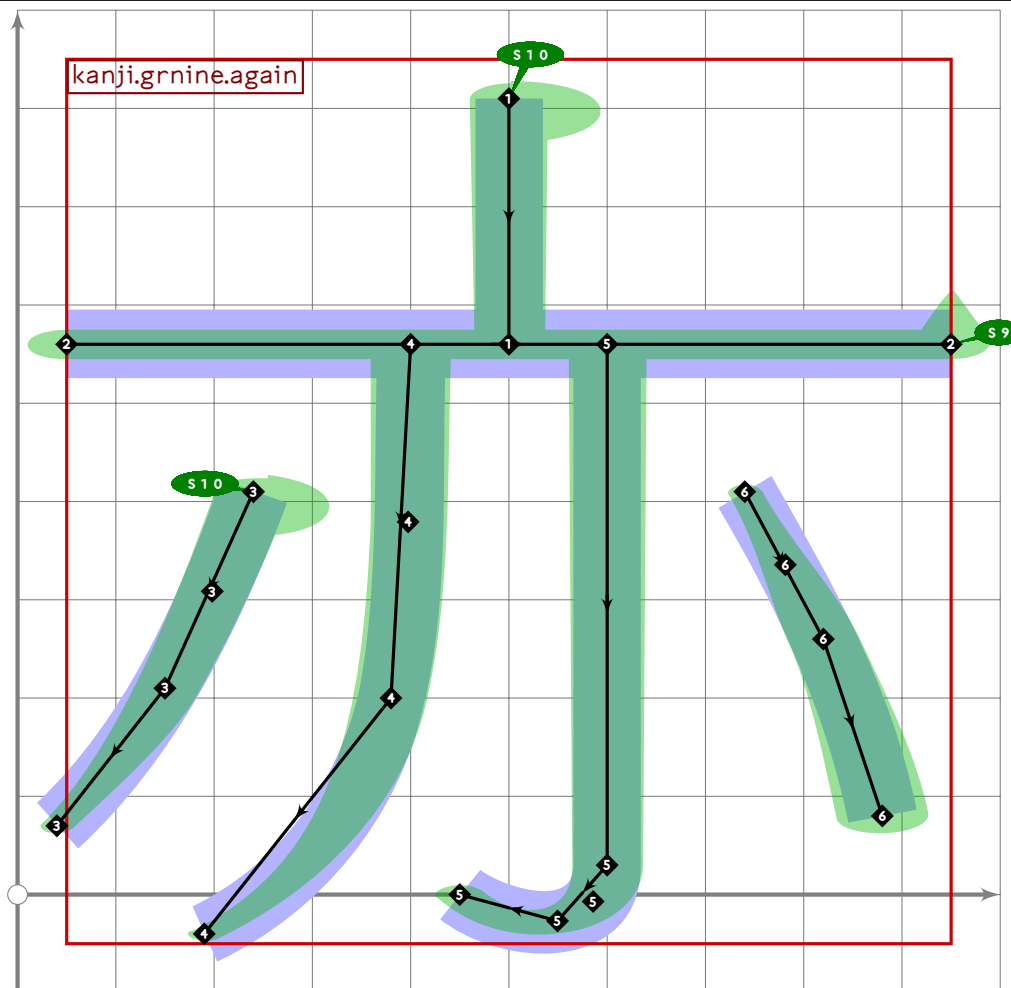
```

# gradenine.mp

```

1 %
2 % Grade Nine kanji used on more than one page
3 % Copyright (C) 2011, 2012, 2013, 2014, 2016, 2017, 2019, 2021 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(gradenine);
32
33

```



```

34
35 vardef kanji.grnine.again =
36   push_pbox_toexpand("kanji.grnine.again");
37   push_stroke((500,810)-(500,560),(1.6,1.6)-(1.5,1.5));
38   set_boserif(0,0,10);
39   push_stroke((50,560)-(950,560),(1.6,1.6)-(1.6,1.6));
40   set_boserif(0,19);
41   push_stroke((240,410)..tension 1.3..(150,210)..(40,70),
42     (1.6,1.6)-(1.5,1.5)-(1,1));
43   set_boserif(0,0,10);

```

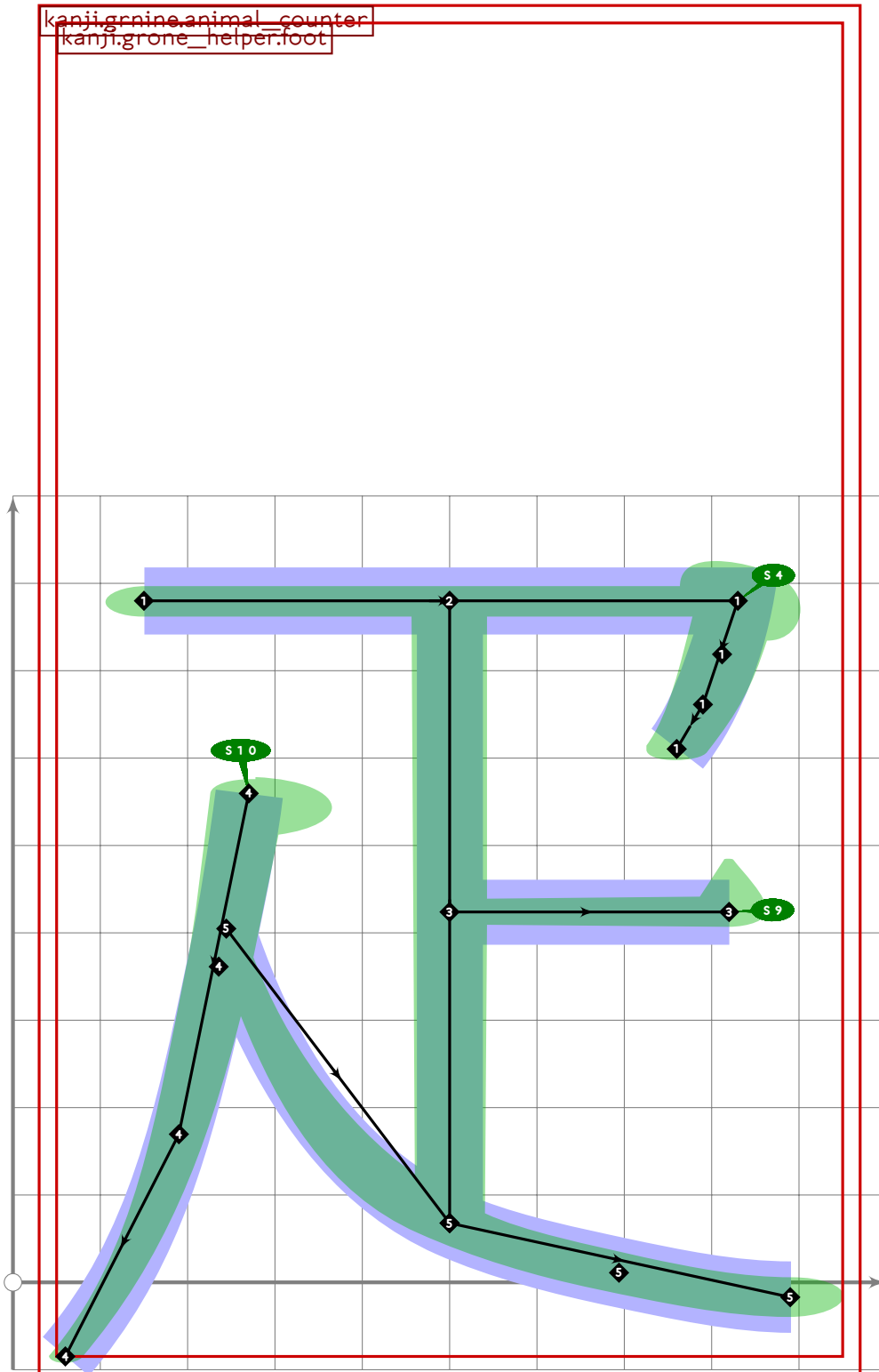
NINE

```

44  push_stroke((400,560){down}..tension 1.3..(380,200)..(190,-40),
45    (1.6,1.6)–(1.5,1.5)–(1,1));
46  push_stroke((600,560),(1.6,1.6));
47  build_kanji.add_jtail(0);
48  push_stroke((740,410)..tension 1.3..(820,260)..(880,80),
49    (1,1)–(1.5,1.5)–(1.8,1.8));
50  expand_pbox;
51 enddef;

```





NINE

```

52
53 vardef kanji.grnine.animal_counter =
54   push_pbox_toexpand("kanji.grnine.animal_counter");
55   tsu_xform(identity yscaled (780/460))
56   (push_stroke((150,460)-(830,460)..tension 1.2..(790,390)..(760,360),
57     (1.6,1.6)-(1.7,1.7)-(1.6,1.6)-(1.4,1.4));

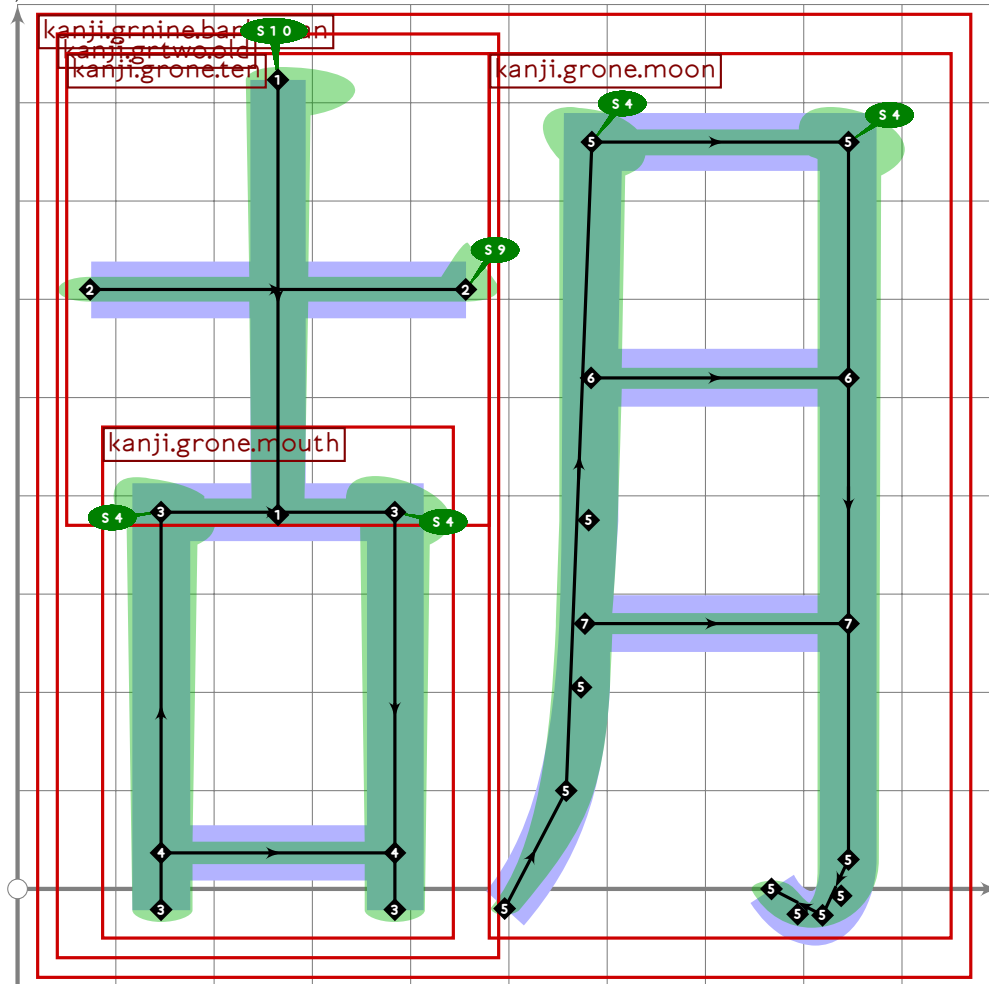
```

U+80E1  
tsuku.uni80E1

```

58   set_botip(0,1);
59   set_boserif(0,14);
60   push_stroke((500,460)-(500,40),(1.6,1.6)-(1.5,1.5));
61   push_stroke((500,250)-(820,250),(1.5,1.5)-(1.6,1.6));
62   set_boserif(0,19);
63   kanji.grone_helper.foot);
64   expand_pbox;
65 enddef;

```

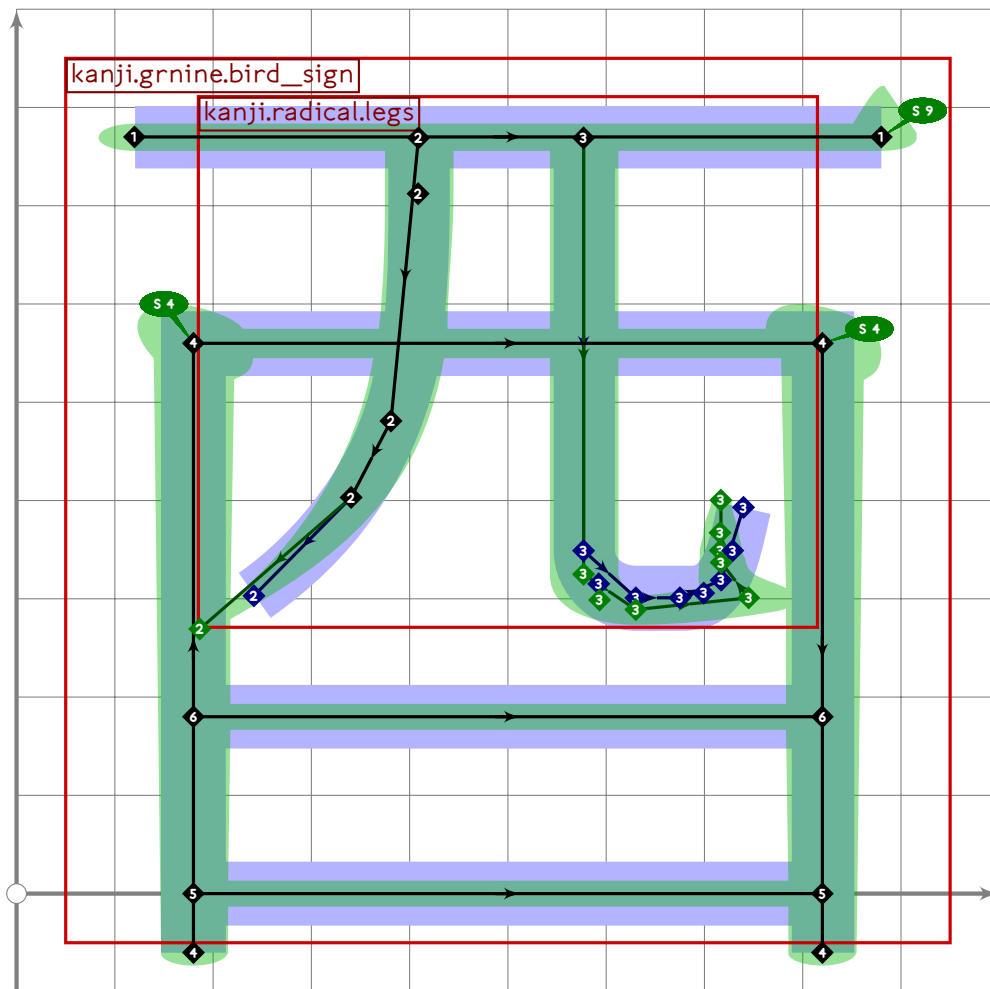


NINE

```

66
67 vardef kanji.grnine.barbarian =
68   push_pbox_toexpand("kanji.grnine.barbarian");
69   build_kanji.level(build_kanji.lr(480,0)
70     (kanji.grtwo.old)
71     (kanji.grone.moon));
72   expand_pbox;
73 enddef;

```

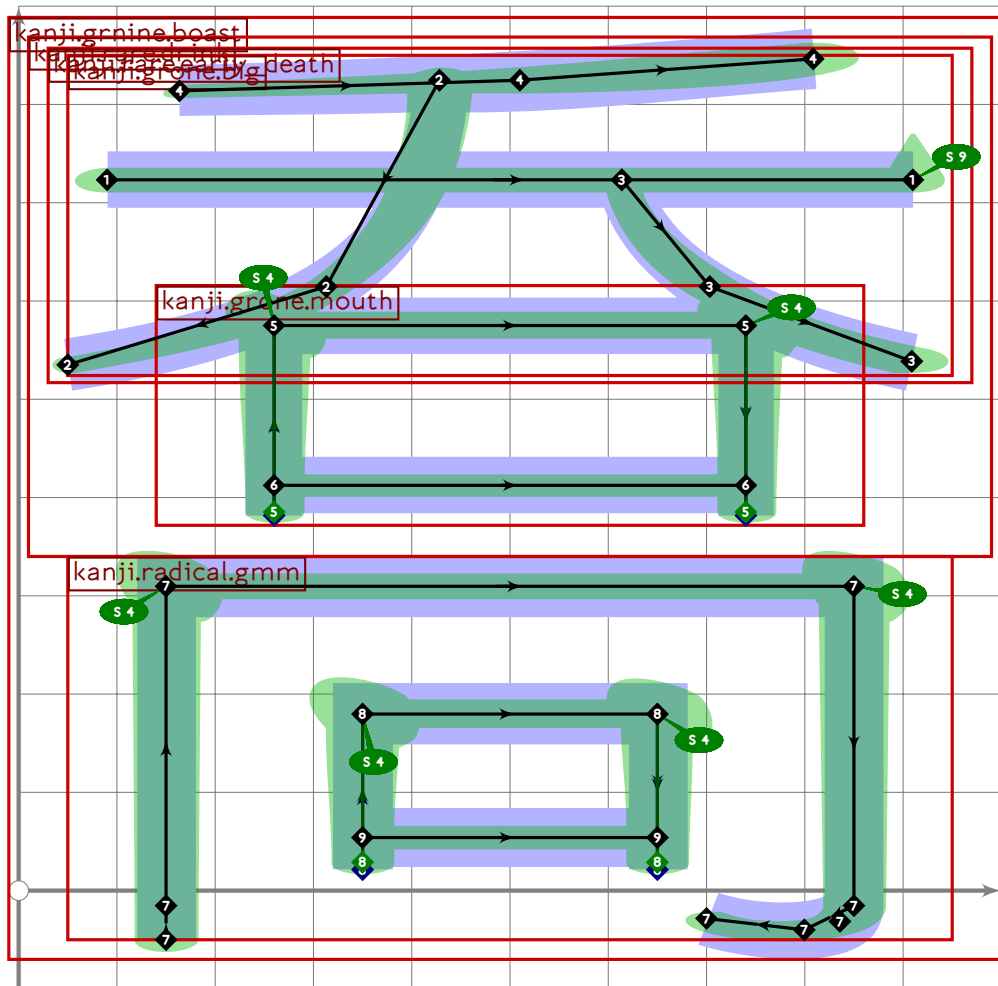


```

74
75 vardef kanji.grnine.bird_sign =
76   push_pbox__toexpand("kanji.grnine.bird_sign");
77   build_kanji.thickness(0.93)(
78     push_stroke((120,770)-(880,770),(1.6,1.6)-(1.6,1.6));
79     set_boserif(0,1,9);
80     build_kanji.sscaled(xyscaled (0.7,0.6) shifted (0,145))
81     (kanji.radical.legs);
82     build_kanji.box((180,560),(820,0));
83     push_stroke((180,180)-(820,180),(1.5,1.5)-(1.5,1.5));
84   expand_pbox;
85 enddef;

```

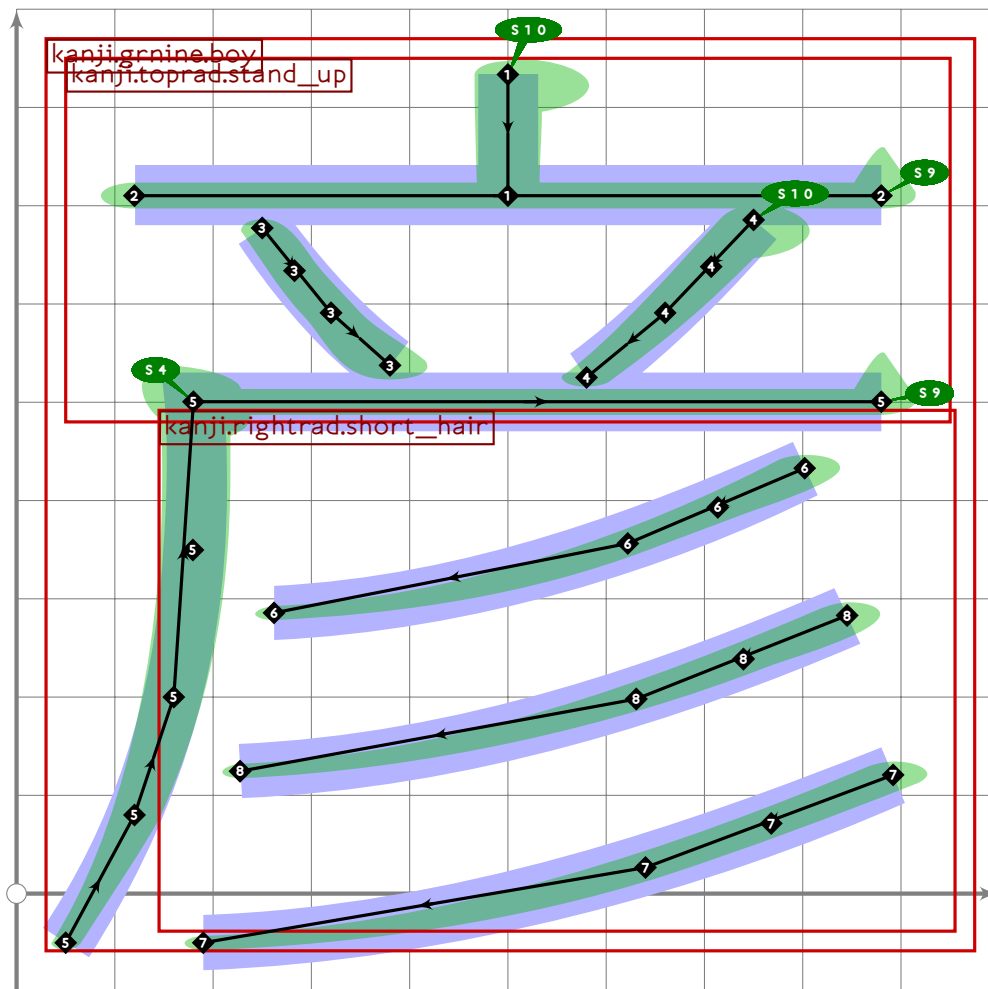
NINE



```

86
87 vardef kanji.grnine.boast =
88   push_pbox_toexpand("kanji.grnine.boast");
89   build_kanji.tb(340,0)
90   (kanji.rare.drink)
91   (kanji.radical.gmm;
92     build_kanji.box((350,480),(650,190)));
93   expand_pbox;
94 enddef;

```

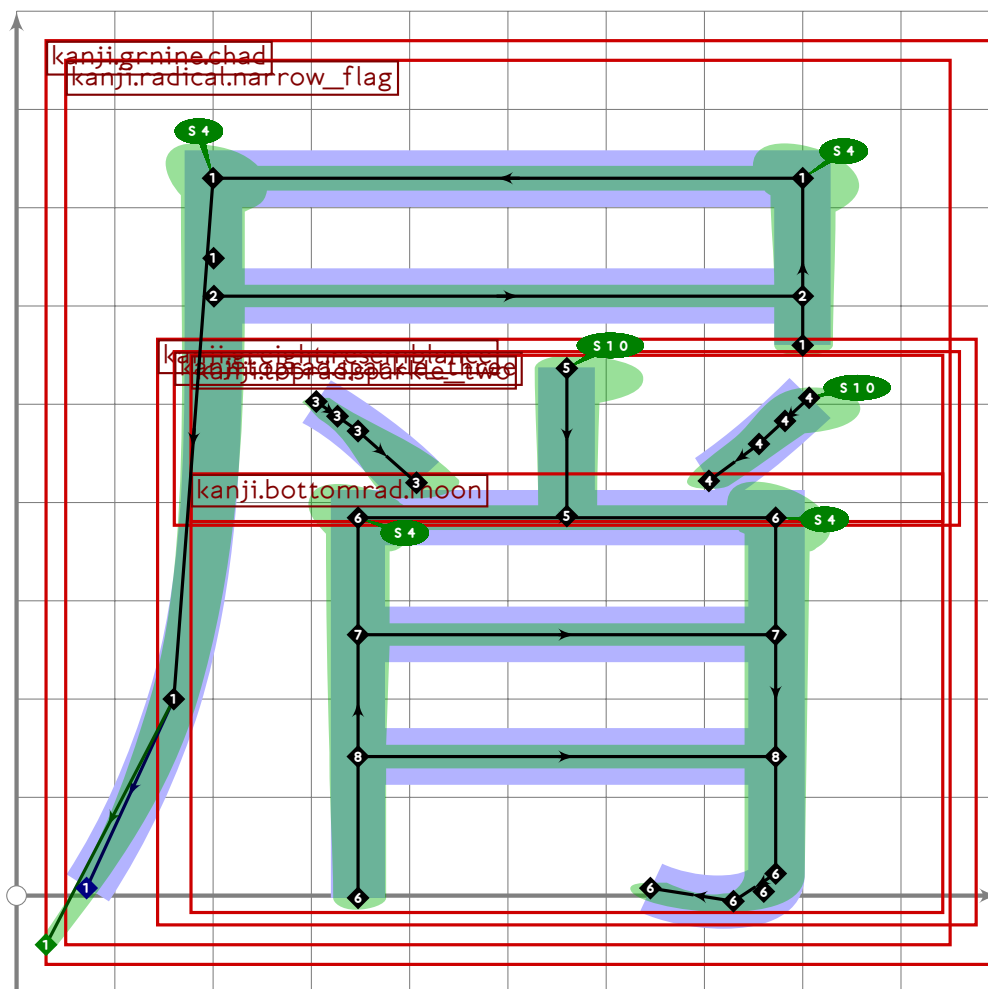


```

95
96 vardef kanji.grnine.boy =
97   push_pbox_toexpand("kanji.grnine.boy");
98   build_kanji.level(build_kanji.tb(480,0)
99     (kanji.toprad.stand_up)
100     (build_kanji.sscale(xscaled 0.9 shifted (50,20))
101       (kanji.rightrad.short_hair)));
102   replace_strokep(-3)((50,50)..(120,80)..(160,200)..tension 1.2..
103     (180,ypart point 0 of oldp)-(880,ypart point 1 of oldp));
104   replace_strokeq(-3)((1,1)-(1.3,1.3)-(1.5,1.5)-(1.6,1.6)-(1.6,1.6));
105   set_botip(-3,1);
106   set_boserif(-3,1,whatever);
107   set_boserif(-3,3,4);
108   set_boserif(-3,4,9);
109   expand_pbox;
110 enddef;

```

NINE

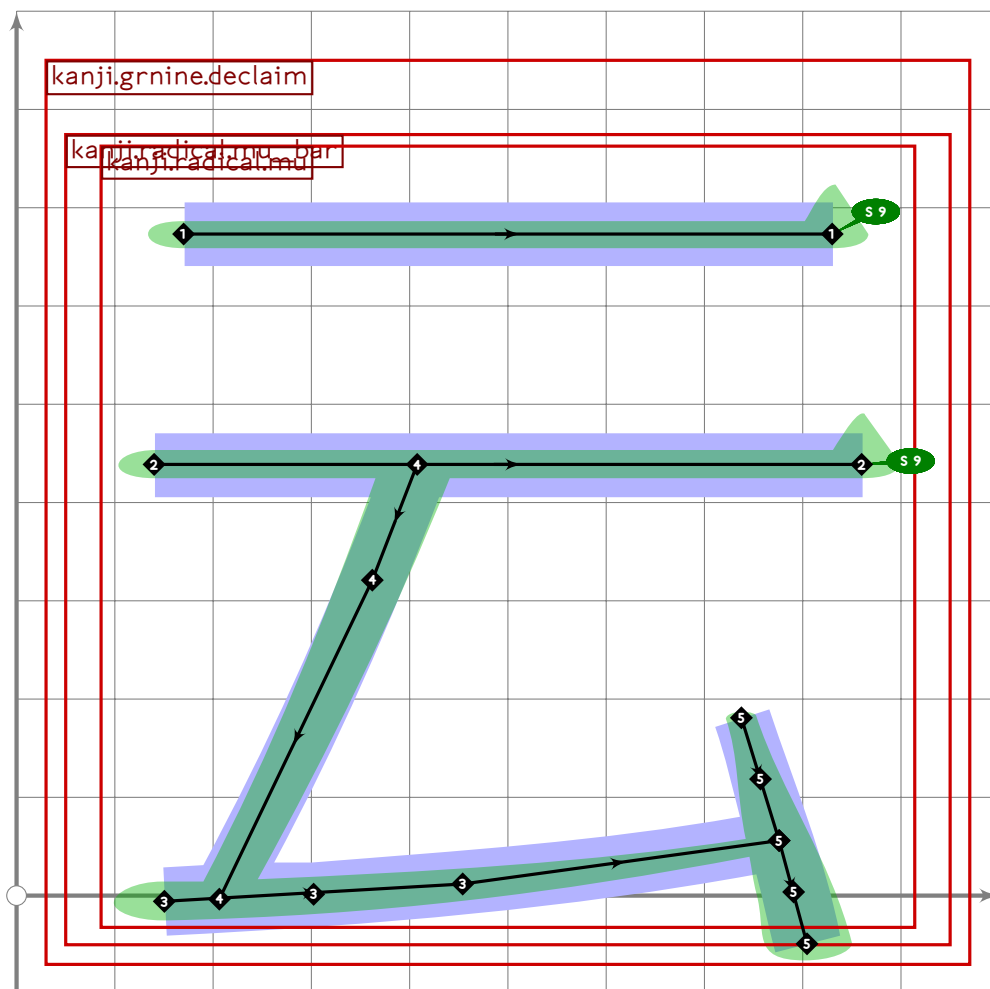


```

111
112 vardef kanji.grnine.chad =
113   push_pbox__toexpand("kanji.grnine.chad");
114   build_kanji.level(
115     kanji.radical.narrow_flag;
116     build_kanji.sscale(xyscaled (0.85,0.63) shifted (60,-130))
117     (kanji.greight.resemblance));
118   expand_pbox;
119 enddef;

```

NINE



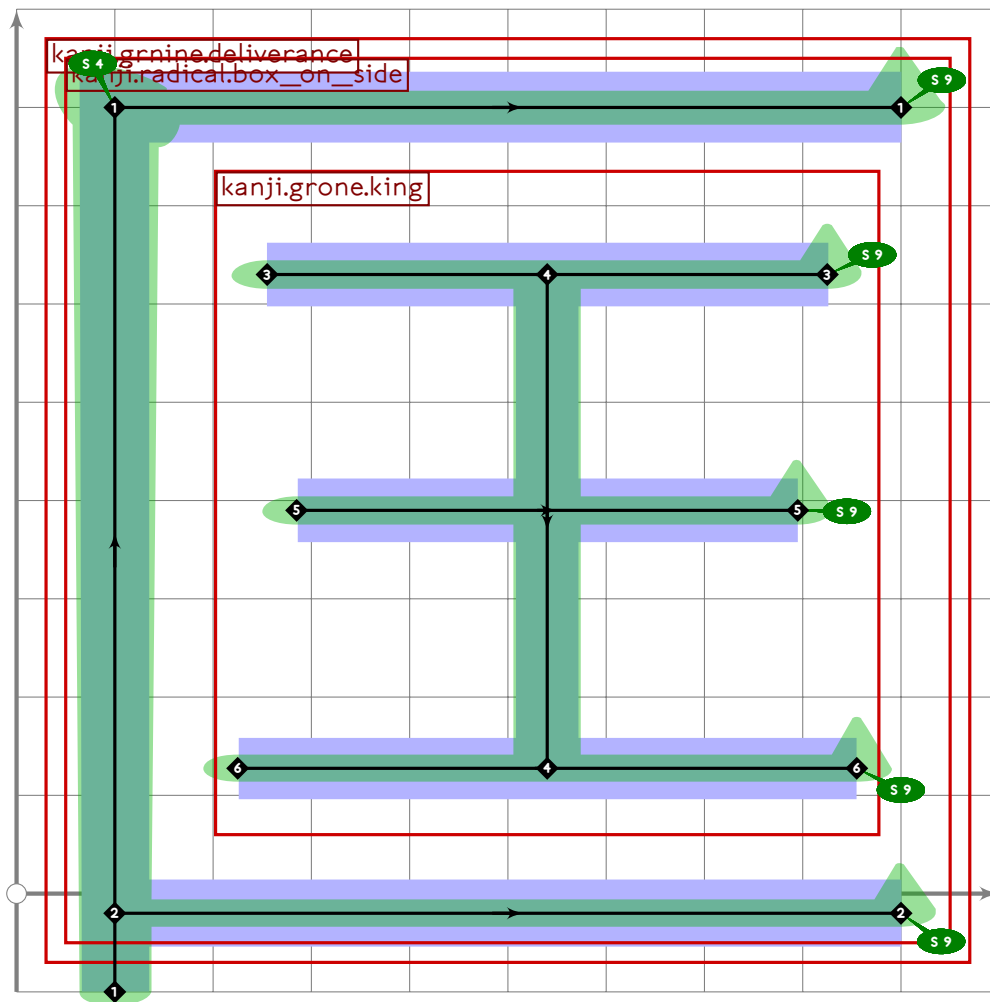
```

120
121 vardef kanji.grnine.declaim =
122   push_pbox__toexpand("kanji.grnine.declaim");
123   build_kanji.level(build_kanji.tb(480,0)
124     (push_stroke((170,420)-(830,420),
125       (1.6,1.6)-(1.6,1.6));
126     set_boserif(0,1,9);
127   )
128   (kanji.radical.mu_bar));
129   expand_pbox;
130 enddef;

```

NINE

U+5321  
tsuku.uni5321



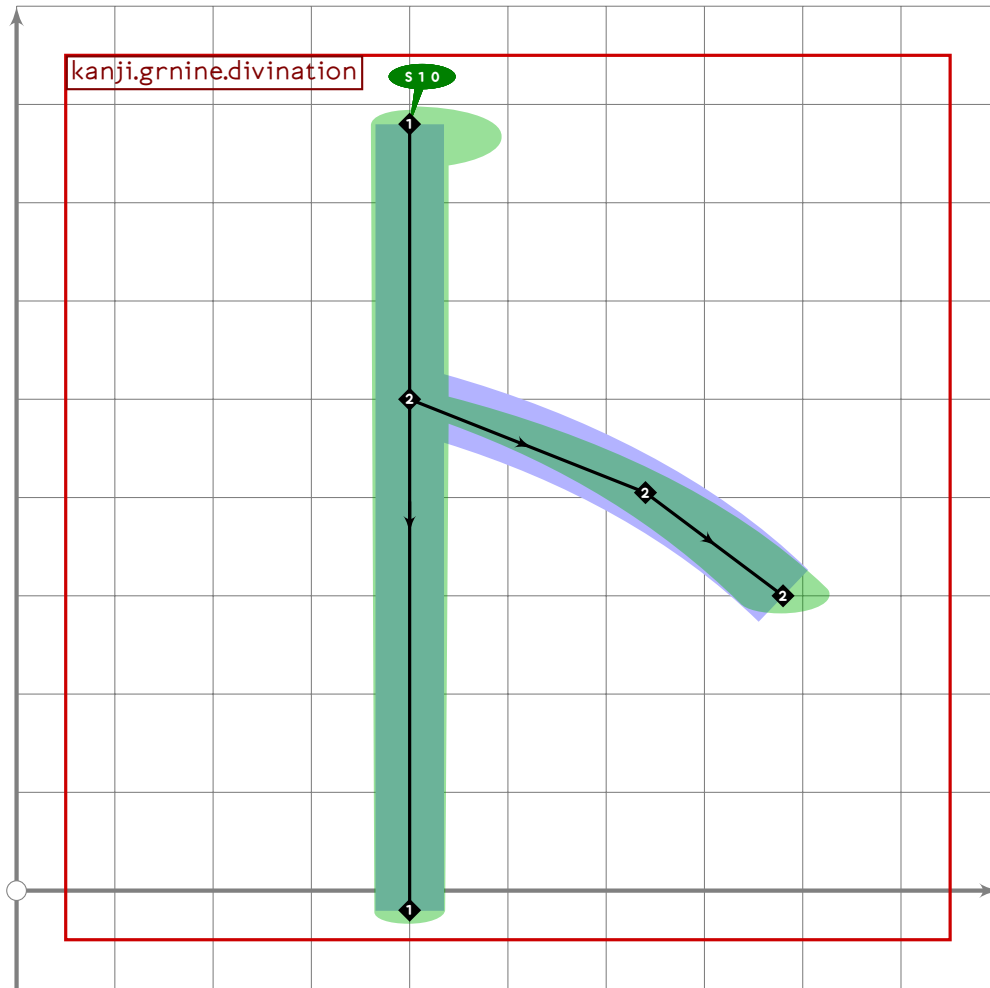
```

131
132 vardef kanji.grnine.deliverance =
133   push_pbox_toexpand("kanji.grnine.deliverance");
134   kanji.radical.box_on_side;
135   build_kanji.sscale(scaled 0.75 shifted (40,0))(kanji.grone.king);
136   expand_pbox;
137 enddef;

```

NINE



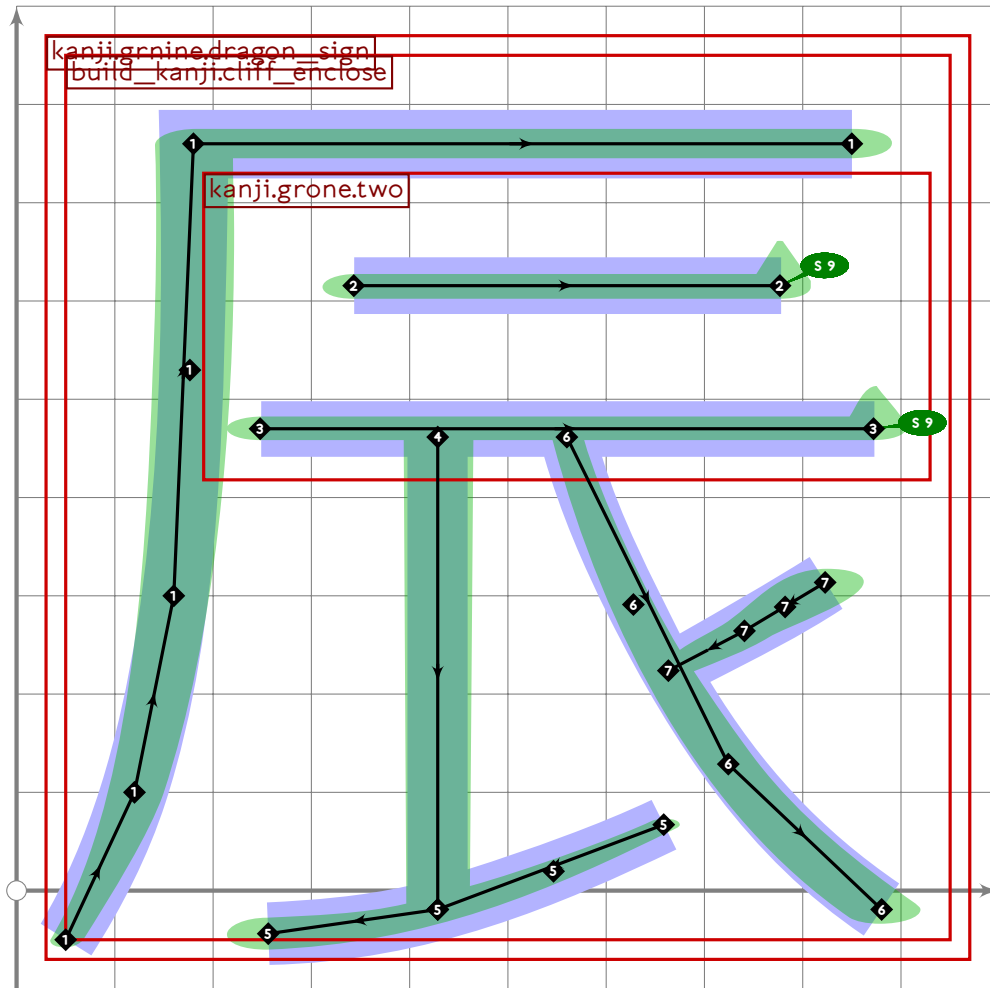


```

138
139 vardef kanji.grnine.divination =
140   push_pbox__toexpand("kanji.grnine.divination");
141   push_stroke((400,780)–(400,20),
142     (1.6,1.6)–(1.5,1.5));
143   set_boserif(0,0,10);
144   push_stroke((400,500)..tension 11..(640,405)..(780,300),
145     (1.3,1.3)–(1.6,1.6)–(1.8,1.8));
146   expand_pbox;
147 enddef;

```

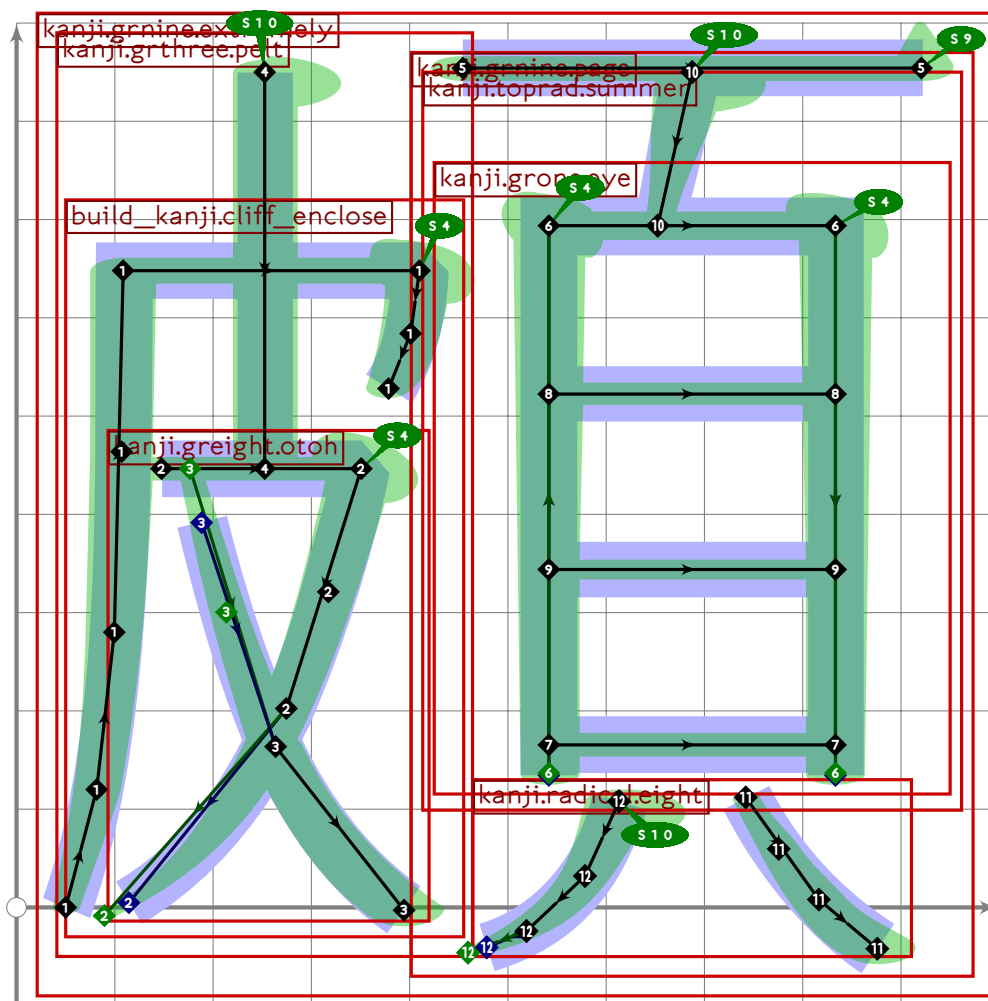
**NINE**



```

148
149 vardef kanji.grnine.dragon_sign =
150   push_pbox_toexpand("kanji.grnine.dragon_sign");
151   build_kanji.cliff_enclose(build_kanji.sscaled xscaled 1.12)
152     (build_kanji.tb(540,100)
153       (kanji.grone.two;
154         replace_strokep(-1)
155           (oldp shifted (-500,100) xscaled 0.8 shifted (500,0)))
156       (push_stroke((340,780)-(340,0),(1.6,1.6)-(1.5,1.5));
157         push_stroke((620,140)..tension 1.2..
158           (point 1 of get_strokep(0))..(130,-40),
159           (1,1)-(1.5,1.5)-(1.8,1.8));
160         push_stroke((500,780)..tension 1.2..(700,240)..(890,0),
161           (1,1)-(1.4,1.4)-(1.7,1.7));
162         push_stroke((820,540)..tension 1.2..(720,460)..
163           (point 0.69 of get_strokep(0)),
164           (1.7,1.7)-(1.4,1.4)-(1.2,1.2)))));
165   expand_pbox;
166 enddef;

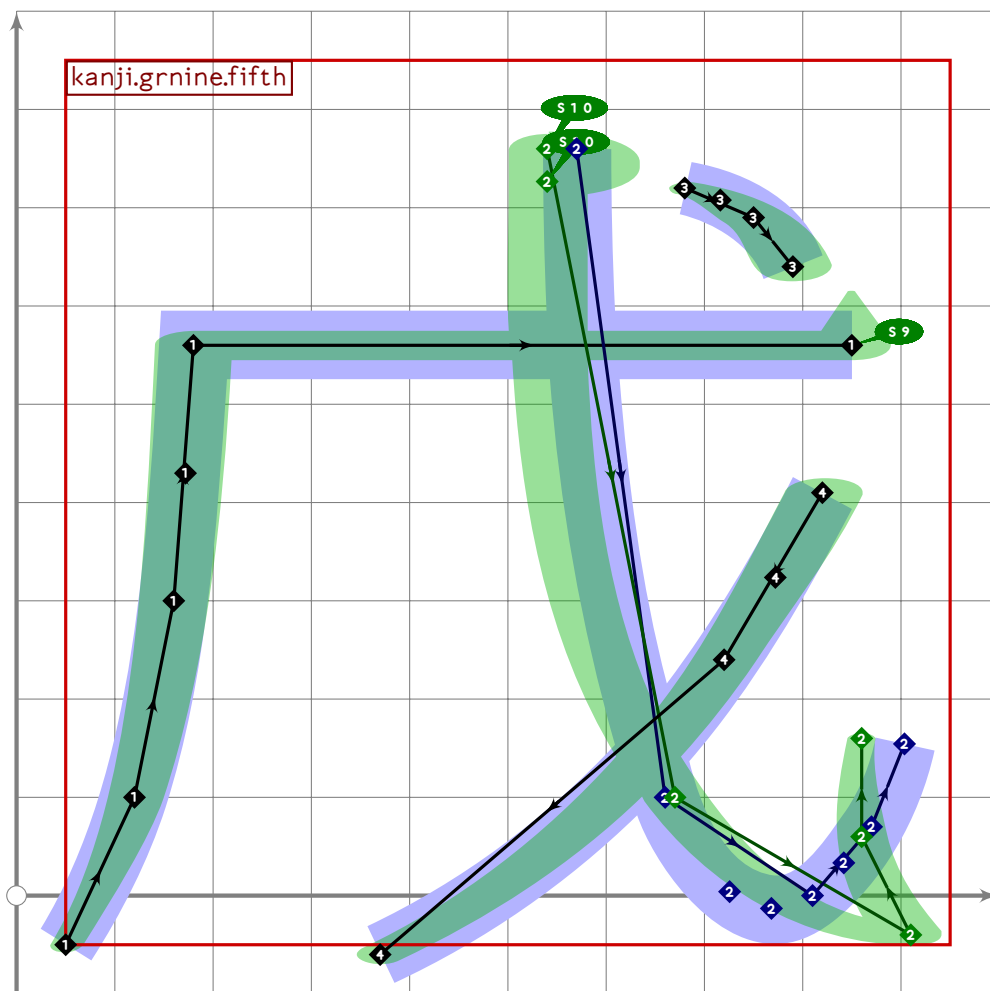
```



```

167
168 vardef kanji.grnine.extremely =
169   push_pbox_toexpand("kanji.grnine.extremely");
170   build_kanji.level(build_kanji.lr(440,30)
171     (build_kanji.sscale(shifted (0,40))(kanji.grthree.pelt))
172     (kanji.grnine.page));
173   expand_pbox;
174 enddef;

```

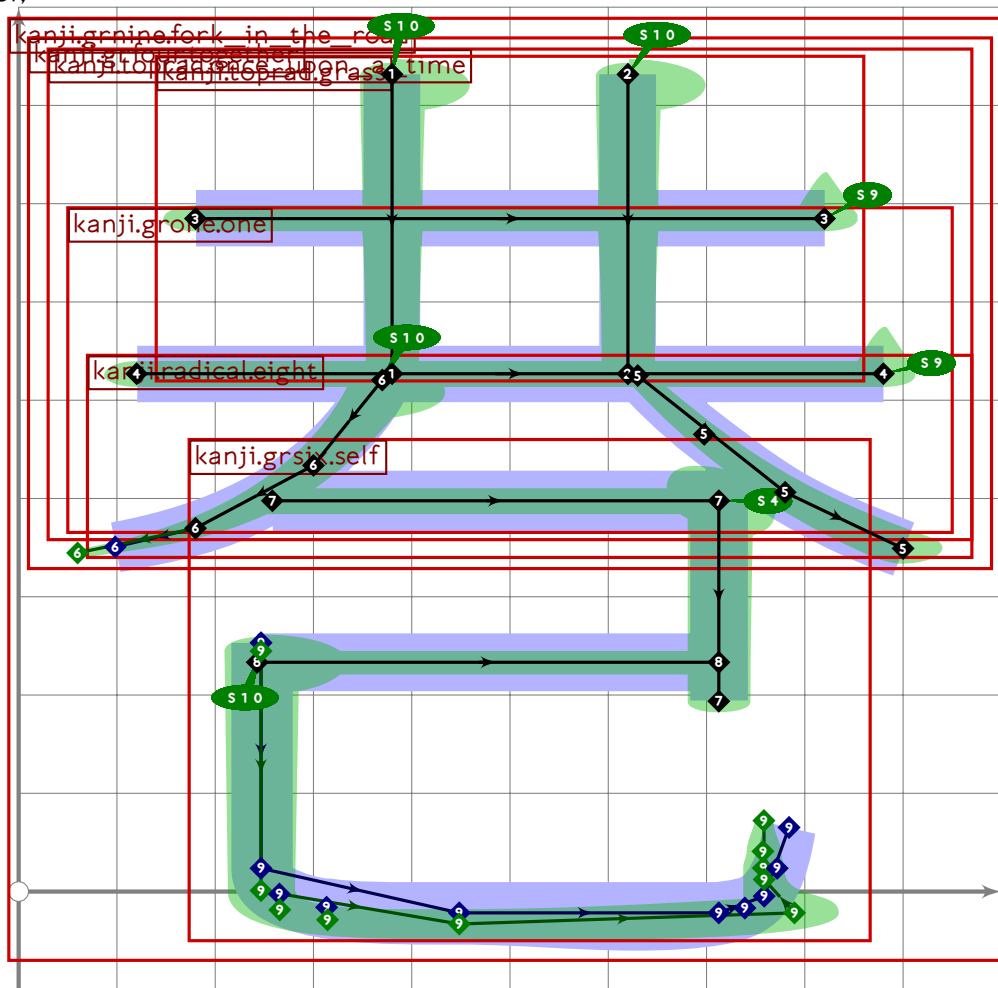


```

175
176 vardef kanji.grnine.fifth =
177   push_pbox_toexpand("kanji.grnine.fifth");
178   push_stroke((50,-50)..(120,100)..(160,300)..tension 1.2..(180,560)
179     -(850,560),
180     (1,1)-(1.3,1.3)-(1.5,1.5)-(1.6,1.6)-(1.6,1.6));
181   set_botip(0,3,1);
182   set_boserif(0,4,9);
183   push_stroke(interpath(mincho,
184     (570,760){down}..(660,100)..(810,0)..tension 1.5..
185     (870,70)..{curl 0.3}(910,200),
186     (540,760){down}..(670,100)..{right}(910,-40){curl 1}..
187     (860,60)..(860,160)),
188     (1.6,1.6)-(1.4,1.4)-(1.4,1.4)-(1.2,1.2)-(0,0,9));
189   set_boserif(0,0,10);
190   push_stroke((680,720)..tension 1.2..(750,690)..(790,640),
191     (1,1)..(1.5,1.5)-(1.7,1.7));
192   set_bosize(0,90);
193   push_stroke((820,410)..tension 1.2..(720,240)..(370,-60),
194     (1.6,1.6)-(1.4,1.4)-(1.2,1.2));
195   expand_pbox;

```

```
196 enddef;
```

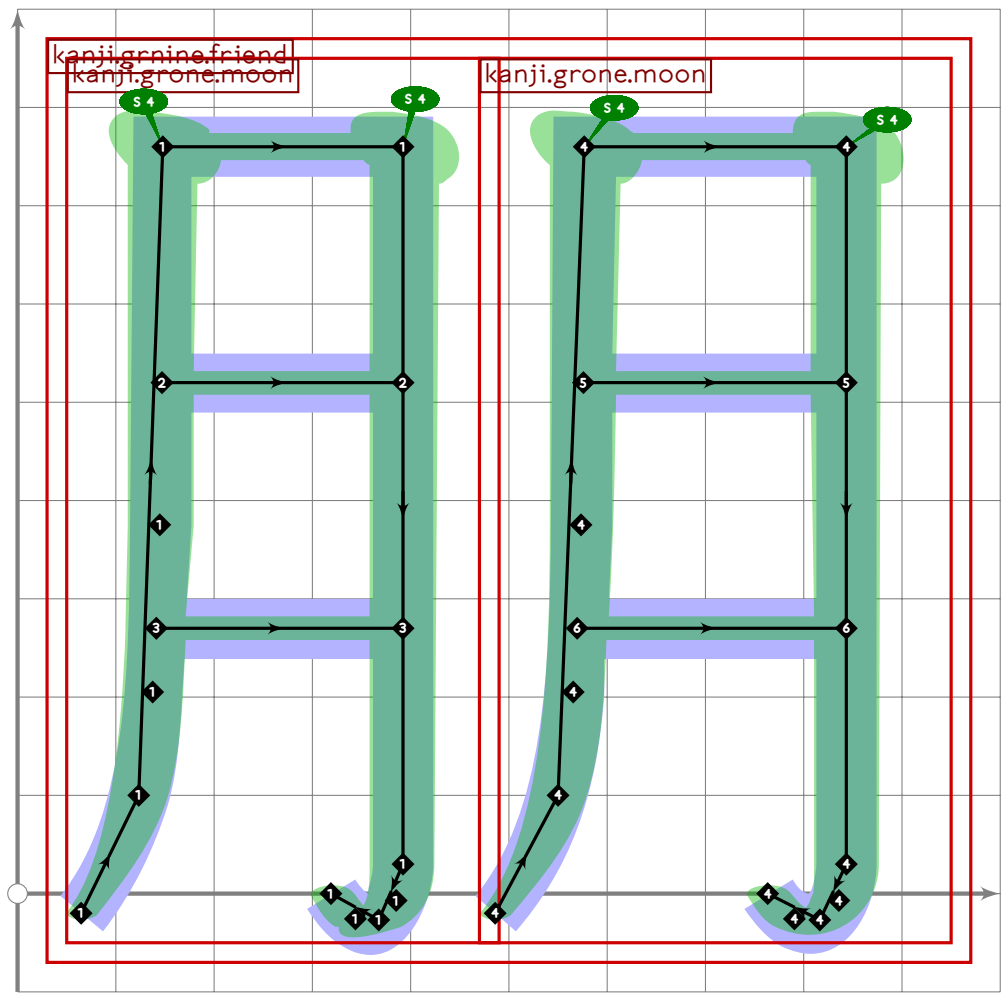


```

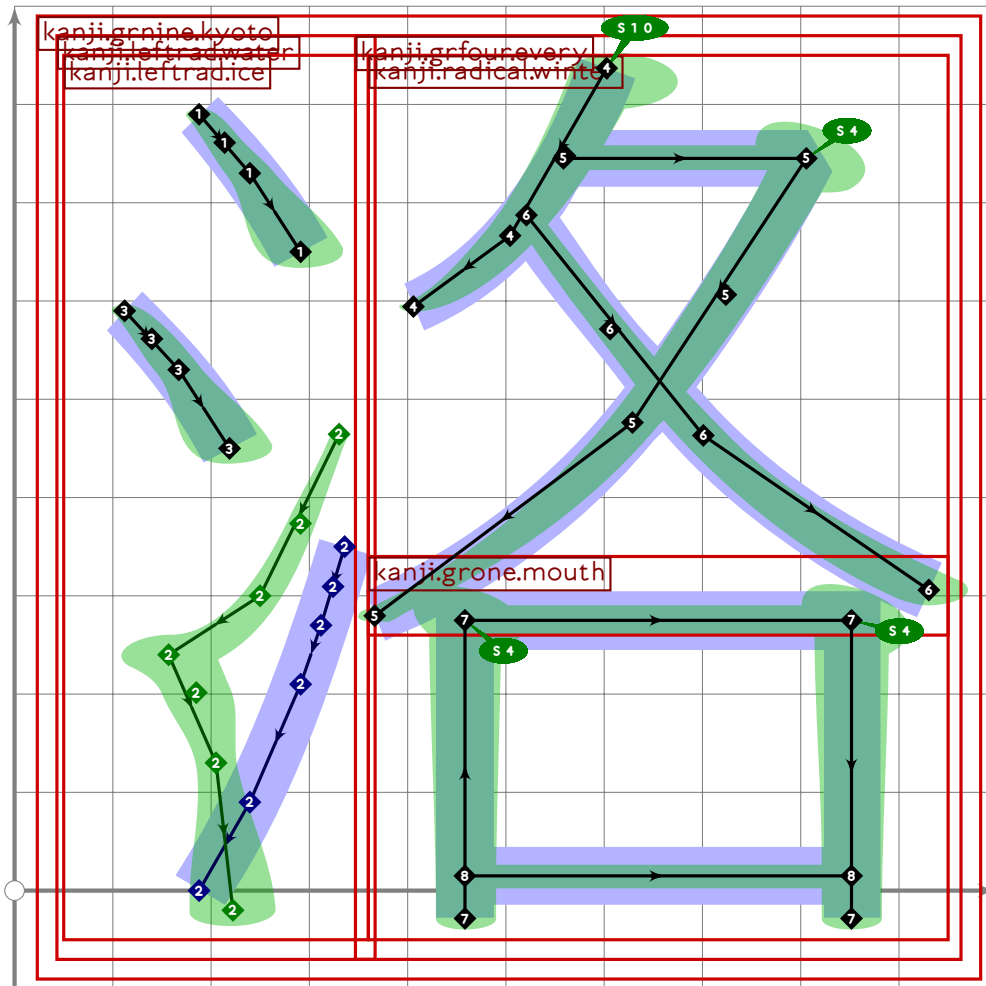
197
198 vardef kanji.grnine.fork_in_the_road =
199   push_pbox_toexpand("kanji.grnine.fork_in_the_road");
200   build_kanji.tb(400,120)
201     (kanji.grfour.together)
202     (build_kanji.sscale(xscaled 0.77 shifted (20,0))(kanji.grsix.self));
203   expand_pbox;
204 enddef;

```

# NINE



```
205
206 vardef kanji.grnine.friend =
207   push_pbox_toexpand("kanji.grnine.friend");
208   build_kanji.lr(480,20)
209     (kanji.grone.moon)
210     (kanji.grone.moon);
211   expand_pbox;
212 enddef;
```



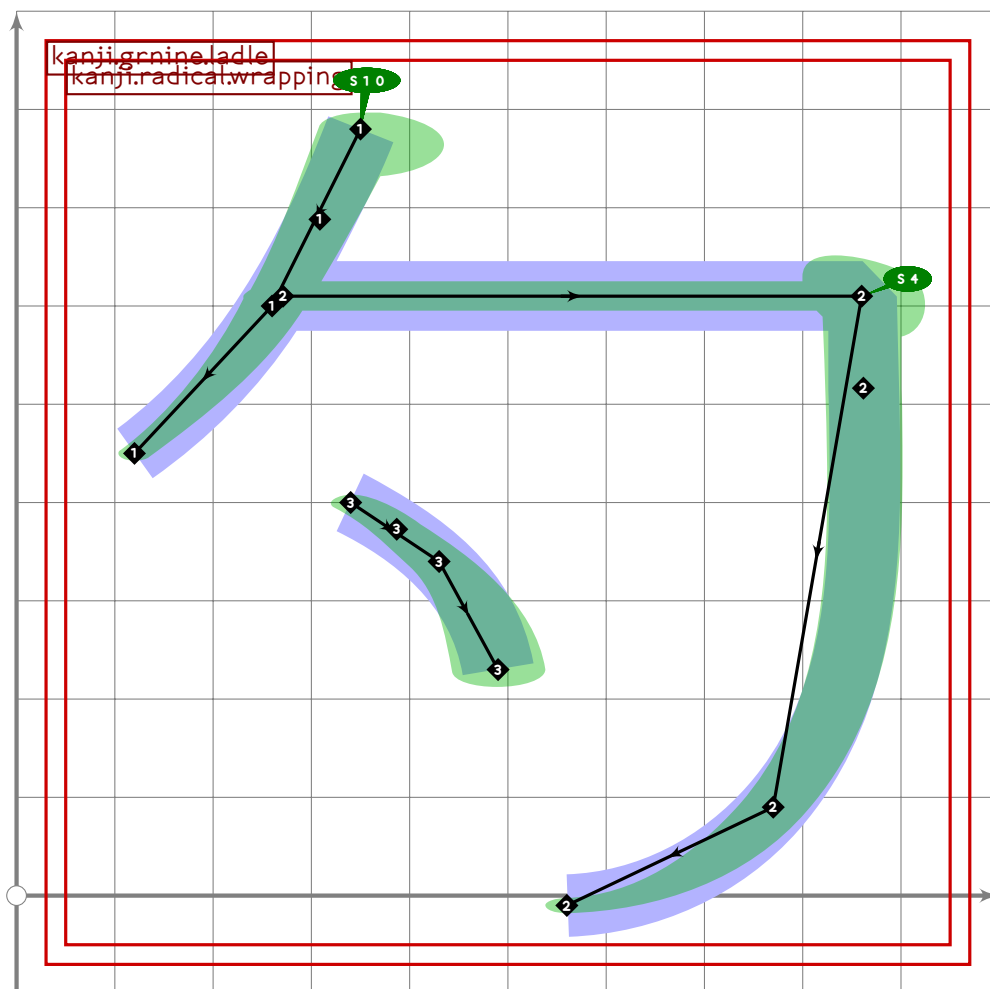
```

213
214 vardef kanji.grnine.kyoto =
215   push_pbox_toexpand("kanji.grnine.kyoto");
216   build_kanji.lr(360,0)
217     (kanji.leftrad.water)
218     (kanji.grfour.every);
219   expand_pbox;
220 enddef;

```

NINE

U+52FA  
tsuku.uni52FA



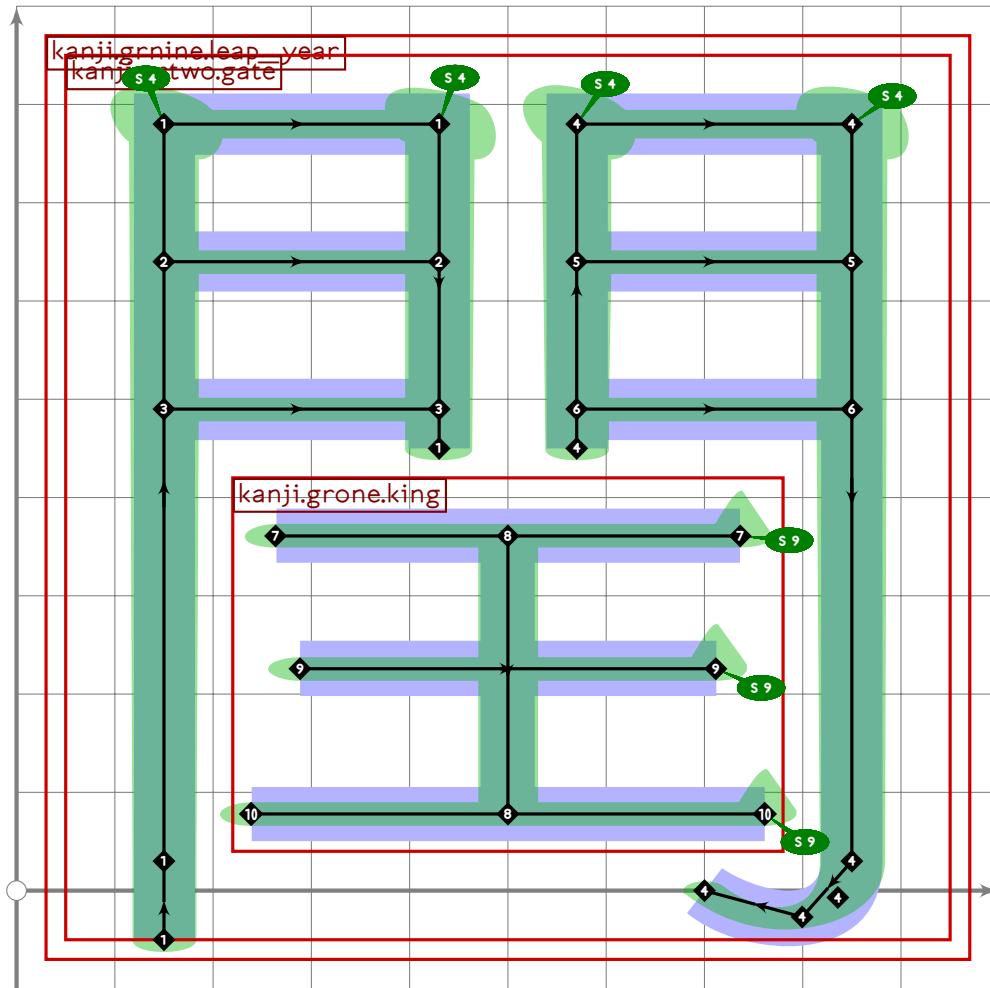
```

221
222 vardef kanji.grnine.ladle =
223   push_pbox__toexpand("kanji.grnine.ladle");
224   kanji.radical.wrapping;
225   push_stroke((340,400)..tension 1.2..(430,340)..(490,230),
226     (1,1,1)-(1,4,1)-(1,8,1));
227   expand_pbox;
228 enddef;

```

NINE





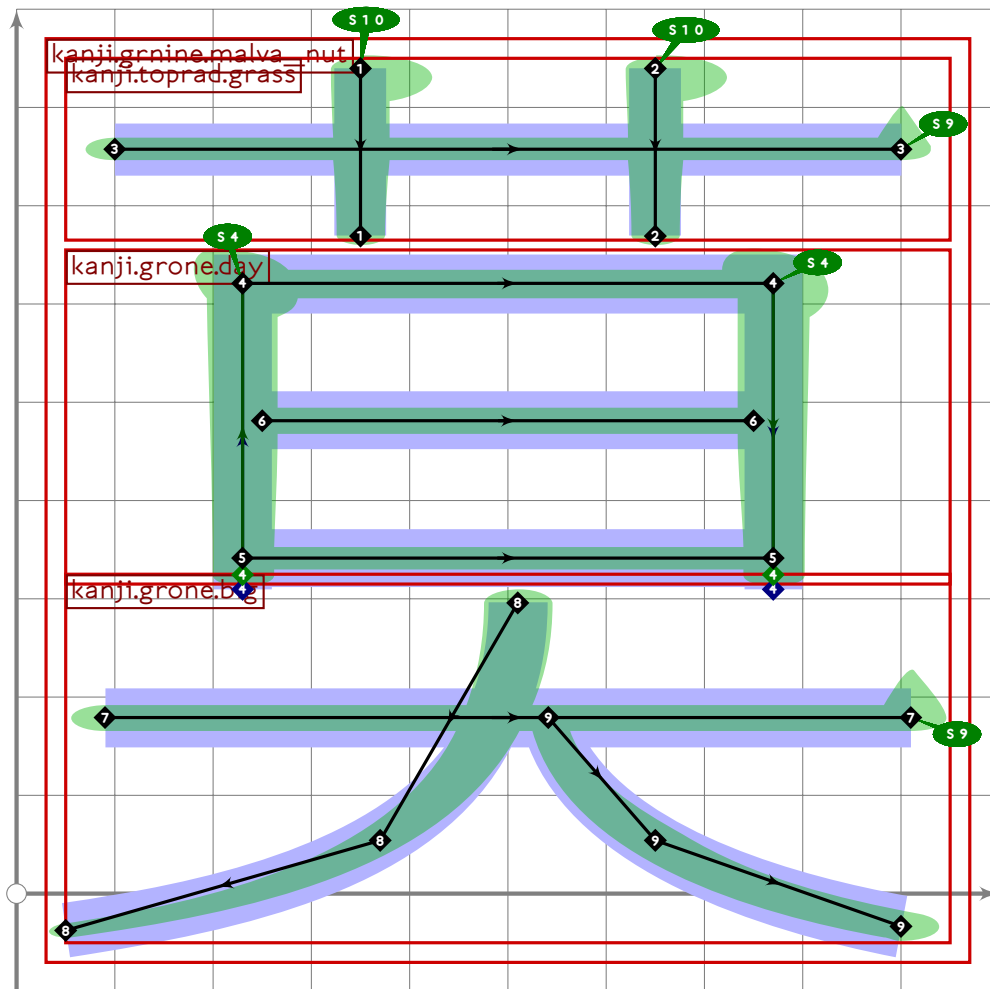
```

229
230 vardef kanji.grnine.leap_year =
231   push_pbox_toexpand("kanji.grnine.leap_year");
232   build_kanji.gate_enclose(kanji.grone.king);
233   expand_pbox;
234 enddef;

```

NINE

U+83AB  
tsuku.uni83AB

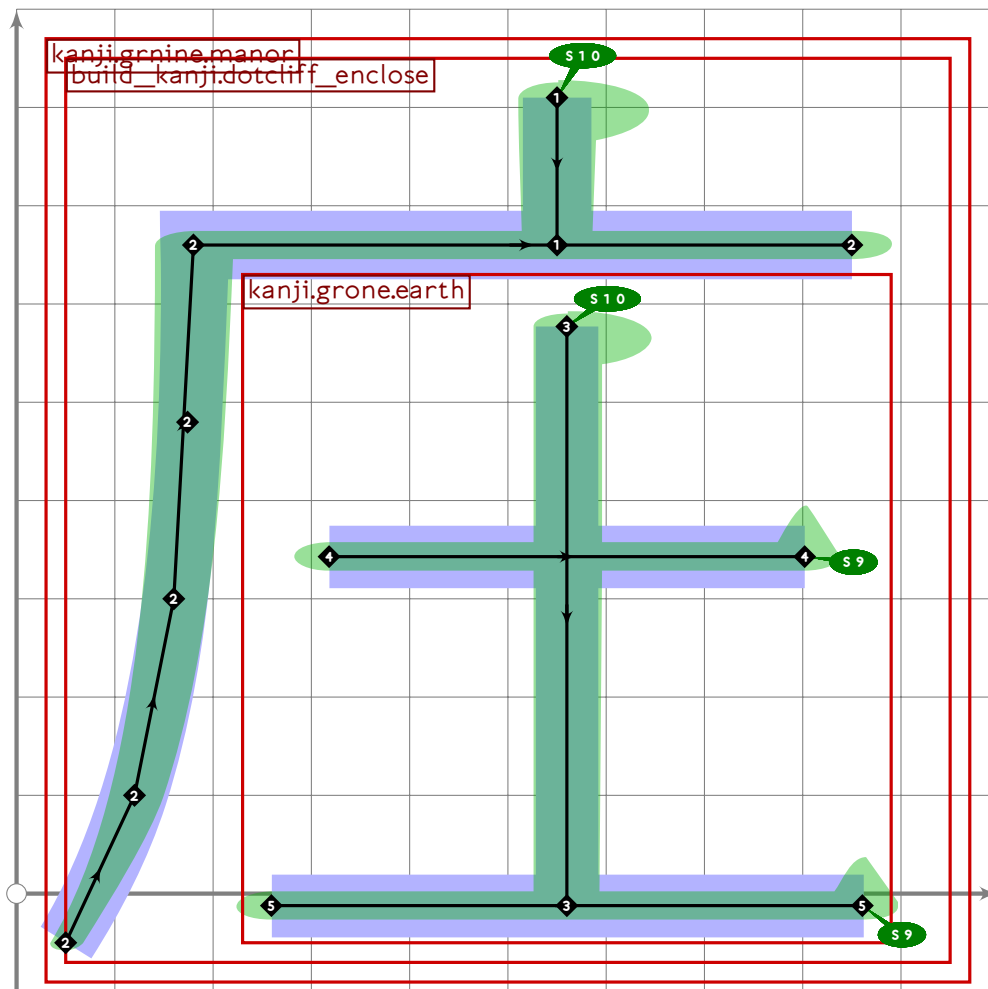


```

235
236 vardef kanji.grnine.malva_nut =
237   push_pbox_toexpand("kanji.grnine.malva_nut");
238   build_kanji.tcb(660,-10)(320,10)
239     (kanji.toprad.grass)
240     (kanji.grone.day)
241     (kanji.grone.big);
242   expand_pbox;
243 enddef;

```

NINE

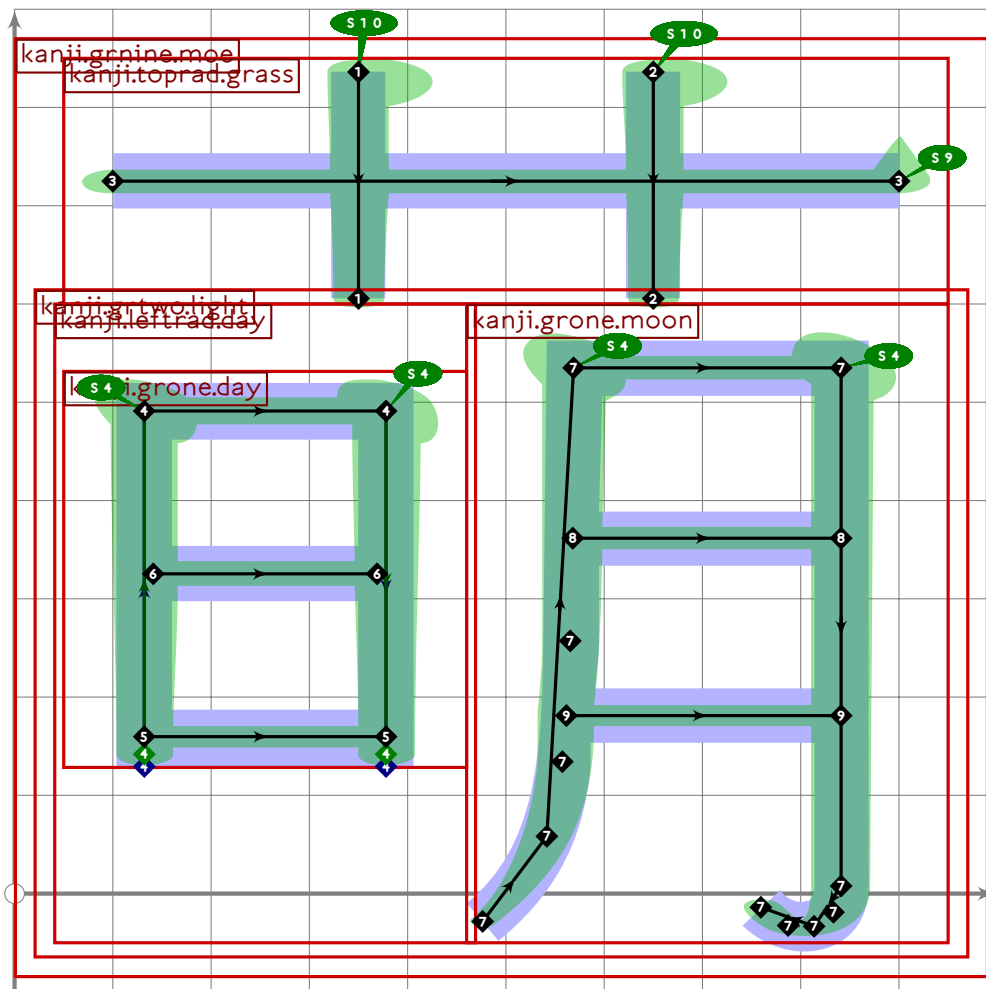


```

244
245 vardef kanji.grnine.manor =
246   push_pbox_toexpand("kanji.grnine.manor");
247   build_kanji.dotcliff_enclose(kanji.grone.earth);
248   expand_pbox;
249 enddef;

```

NINE

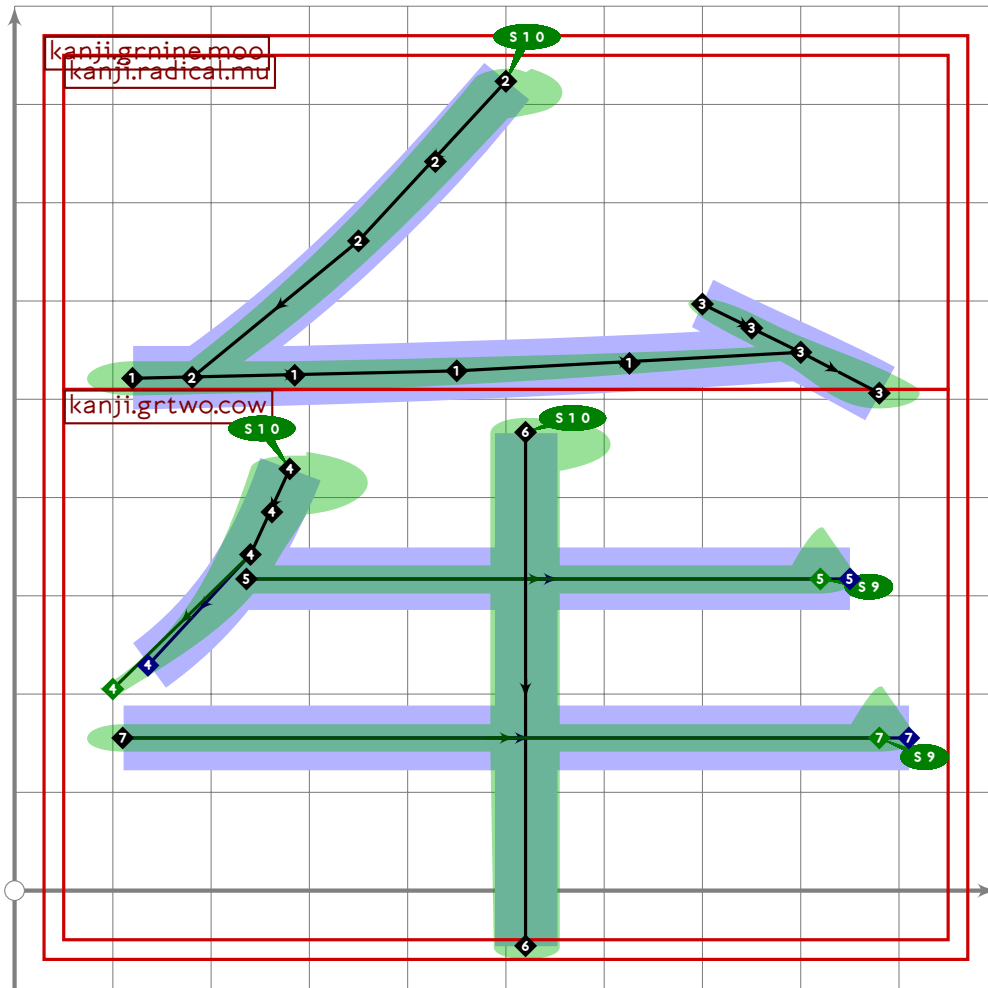


```

250
251 vardef kanji.grnine.moe =
252   push_pbox_toexpand("kanji.grnine.moe");
253   build_kanji.tb(600,0)
254     (kanji.toprad.grass)
255     (kanji.grtwo.light);
256   expand_pbox;
257 enddef;

```

NINE

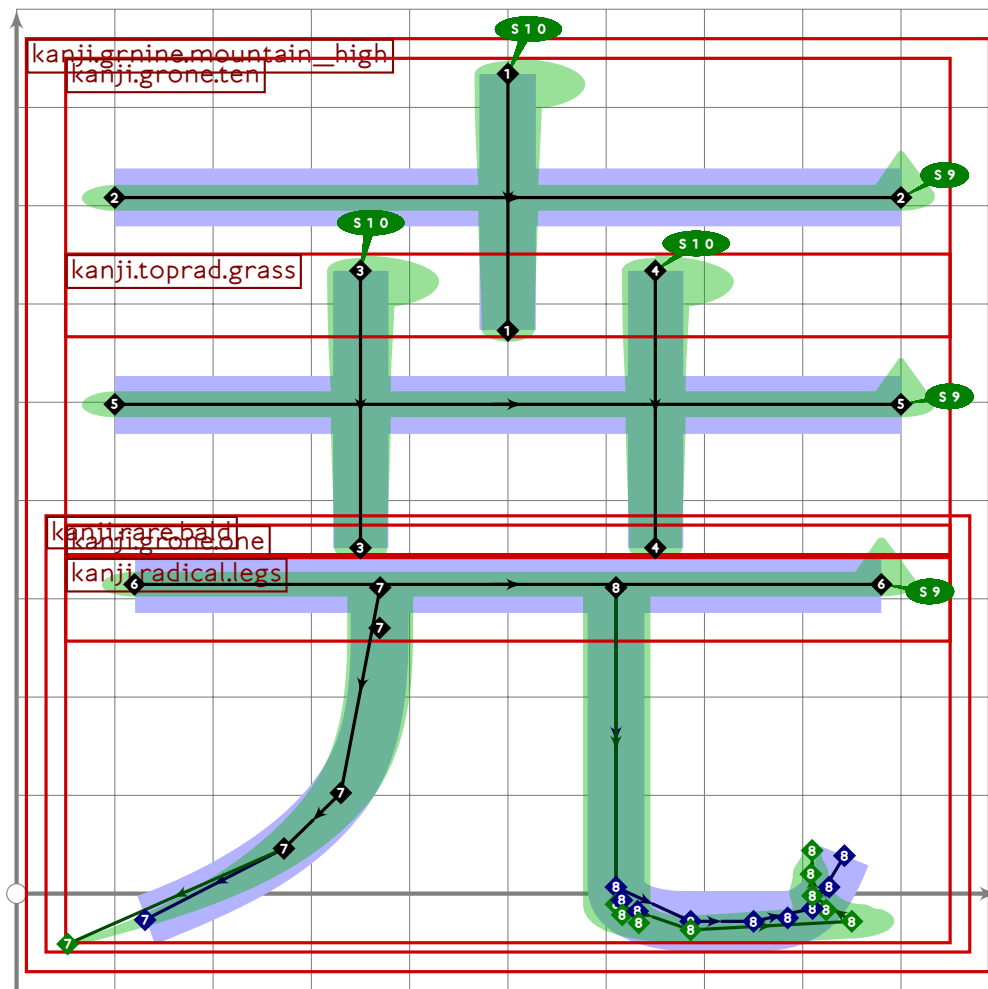


```

258
259 vardef kanji.grnine.moo =
260   push_pbox_toexpand("kanji.grnine.moo");
261   build_kanji.tb(510,0)
262     (kanji.radical.mu)
263     (kanji.grtwo.cow);
264   expand_pbox;
265 enddef;

```

# NINE

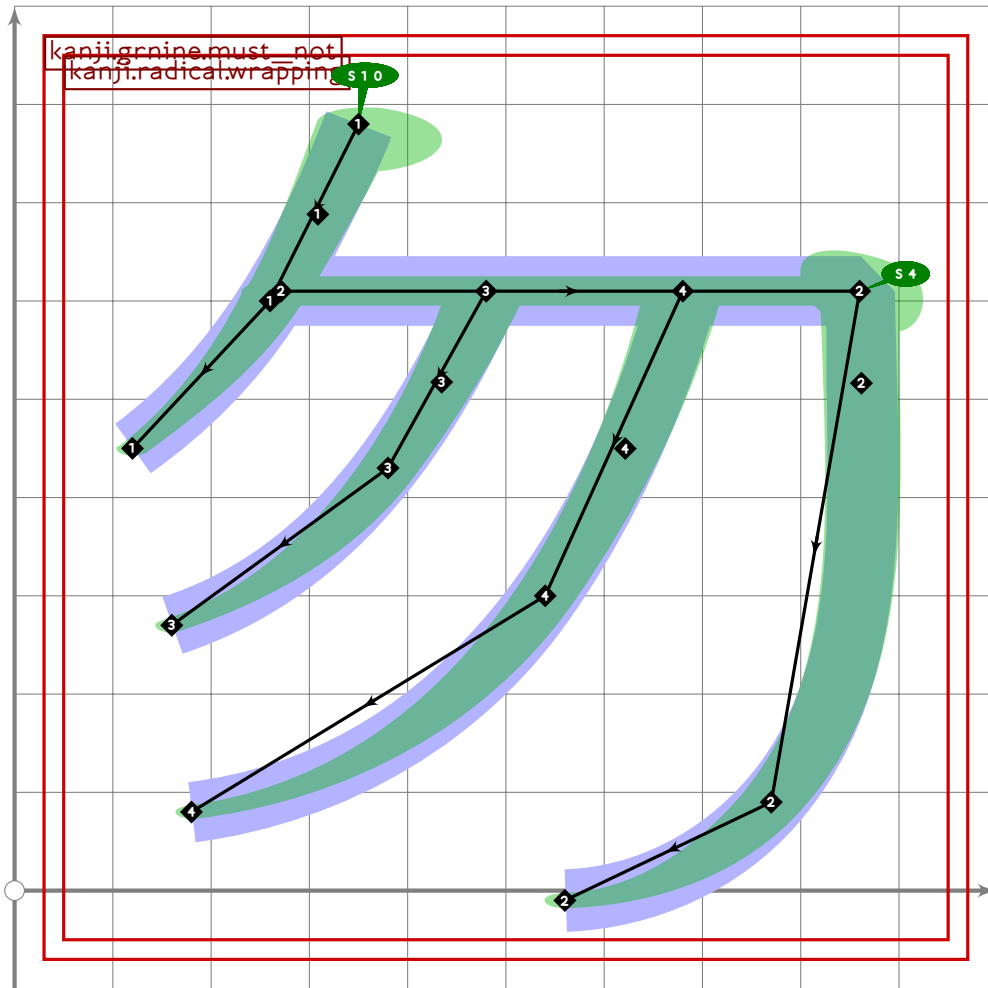


```

266
267 vardef kanji.grnine.mountain_high =
268   push_pbox_toexpand("kanji.grnine.mountain_high");
269   build_kanji.level(build_kanji.tb(360,30)
270     (build_kanji.tb(420,150)
271       (kanji.grone.ten)
272       (kanji.toprad.grass))
273     (kanji.rare.bald));
274   expand_pbox;
275 enddef;

```

NINE



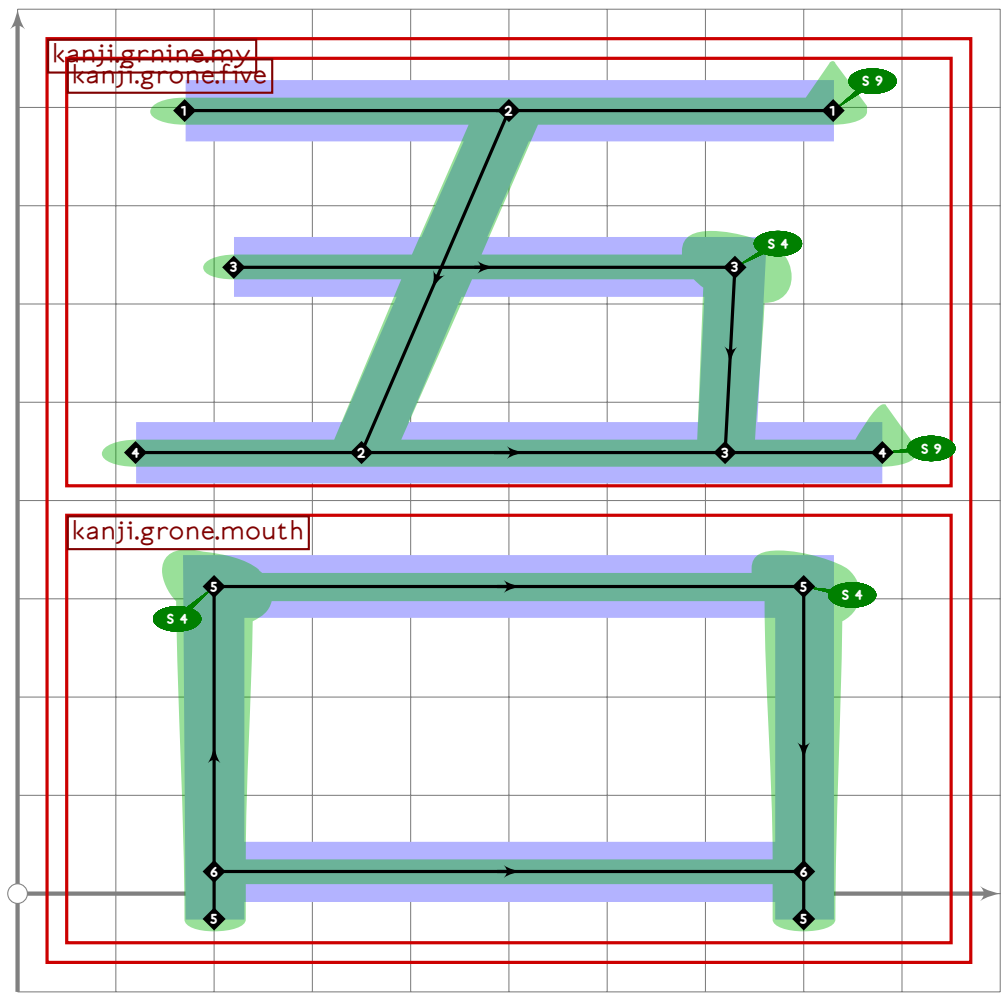
```

276
277 vardef kanji.grnine.must_not =
278   push_pbox_toexpand("kanji.grnine.must_not");
279   kanji.radical.wrapping;
280   push_stroke(
281     (480,610)..tension 1.2..(380,430)..(160,270),
282     (1.6,1.6)–(14,14)–(1.0,1.0));
283   push_stroke(
284     (680,610)..tension 1.2..(540,300)..(180,80),
285     (1.6,1.6)–(14,14)–(1.0,1.0));
286   expand_pbox;
287 enddef;

```

NINE

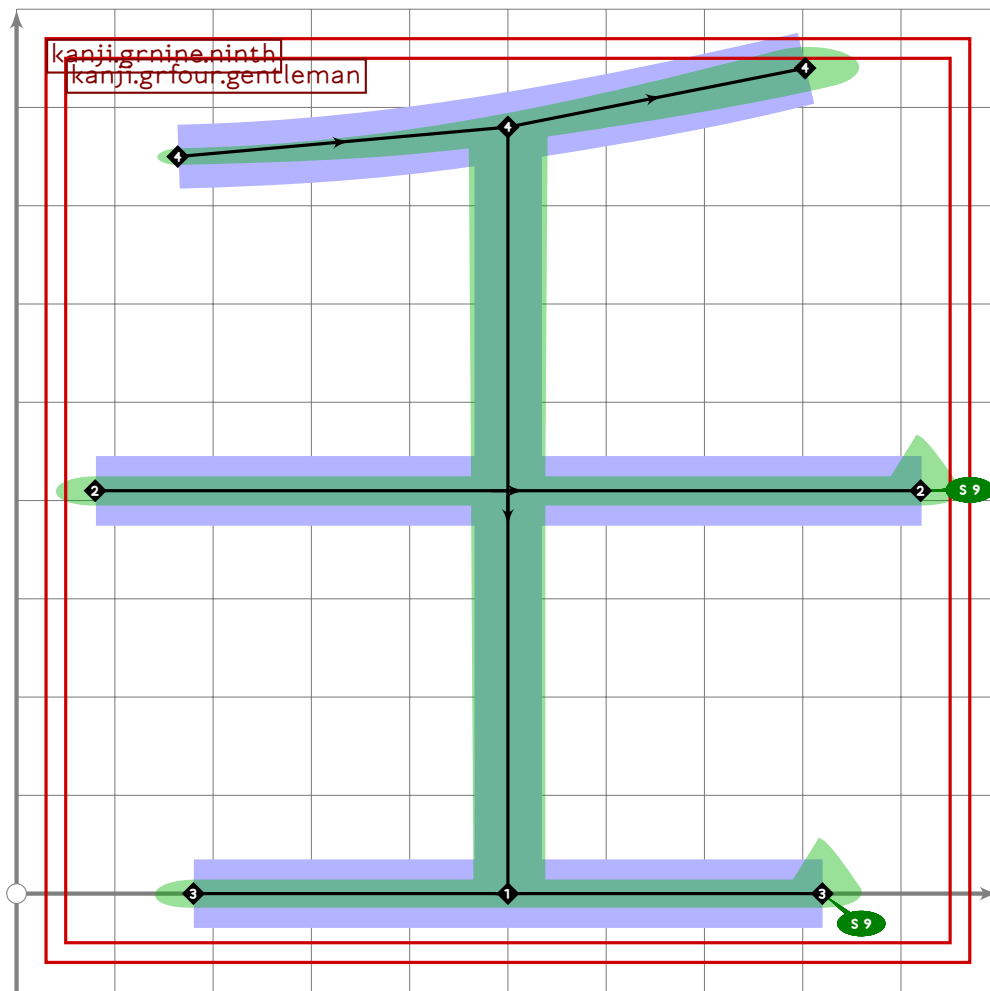
U+543E  
tsuku.uni543E



```
288
289 vardef kanji.grnine.my =
290   push_pbox_toexpand("kanji.grnine.my");
291   build_kanji.level(build_kanji.tb(400;30)
292     (kanji.grone.five)
293     (kanji.grone.mouth));
294   expand_pbox;
295 enddef;
```

NINE





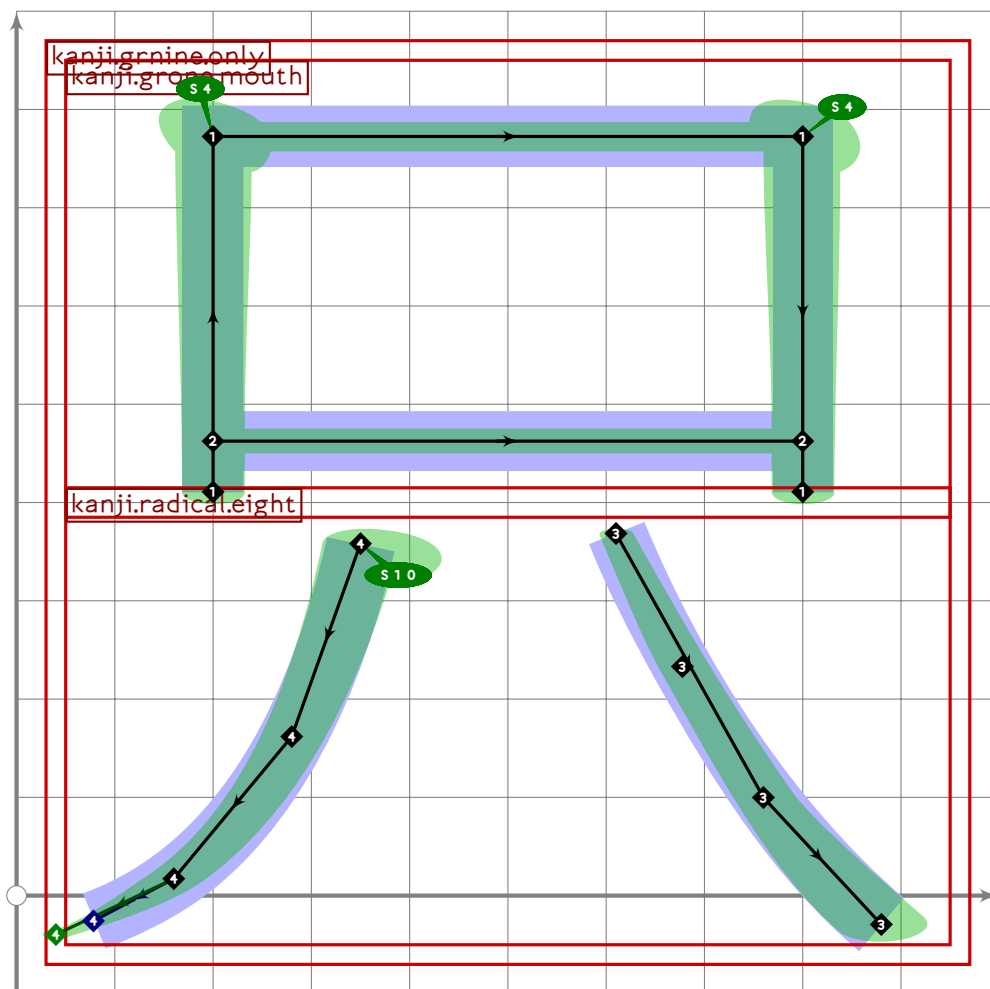
```

296
297 vardef kanji.grnine.ninth =
298   push_pbox_toexpand("kanji.grnine.ninth");
299   build_kanji.add_beret(
300     kanji.grfour.gentleman;
301     replace_strokep(-1)(oldp shifted (0,-60)));
302   expand_pbox;
303 enddef;

```

NINE

U+53EA  
tsuku.uni53EA

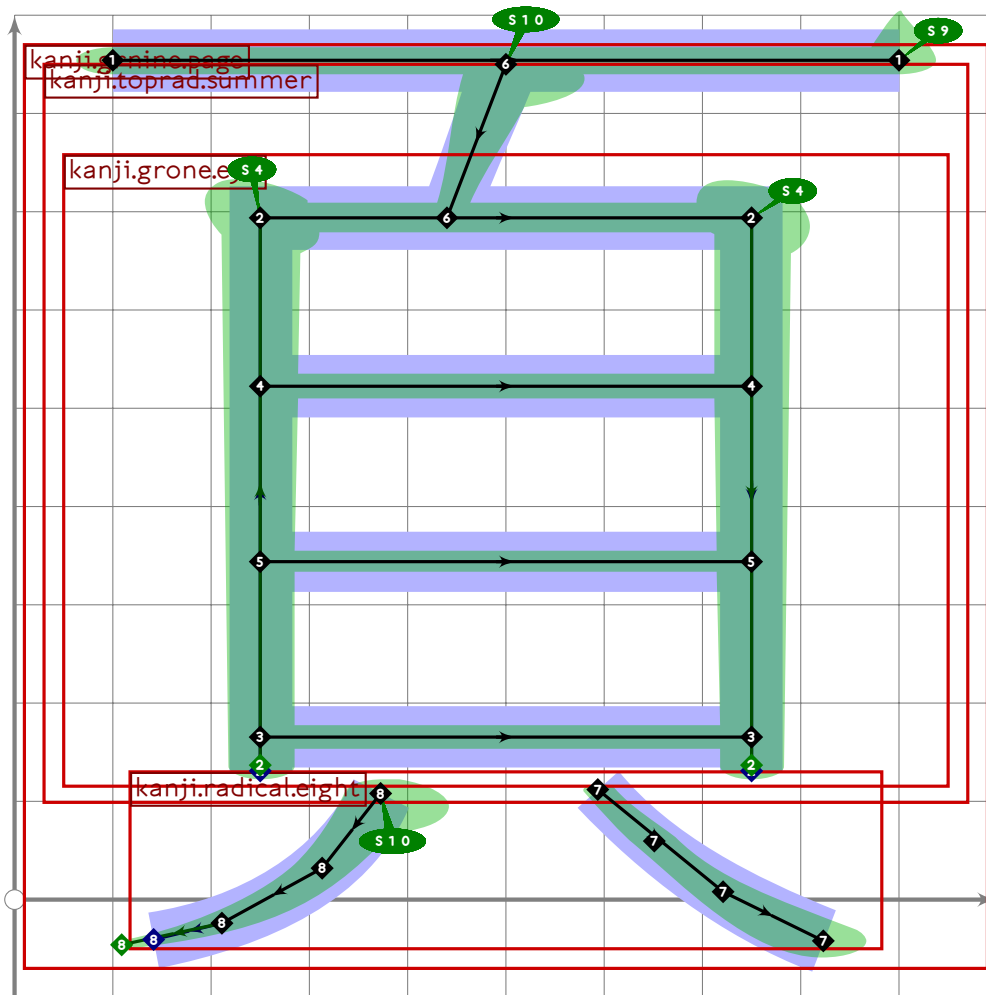


```

304
305 vardef kanji.grnine.only =
306   push_pbox_toexpand("kanji.grnine.only");
307   build_kanji.tb(400,30)
308     (kanji.grnine.mouth)
309     (kanji.radical.eight);
310   expand_pbox;
311 enddef;

```

NINE

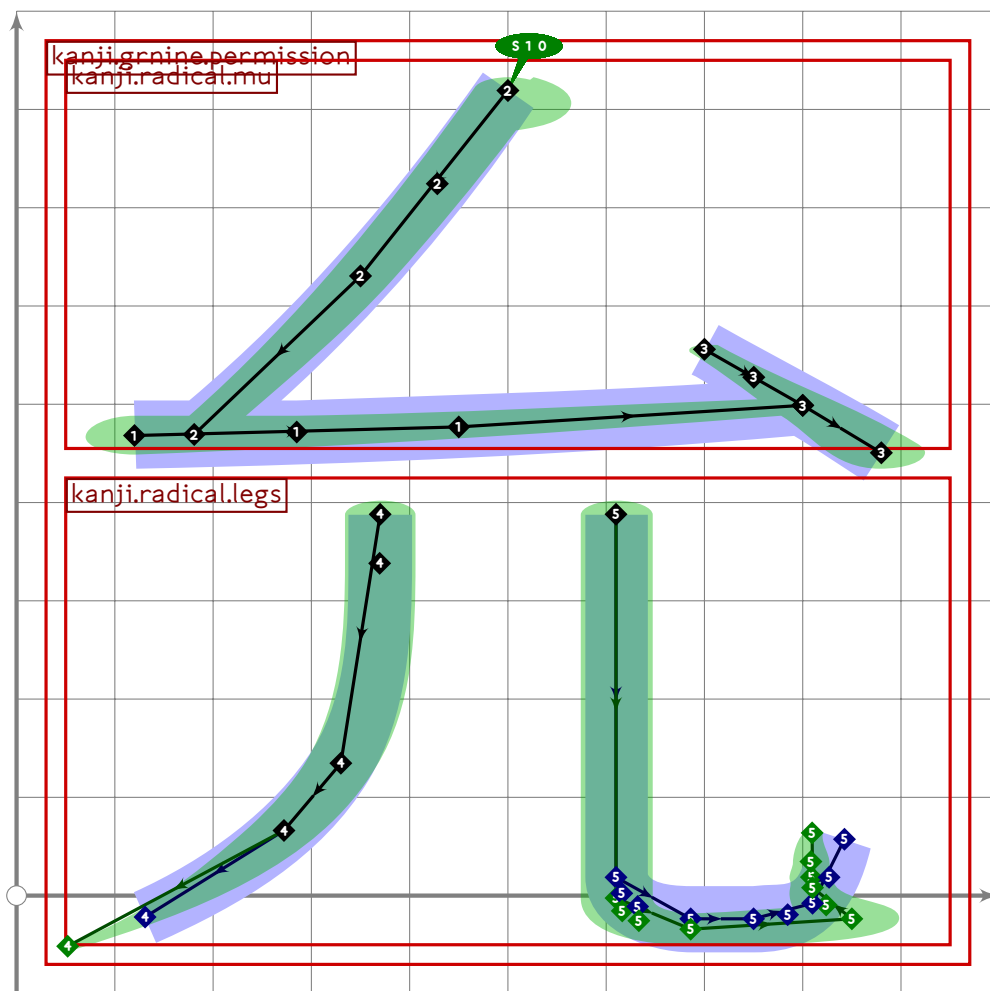


```

312
313 vardef kanji.grnine.page =
314   push_pbox_toexpand("kanji.grnine.page");
315   build_kanji.level(build_kanji.tb(120,20)
316     (kanji.toprad.summer)
317     (build_kanji.sscale(xscaled 0.85)(kanji.radical.eight)));
318   expand_pbox;
319 enddef;

```

NINE

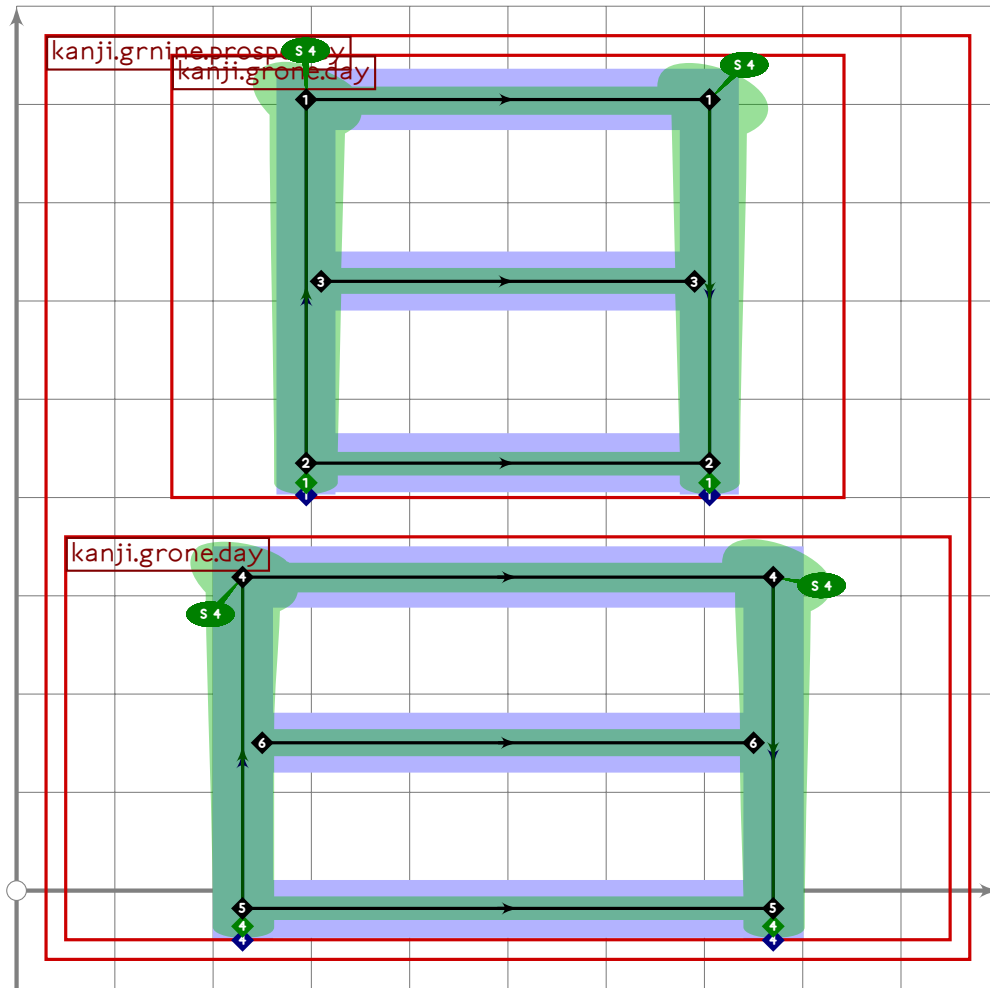


```

320
321 vardef kanji.grnine.permission =
322   push_pbox__toexpand("kanji.grnine.permission");
323   build_kanji.level(build_kanji.tb(440;30)
324     (kanji.radical.mu)
325     (kanji.radical.legs));
326   expand_pbox;
327 enddef;

```

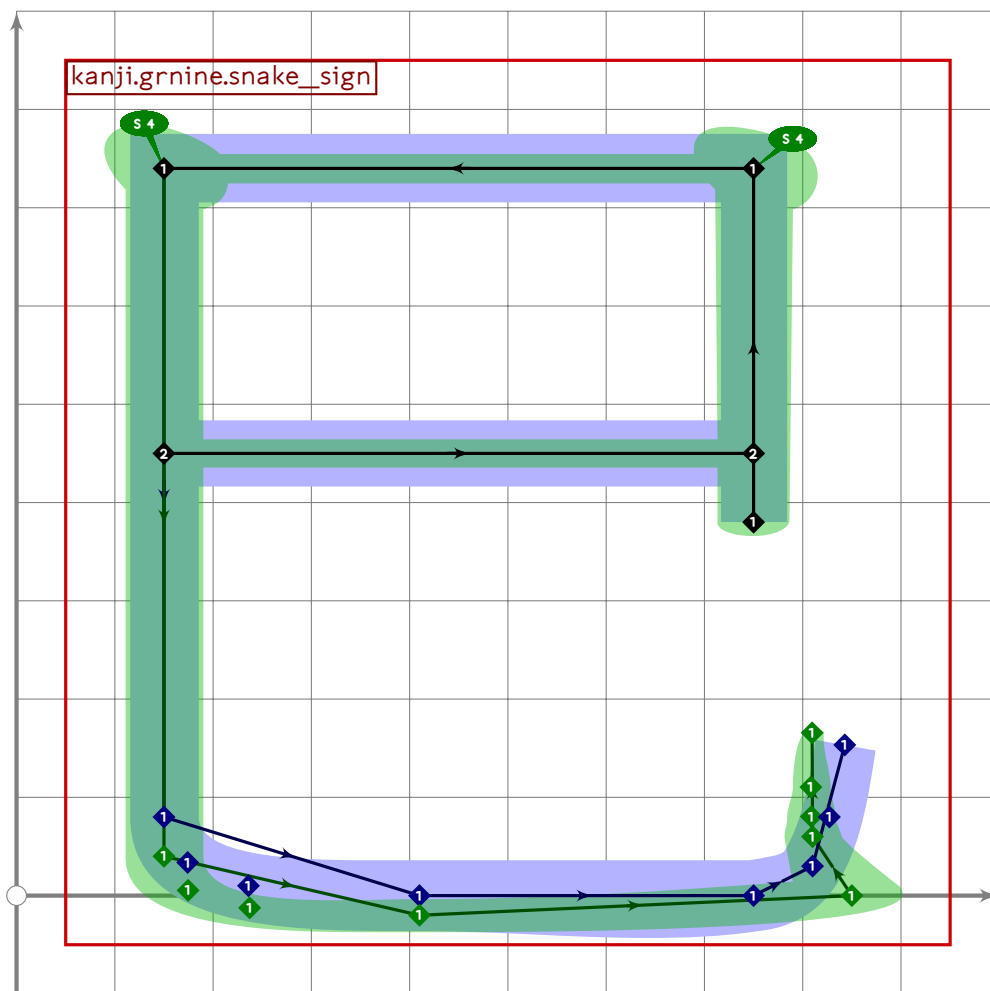
NINE



```

328
329 vardef kanji.grnine.prosperity =
330   push_pbox__toexpand("kanji.grnine.prosperity");
331   build_kanji.level(build_kanji.tb(380,-40)
332     (build_kanji.sscale(xscaled 0.76)(kanji.grone.day))
333     (kanji.grone.day));
334   expand_pbox;
335 enddef;

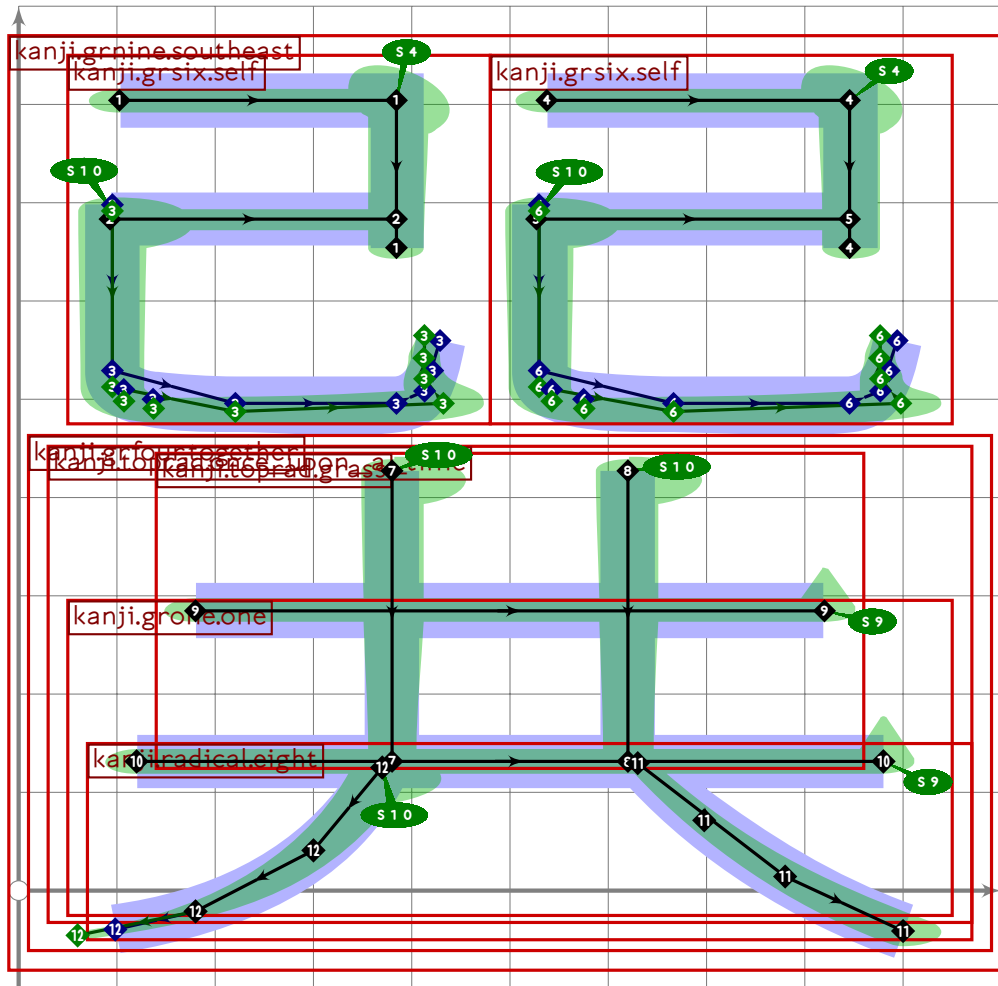
```



```

336
337 vardef kanji.grnine.snake_sign =
338   push_pbox_toexpand("kanji.grnine.snake_sign");
339   push_stroke((750,380)–(750,740)–(150,740),
340     (1.5,1.5)–(1.6,1.6)–(1.6,1.6));
341   set_botip(0,1,1);
342   set_botip(0,2,1);
343   set_boserif(0,1,4);
344   set_boserif(0,2,4);
345   build_kanji.add_ltail(0);
346   push_stroke((150,450)–(750,450),
347     (1.5,1.5)–(1.5,1.5));
348   expand_pbox;
349 enddef;

```

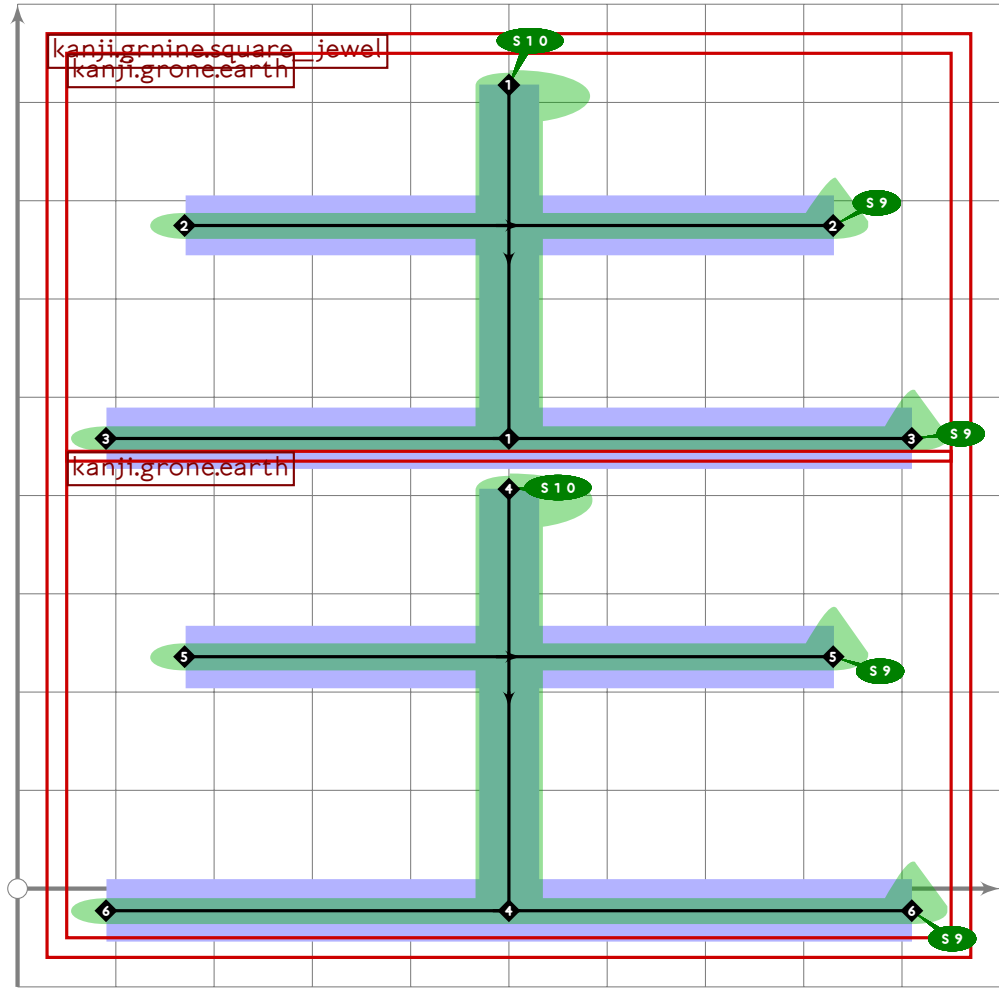


```

350
351 vardef kanji.grnine.southeast =
352   push_pbox_toexpand("kanji.grnine.southeast");
353   build_kanji.level(build_kanji.tb(460;30)
354     (build_kanji.lr(480,0)
355       (kanji.grsix.self)
356       (kanji.grsix.self))
357     (kanji.grfour.together));
358   expand_pbox;
359 enddef;

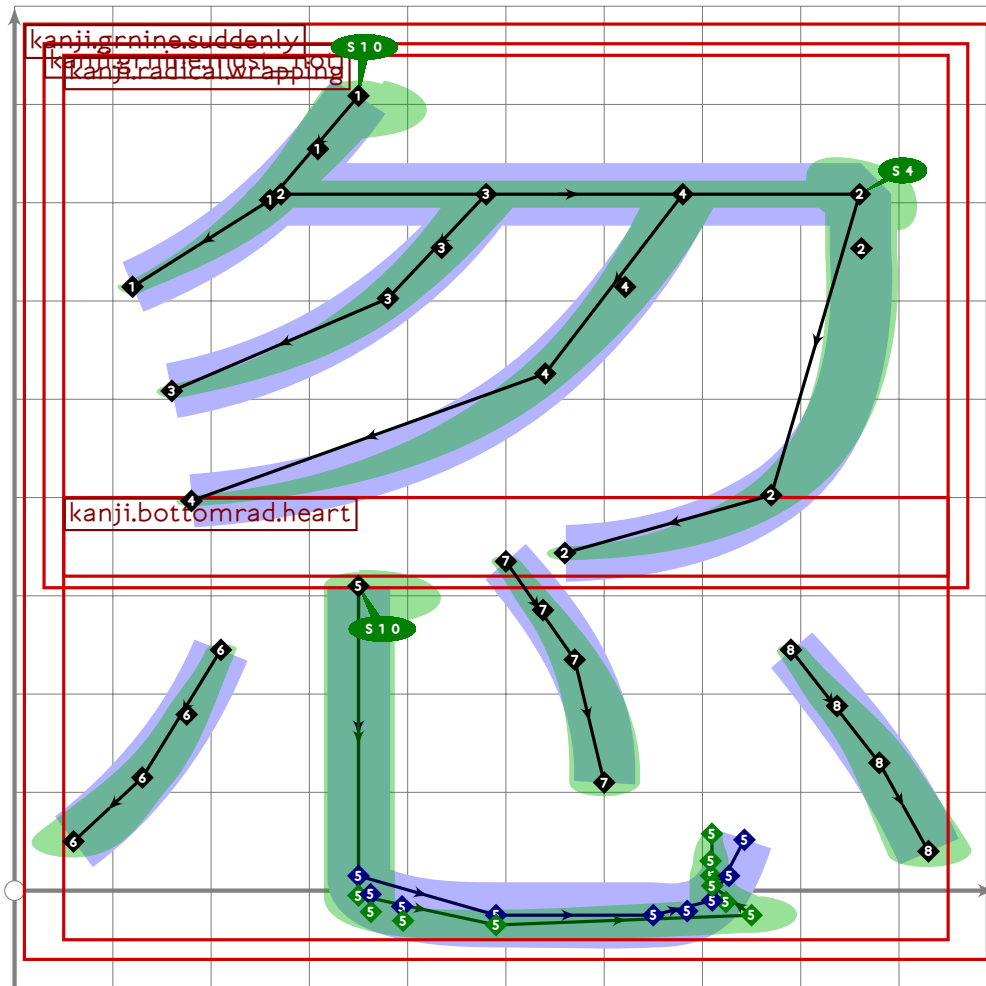
```

NINE



```
360
361 vardef kanji.grnine.square_jewel =
362   push_pbox_toexpand("KANJI.GR.NINE.SQUARE_JEWEL");
363   build_kanji.tb(440,10)
364     (KANJI.GRONE.EARTH)
365     (KANJI.GRONE.EARTH);
366   expand_pbox;
367 enddef;
```



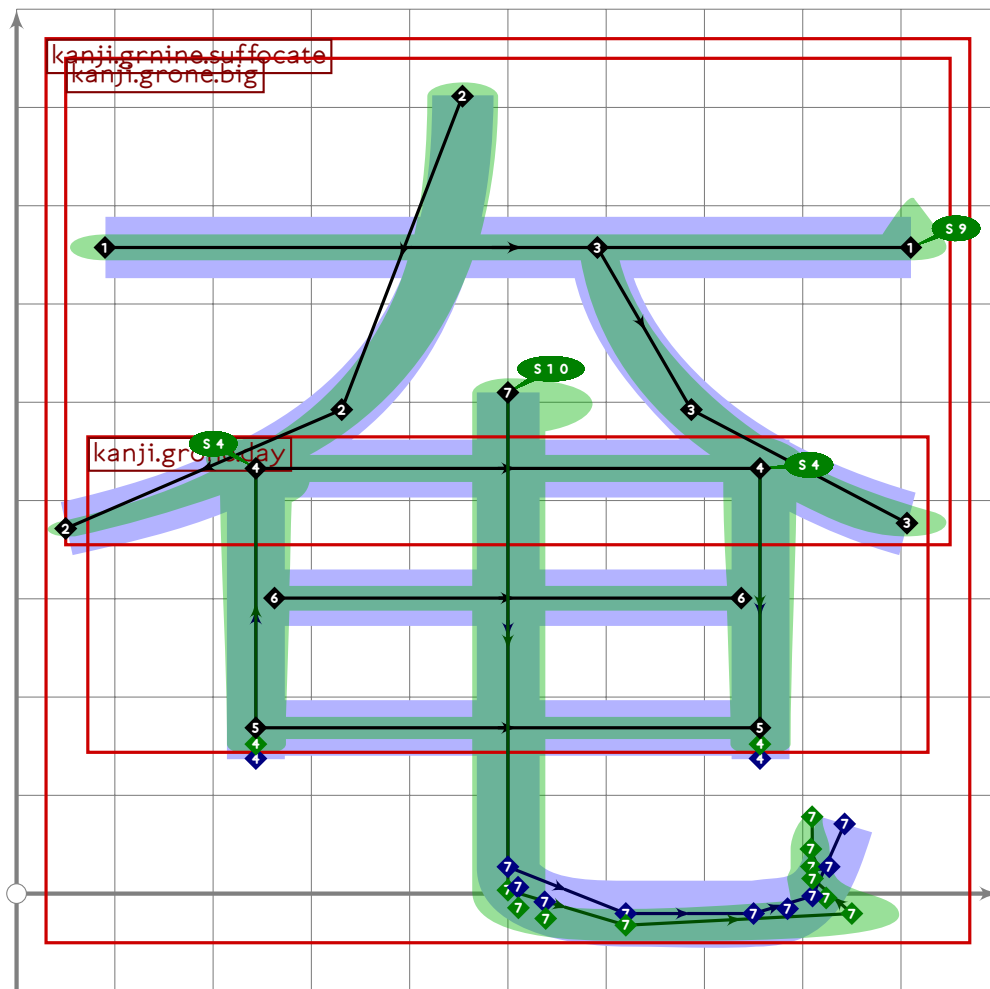


```

368
369 vardef kanji.grnine.suddenly =
370   push_pbox__toexpand("kanji.grnine.suddenly");
371   build_kanji.level(build_kanji.tb(360,80)
372     (kanji.grnine.must_not)
373     (kanji.bottomrad.heart));
374   expand_pbox;
375 enddef;

```

NINE

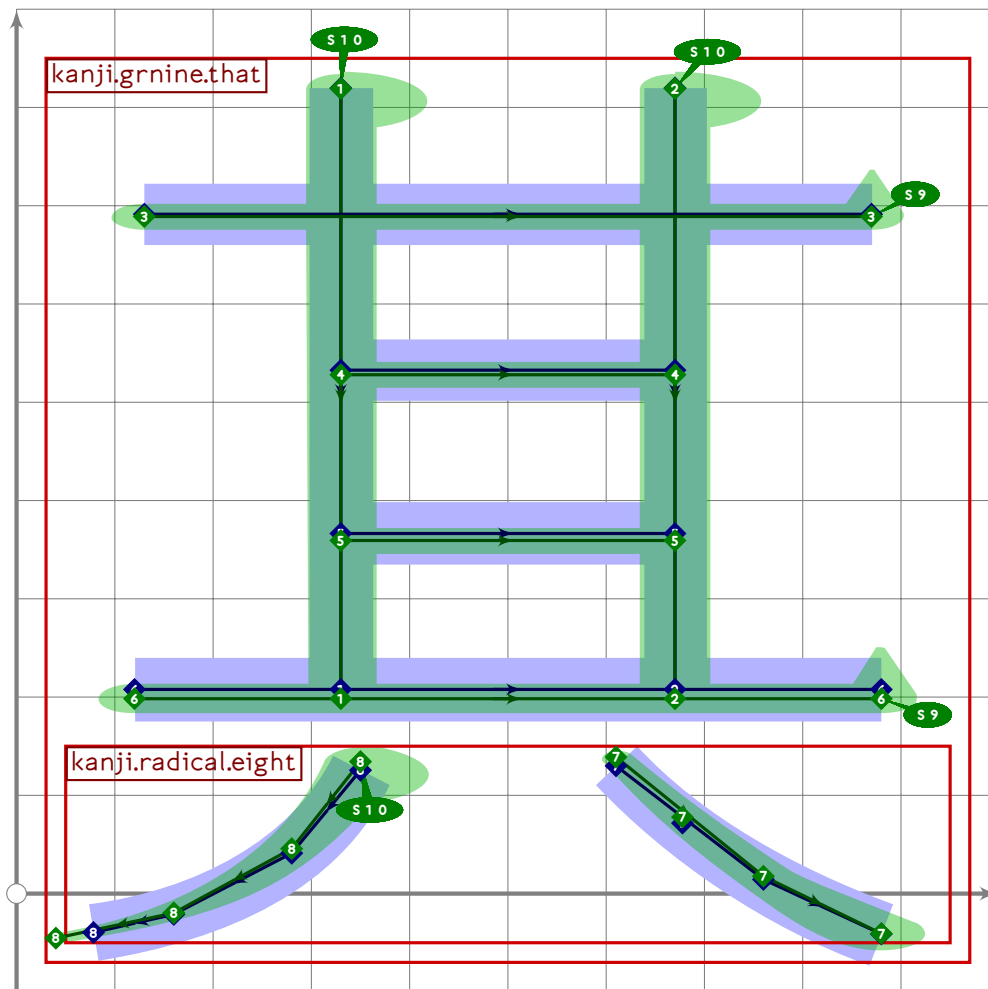


```

376
377 vardef kanji.grnine.suffocate =
378   push_pbox__toexpand("kanji.grnine.suffocate");
379   build_kanji.tb(420,130)
380     (build_kanji.spread_legs(110)
381       (kanji.grone.big))
382     (build_kanji.sscale(xyscaled (0.95,0.6) shifted (0,150))
383       (kanji.grone.day);
384     push_stroke(((0,130)+point 1.5 of get_stroke(-2)),(1.6,1.6));
385     build_kanji.add__ltail(0);
386     set_boserif(0,0,10));
387   expand__pbox;
388 enddef;

```

NINE

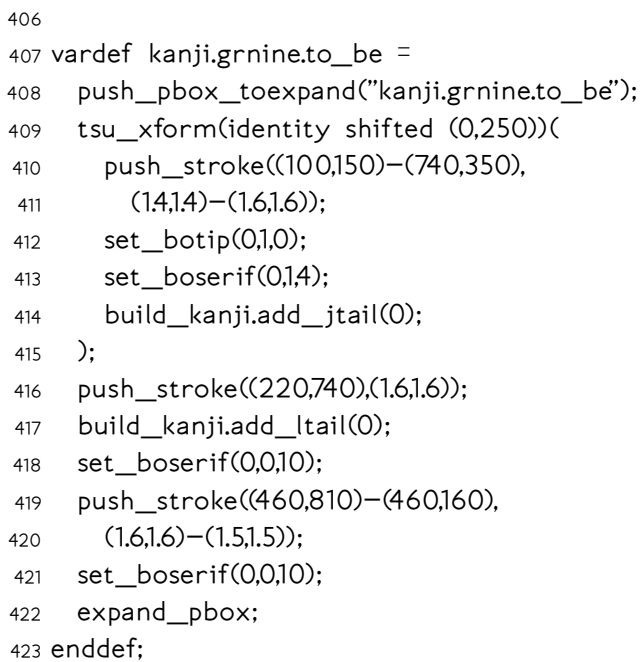


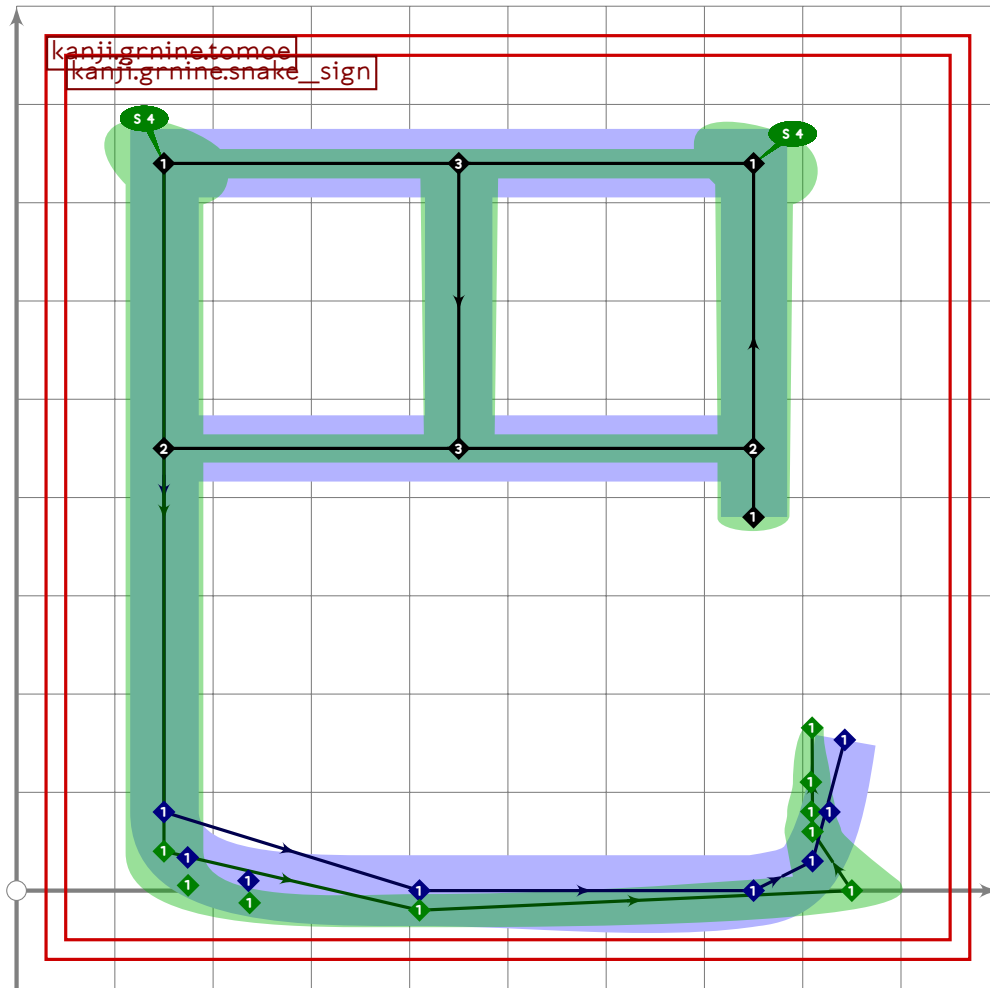
```

389
390 vardef kanji.grnine.that =
391   push_pbox_toexpand("kanji.grnine.that");
392   build_kanji.level(build_kanji.tb(160-20+20*mincho)
393     (push_stroke((330,810)-(330,0),(1.6,1.6)-(1.5,1.5));
394       set_boserif(0,0,10);
395       push_stroke((670,810)-(670,0),(1.6,1.6)-(1.5,1.5));
396       set_boserif(0,0,10);
397       push_stroke((130,640)-(870,640),(1.5,1.5)-(1.5,1.5));
398       set_boserif(0,1,9);
399       push_stroke((330,430)-(670,430),(1.5,1.5)-(1.5,1.5));
400       push_stroke((330,210)-(670,210),(1.5,1.5)-(1.5,1.5));
401       push_stroke((120,0)-(880,0),(1.6,1.6)-(1.6,1.6));
402       set_boserif(0,1,9))
403     (kanji.radical.eight));
404   expand_pbox;
405 enddef;

```

NINE





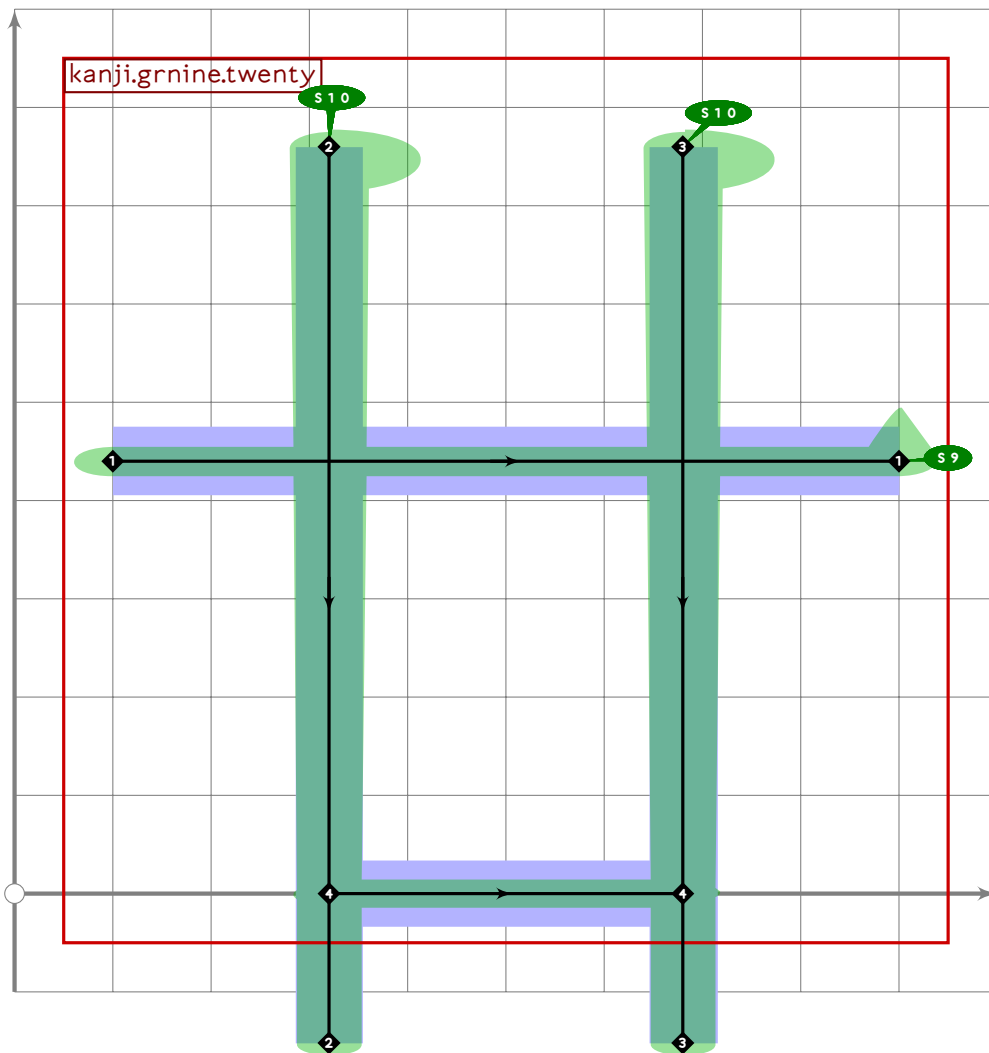
```

424
425 vardef kanji.grnine.tomoe =
426   push_pbox__toexpand("kanji.grnine.tomoe");
427   kanji.grnine.snake_sign;
428   push_stroke((450,740)-(450,450),(1.6,1.6)-(1.5,1.5));
429   expand_pbox;
430 enddef;

```

NINE

U+5EFF  
tsuku.uni5EFF

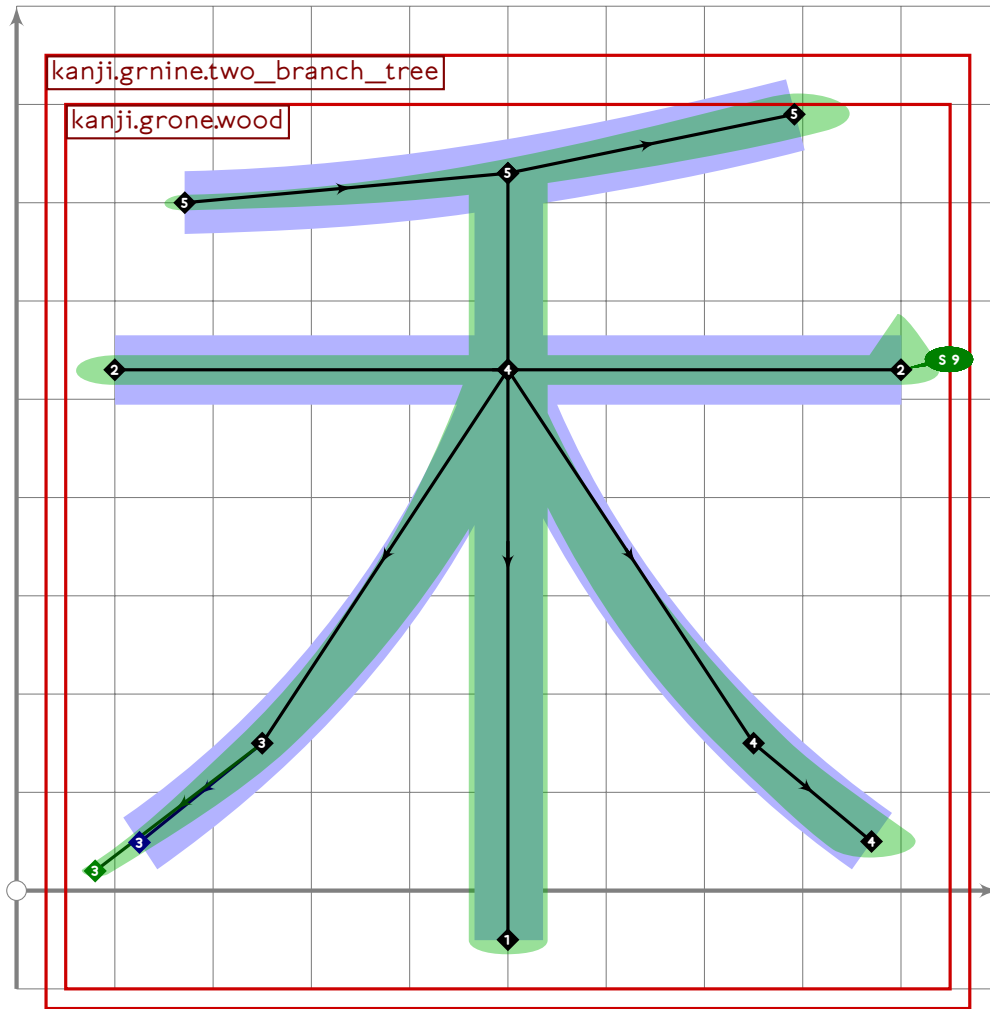


```

431
432 vardef kanji.grnine.twenty =
433   push_pbox_toexpand("kanji.grnine.twenty");
434   push_stroke((100,440)-(900,440),(1.6,1.6)-(1.6,1.6));
435   set_boserif(0,1,9);
436   build_kanji.cup((320,760),(680,0));
437   expand_pbox;
438 enddef;

```

**NINE**

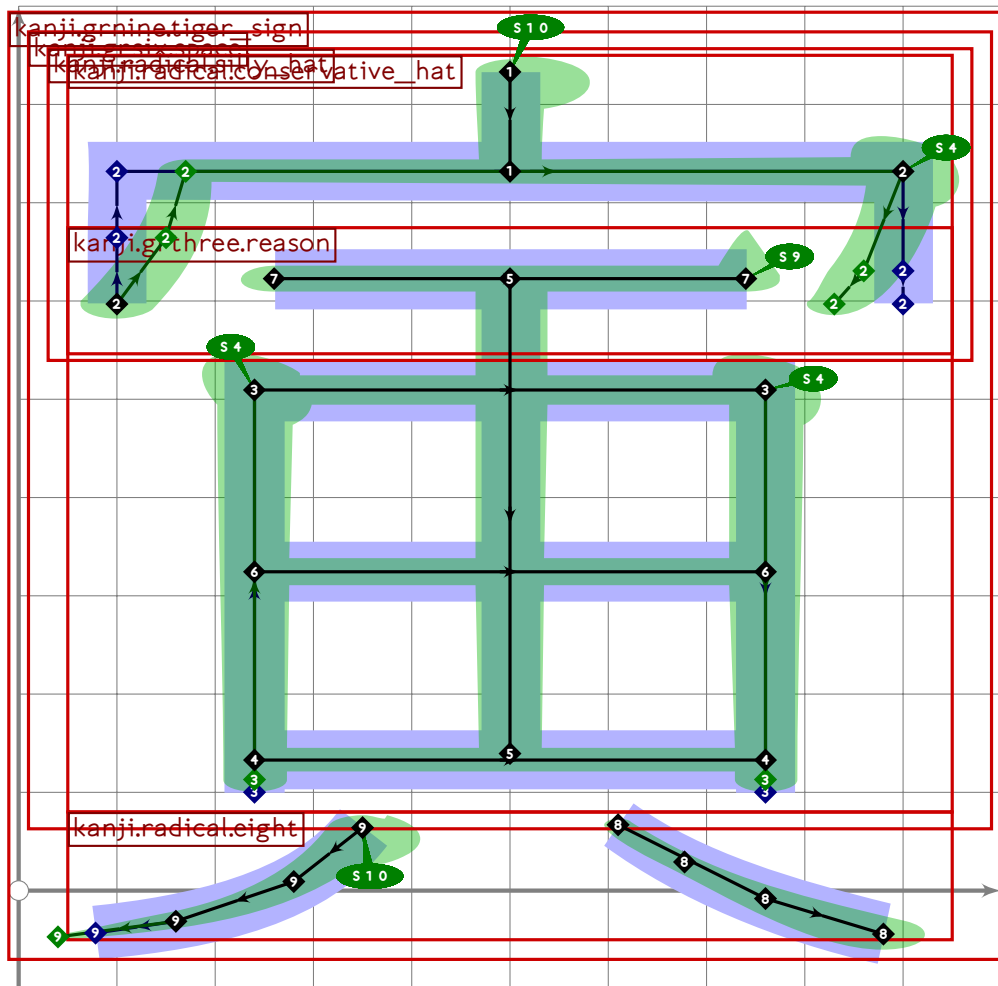


```

439
440 vardef kanji.grnine.two_branch_tree =
441   push_pbox_toexpand("kanji.grnine.two_branch_tree");
442   tsu_xform(identity shifted (0;50))
443     (build_kanji.add_beret(kanji.grnone.wood));
444   expand_pbox;
445 enddef;

```

NINE

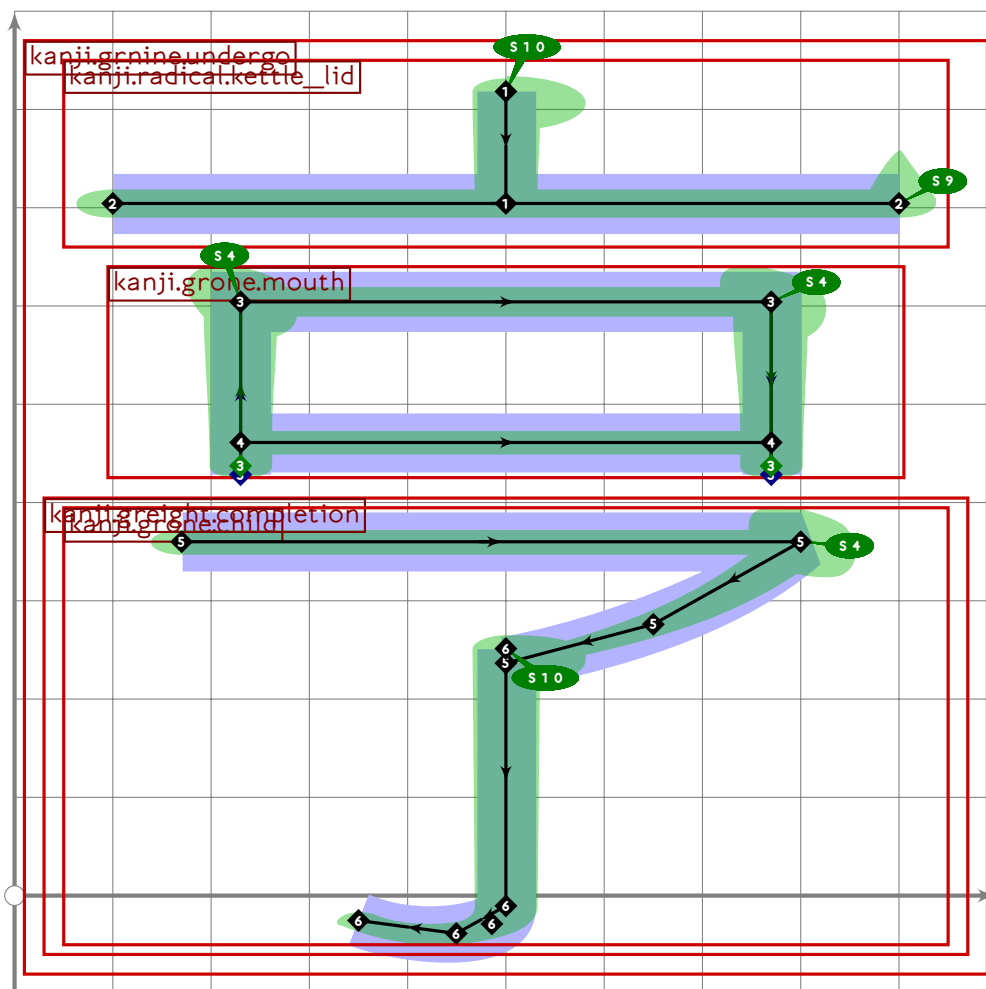


```

446
447 vardef kanji.grnine.tiger_sign =
448   push_pbox_toexpand("kanji.grnine.tiger_sign");
449   build_kanji.level(build_kanji.tb(80,0)
450     (kanji.grsix.space;
451       set_boserif(-1,0,whatever);
452       replace_stroke(-1)(subpath (0,0.5,1) of oldp);
453       push_stroke(((240,0)-(240,0)) shifted (point 0 of get_stroke(-1)),
454         (1.6,1.6)-(1.6,1.6));
455       set_boserif(0,1,9))
456     (kanji.radical.eight));
457   expand_pbox;
458 enddef;

```





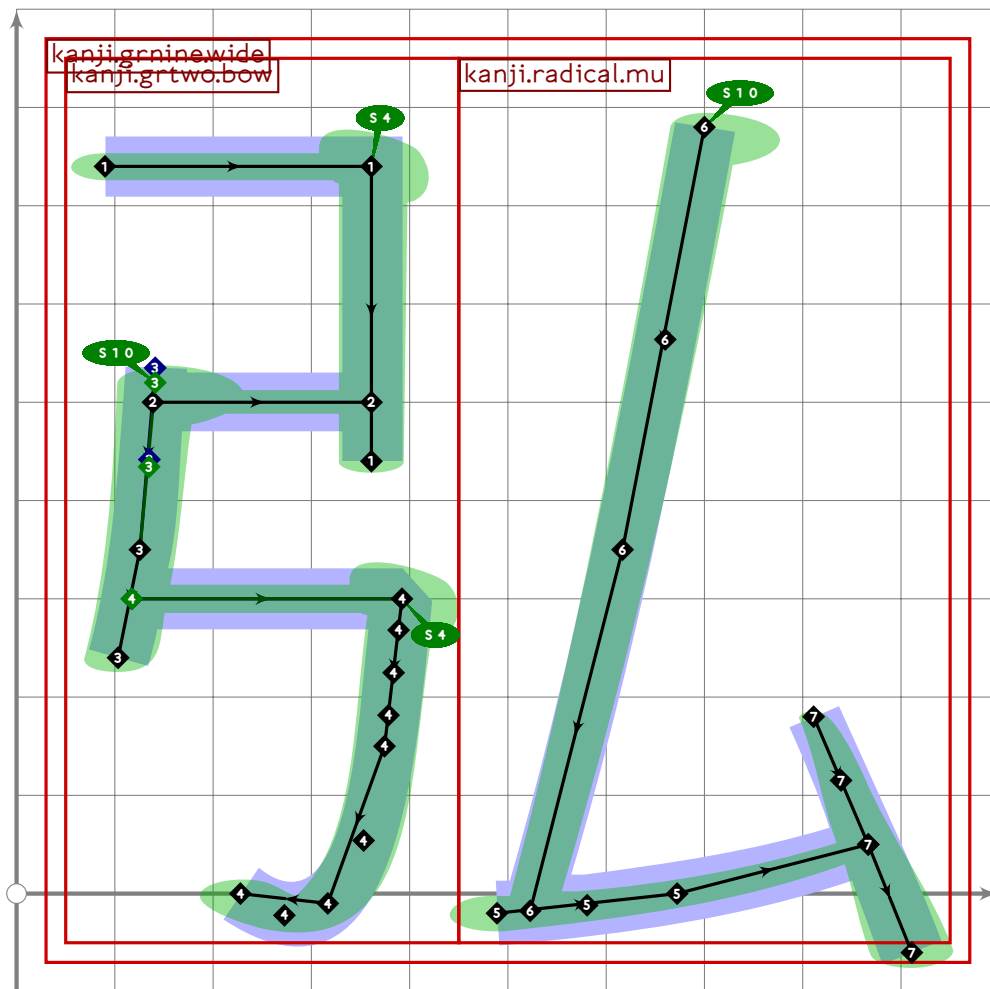
```

459
460 vardef kanji.grnine.undergo =
461   push_pbox_toexpand("kanji.grnine.undergo");
462   build_kanji.level(build_kanji.tb(650;-20)
463     (kanji.radical.kettle_lid)
464     (build_kanji.tb(550;-40)
465       (build_kanji.sscale(xscaled 0.9)(kanji.grone.mouth))
466       (kanji.greight.completion)));
467   expand_pbox;
468 enddef;

```

NINE

U+5F18  
tsuku.uni5F18



```

469
470 vardef kanji.grninewide =
471   push_pbox_toexpand("kanji.grninewide");
472   build_kanji.level(build_kanji.lr(450,0)
473     (kanji.grtwo.bow)
474     (kanji.radical.mu));
475   expand_pbox;
476 enddef;

```

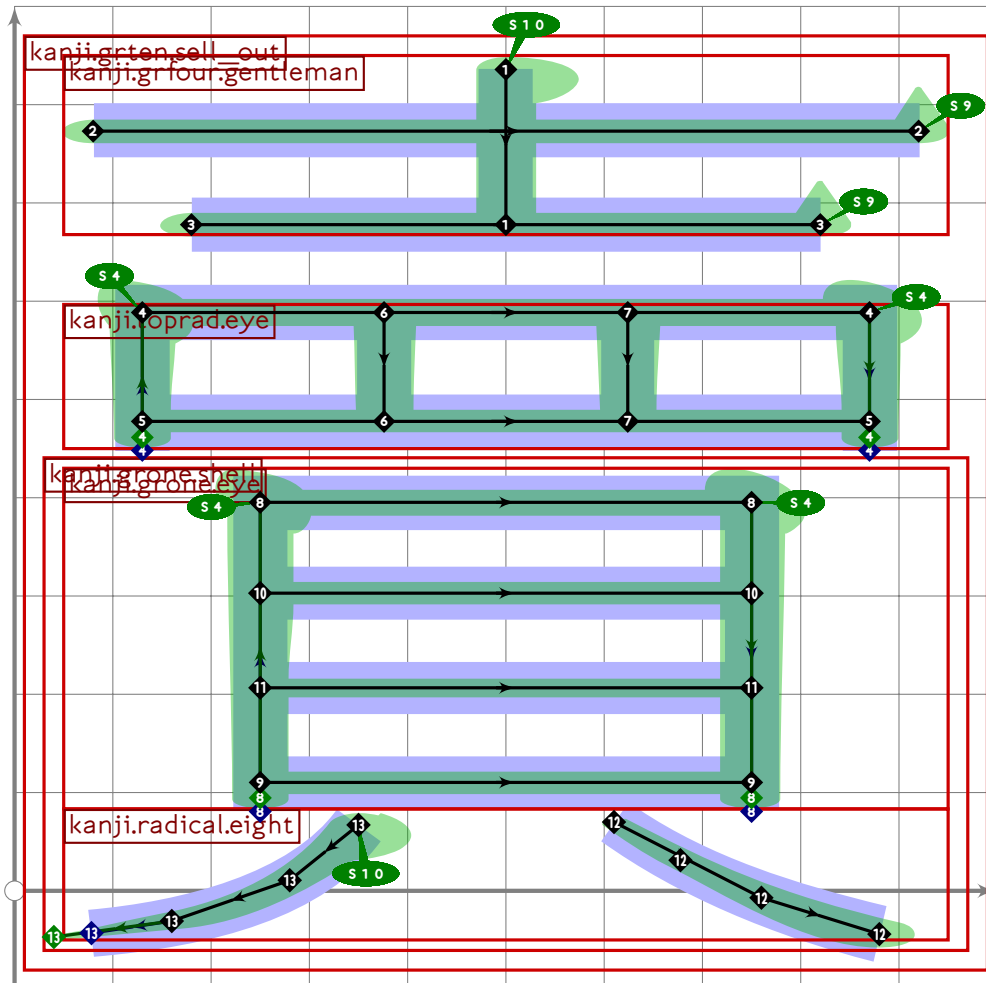
NINE

# gradeten.mp

```

1 %
2 % Grade Ten kanji used on more than one page
3 % Copyright (C) 2013 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(gradeten);
32
33

```



```

34
35 vardef kanji.grten.sell_out =
36   push_pbox_toexpand("kanji.grten.sell_out");
37   build_kanji.level(build_kanji.tb(440;20)
38     (build_kanji.tb(360;160)
39       (kanji.grfour.gentleman)
40       (kanji.toprad.ey))
41     (kanji.grone.shell));
42   expand_pbox;
43 enddef;

```

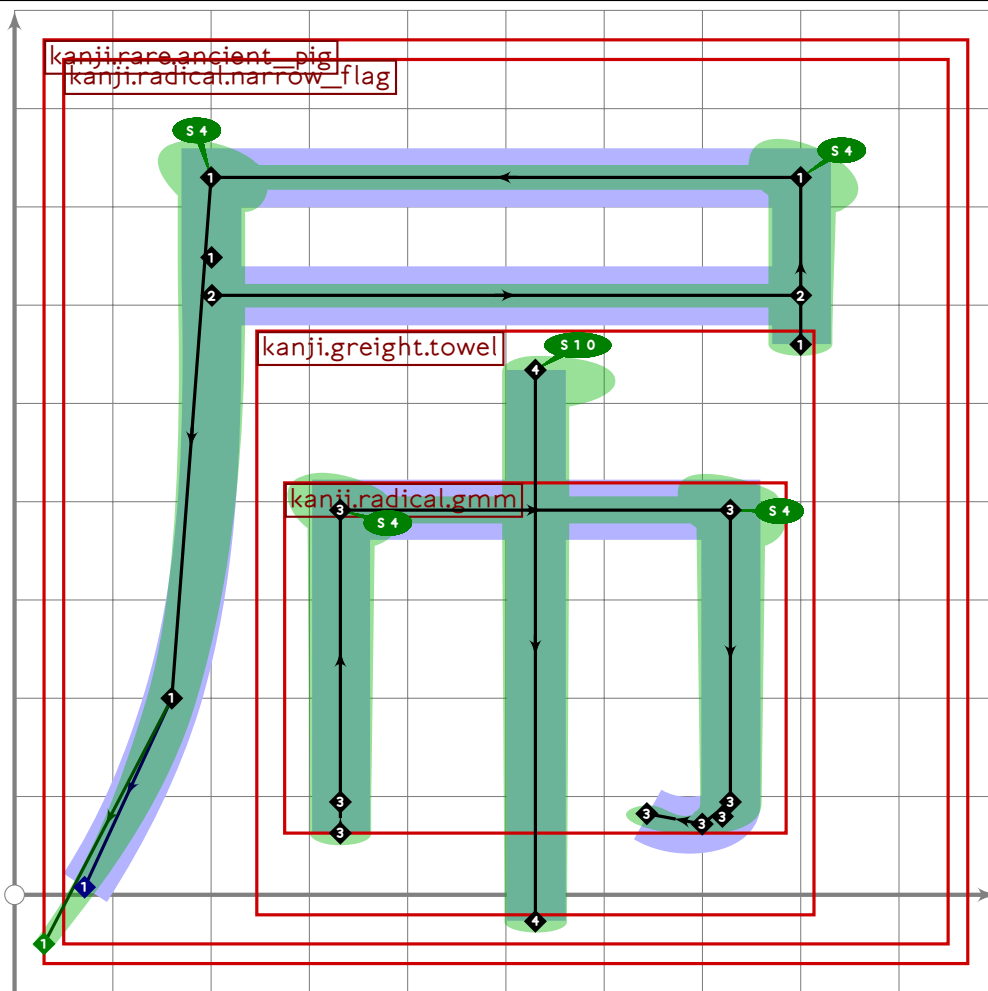
TEN

# rare.mp

```

1 %
2 % Rare kanji needed to build others
3 % Copyright (C) 2011, 2012, 2013, 2014, 2016, 2017, 2019, 2021 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(rare);
32
33

```

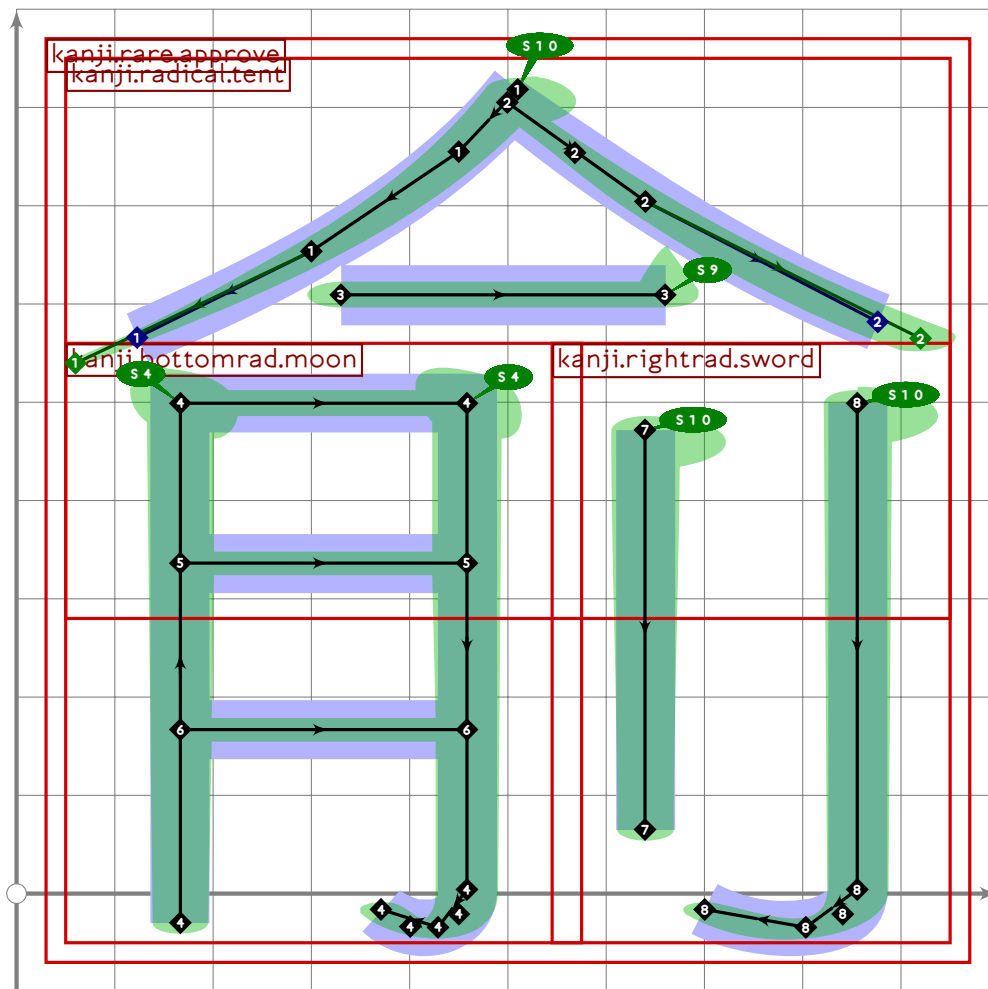


```

34
35 vardef kanji.rare.ancient_pig =
36   push_pbox_toexpand("kanji.rare.ancient_pig");
37   build_kanji.level(
38     kanji.radical.narrow_flag;
39     build_kanji.scale(xyscaled (0.63,0.66) shifted (30,-120))
40     (kanji.greight.towel));
41   expand_pbox;
42 enddef;

```

RARE

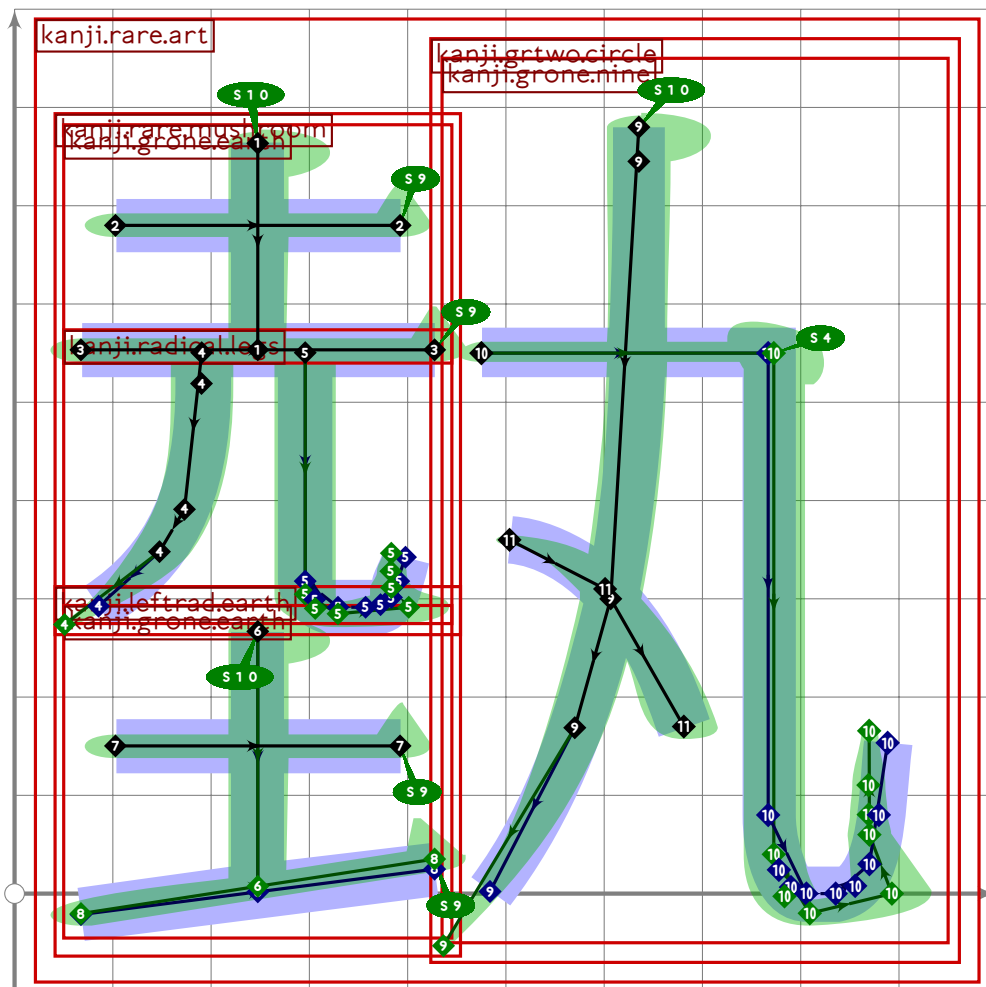


```

43
44 vardef kanji.rare.approve =
45   push_pbox__toexpand("kanji.rare.approve");
46   build_kanji.level(build_kanji.tb(420,280)
47     (kanji.radical.tent)
48     (build_kanji.lr(560,30)
49       (kanji.bottomrad.moon)
50       (kanji.rightrad.sword)));
51   expand_pbox;
52 enddef;

```

U+57F6  
tsuku.uni57F6

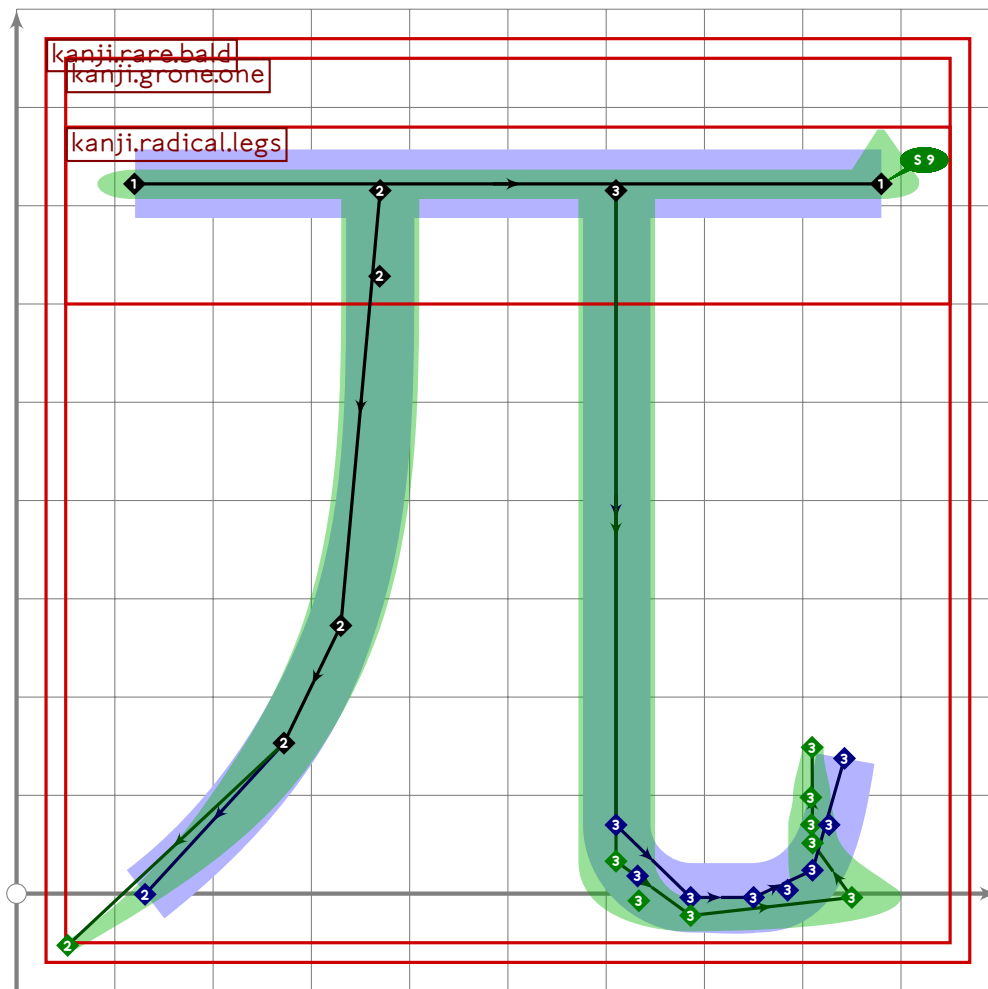


```

53
54 vardef kanji.rare.art =
55   push_pbox_toexpand("kanji.rare.art");
56   build_kanji.level(build_kanji.lr(440,10)
57     (build_kanji.sscale(yscaled 0.94 shifted (0,-40))(build_kanji.tb(330,40)
58       (kanji.rare.mushroom)
59       (kanji.leftrad.earth))))
60   (kanji.grtwo.circle));
61   expand_pbox;
62 enddef;

```

RARE

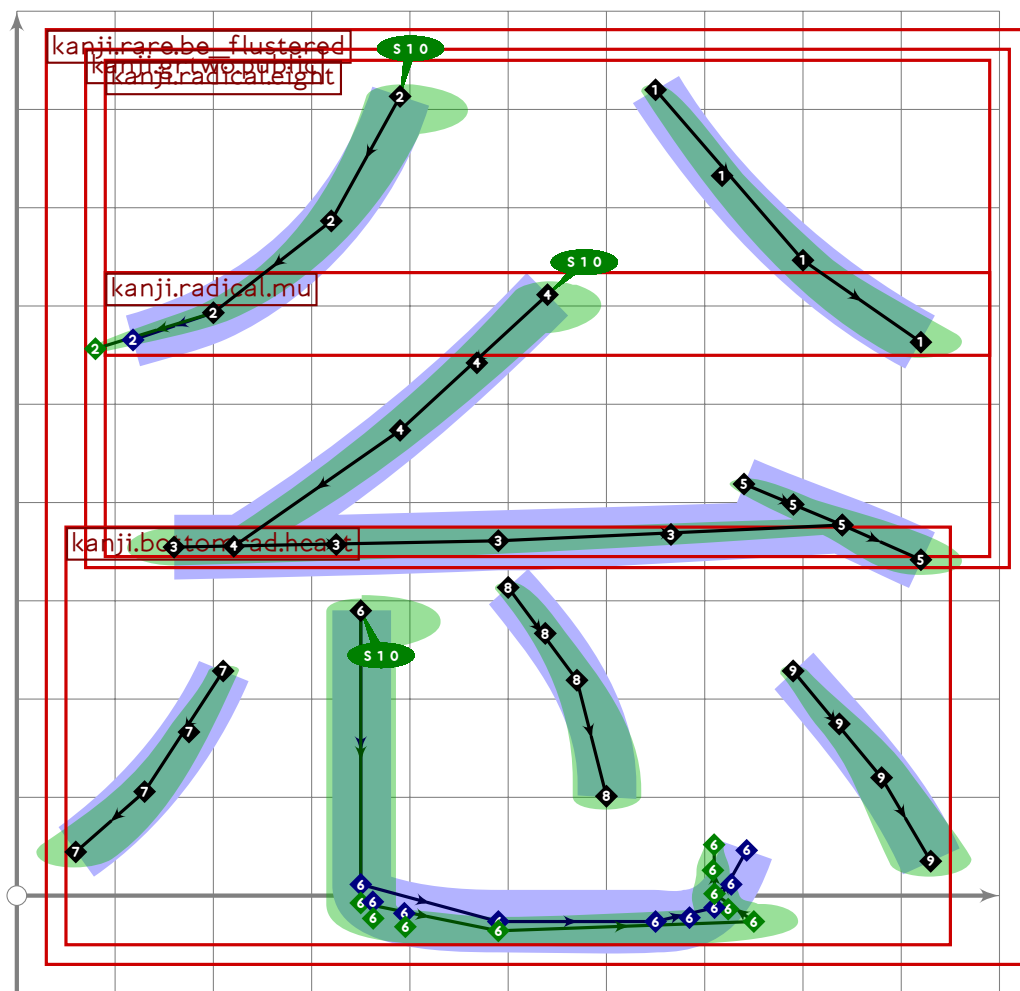


```

63
64 vardef kanji.rare.bald =
65   push_pbox_toexpand("kanji.rare.bald");
66   build_kanji.level(build_kanji.tb(690,180)
67     (kanji.grone.one)
68     (kanji.radical.legs));
69   expand_pbox;
70 enddef;

```

U+5FE9  
tsuku.uni5FE9



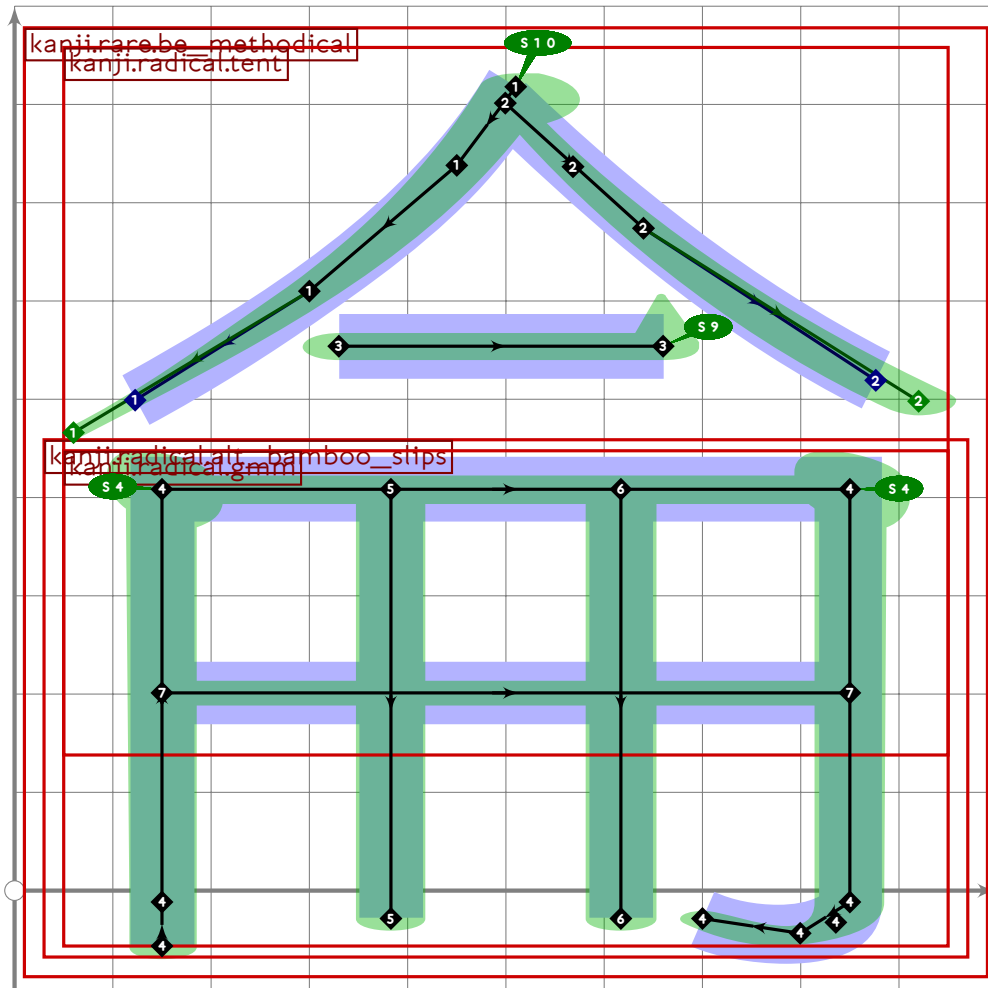
```

71
72 vardef kanji.rare.be.flustered =
73   push_pbox_toexpand("kanji.rare.be.flustered");
74   build_kanji.level(build_kanji.tb(360,30)
75     (build_kanji.sscale(shifted (40,0))(kanji.grtwo.public))
76     (kanji.bottomrad.heart));
77   expand_pbox;
78 enddef;

```

RARE



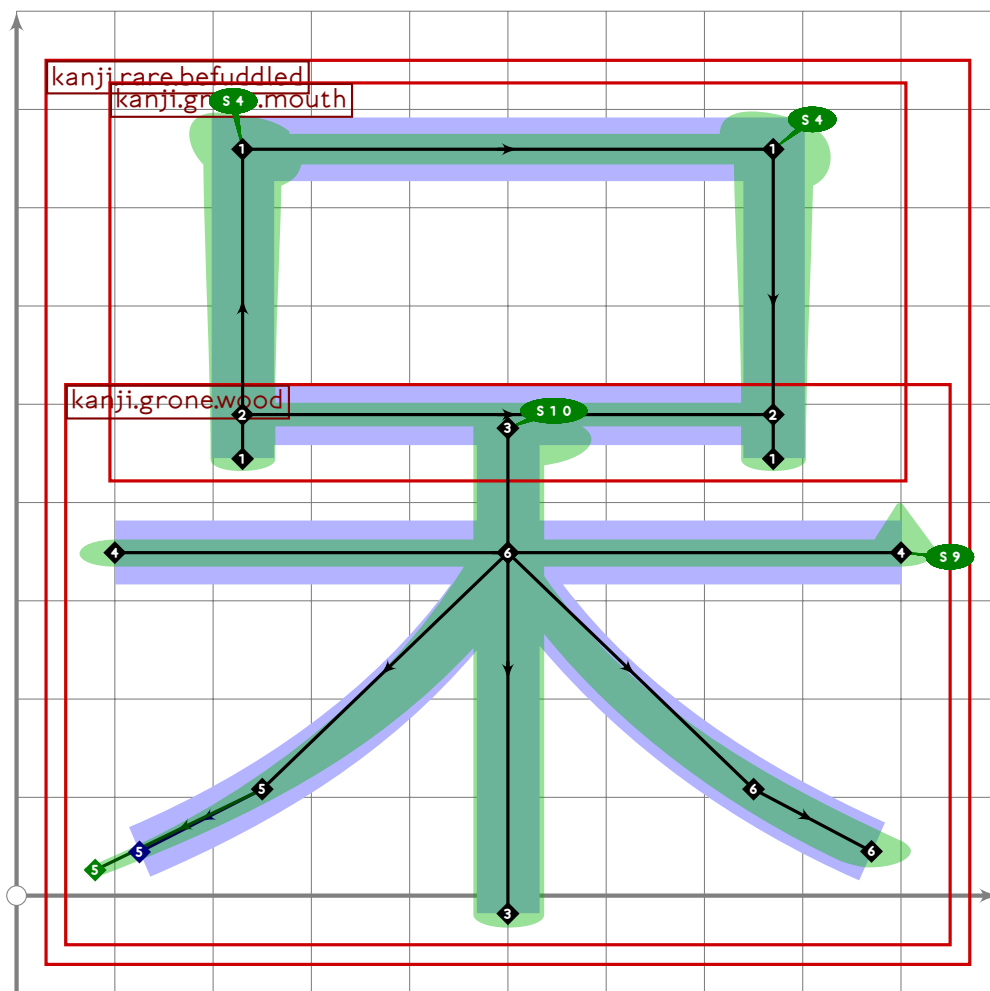


```

79
80 vardef kanji.rare.be_methodical =
81   push_pbox_toexpand("kanji.rare.be_methodical");
82   build_kanji.level(
83     build_kanji.sscale(yscaled 0.8 shifted (0,100))(kanji.radical.tent);
84     build_kanji.sscale(yscaled 0.56 shifted (0,200))
85     (kanji.radical.alt_bamboo_slips));
86   expand_pbox;
87 enddef;

```

U+5446  
tsuku.uni5446

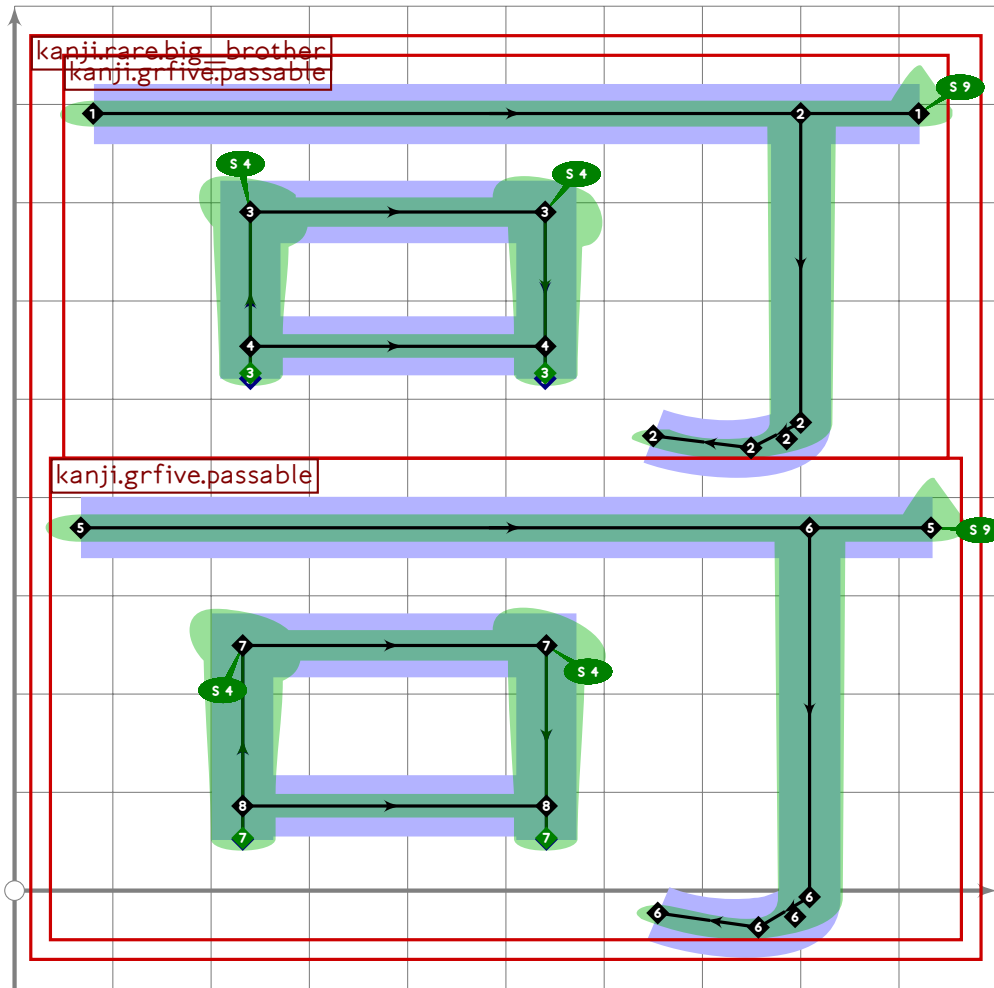


```

88
89 vardef kanji.rare.befuddled =
90   push_pbox__toexpand("kanji.rare.befuddled");
91   build_kanji.level(build_kanji.tb(460,120)
92     (build_kanji.sscale(scaled 0.9)(kanji.grone.mouth))
93     (kanji.grone.wood));
94   expand_pbox;
95 enddef;

```

RARE

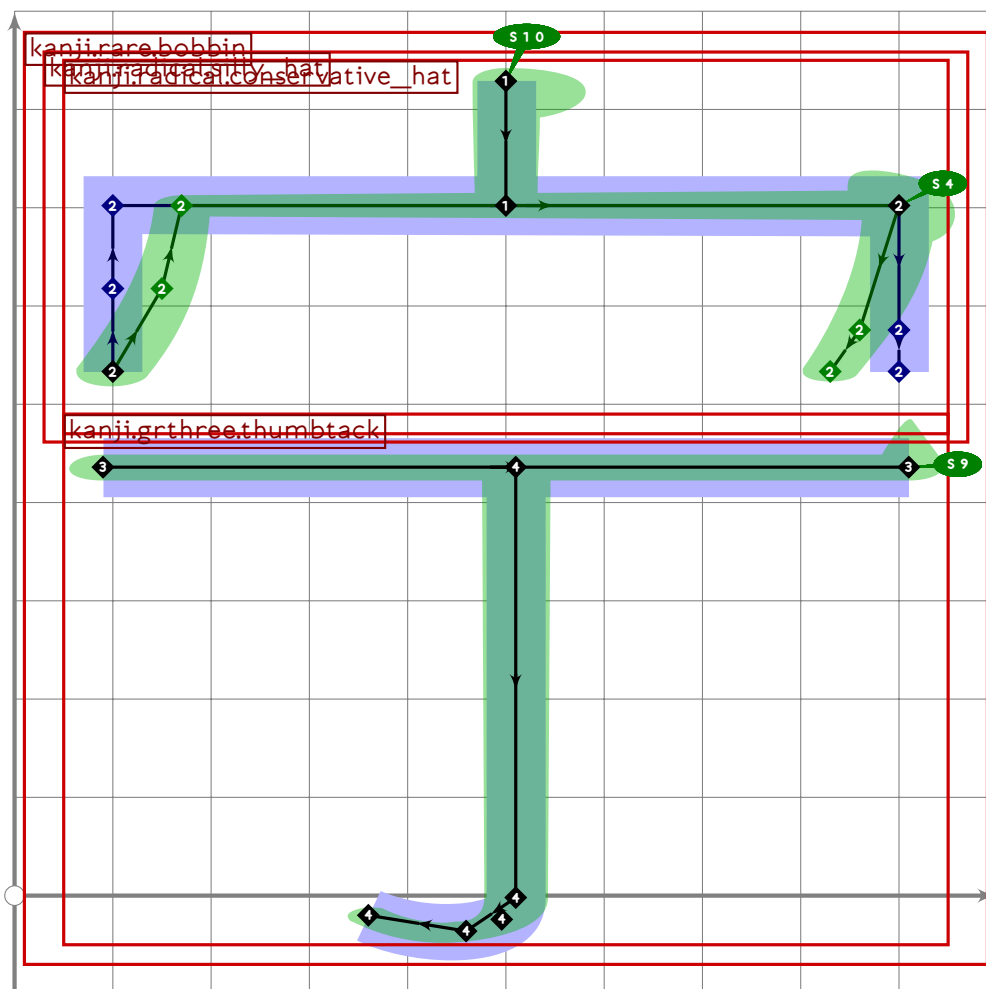


```

96
97 vardef kanji.rare.big_brother =
98   push_pbox_toexpand("kanji.rare.big_brother");
99   build_kanji.tb(440,0)
100     (kanji.grfive.passable)
101     (build_kanji.sscale(xscaled 1.03)(kanji.grfive.passable));
102   expand_pbox;
103 enddef;

```

U+5B81  
tsuku.uni5B81

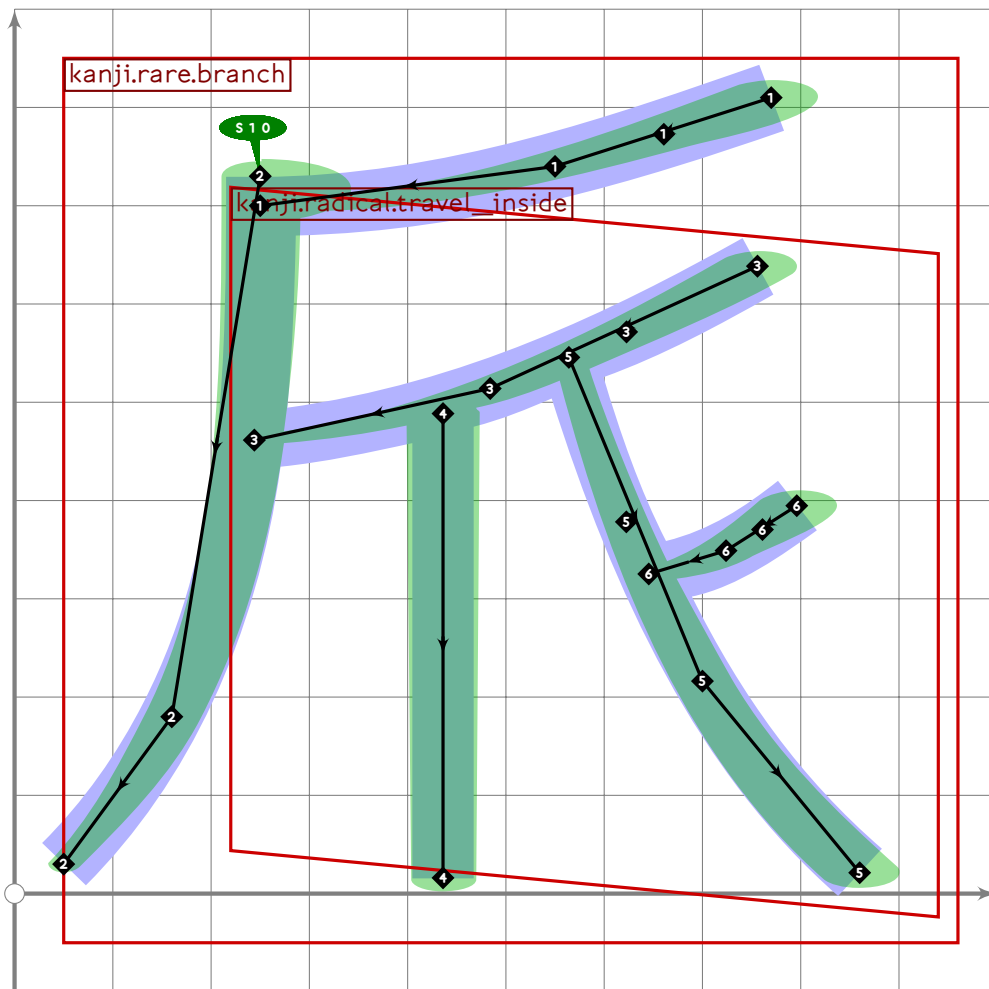


```

104
105 vardef kanji.rare.bobbin =
106   push_pbox_toexpand("kanji.rare.bobbin");
107   build_kanji.level(build_kanji.tb(480,20)
108     (kanji.radical.silly_hat)
109     (kanji.grthree.thumbtack));
110   expand_pbox;
111 enddef;

```

RARE



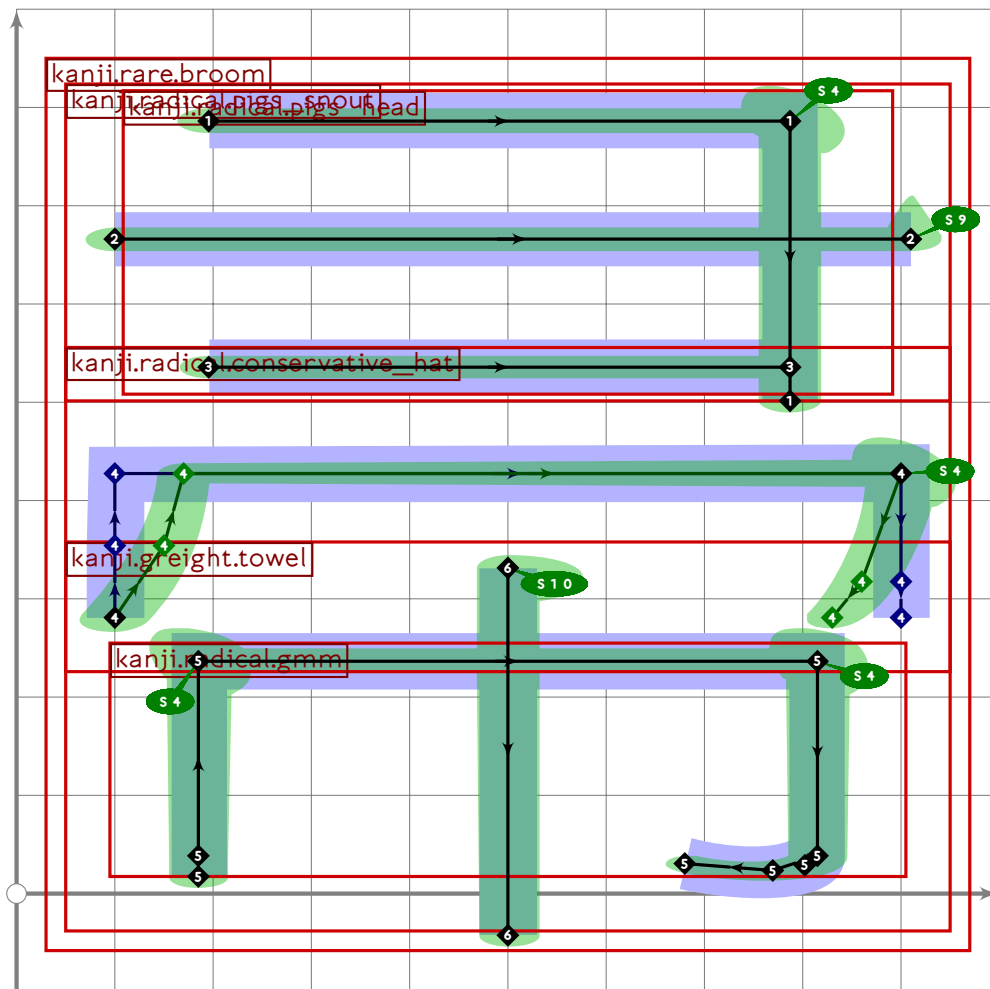
```

112
113 vardef kanji.rare.branch =
114   push_pbox_toexpand("kanji.rare.branch");
115   push_stroke((770,810)..tension 1.2..(550,740)..(250,700),
116     (1.8,1.8)–(1.5,1.5)–(1,1));
117   push_stroke((250,730){down}..(160,180)..(50,30),
118     (1.6,1.6)–(1.3,1.3)–(1,1));
119   set_boserif(0,0,10);
120   build_kanji.sscale(rotated 90 slanted 0.1 rotated -90
121     xyscaled (0.8,0.75) shifted (80,-50))
122     (kanji.radical.travel_inside);
123   expand_pbox;
124 enddef;

```

**RARE**

U+5E1A  
tsuku.uni5E1A

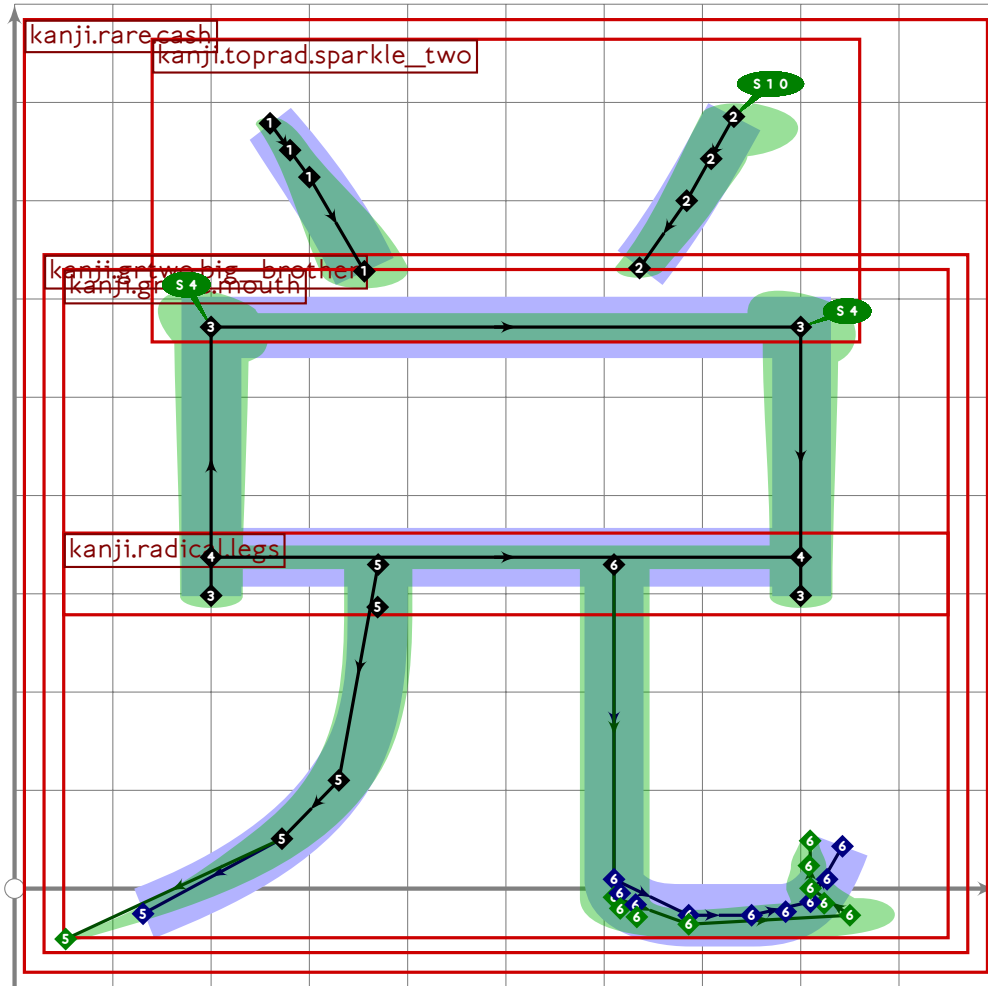


```

125
126 vardef kanji.rare.broom =
127   push_pbox_toexpand("kanji.rare.broom");
128   build_kanji.level(build_kanji.sscale(yscaled 0.95 shifted (0,-10))
129     (build_kanji.tb(550,50)
130       (kanji.radical.pigs_snout)
131       (build_kanji.tb(450,200)
132         (kanji.radical.conservative_hat)
133         (kanji.greight.towel))));
134   expand_pbox;
135 enddef;

```

RARE



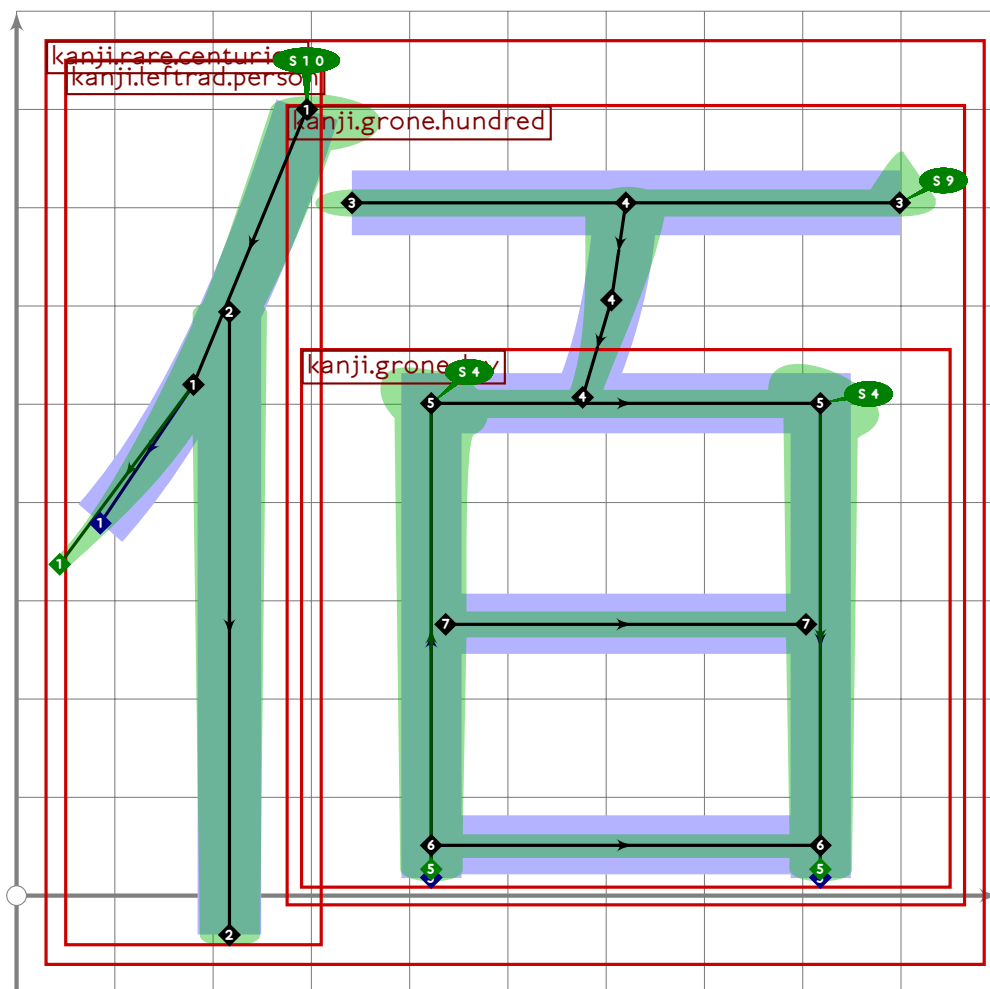
```

136
137 vardef kanji.rare.cash =
138   push_pbox_toexpand("kanji.rare.cash");
139   build_kanji.level(build_kanji.tb(600,60)
140     (build_kanji.sscale(xyscaled (0.8,1.1))(kanji.toprad.sparkle_two))
141     (kanji.grtwo.big_brother));
142   expand_pbox;
143 enddef;

```

**RARE**

U+4F70  
tsuku.uni4F70



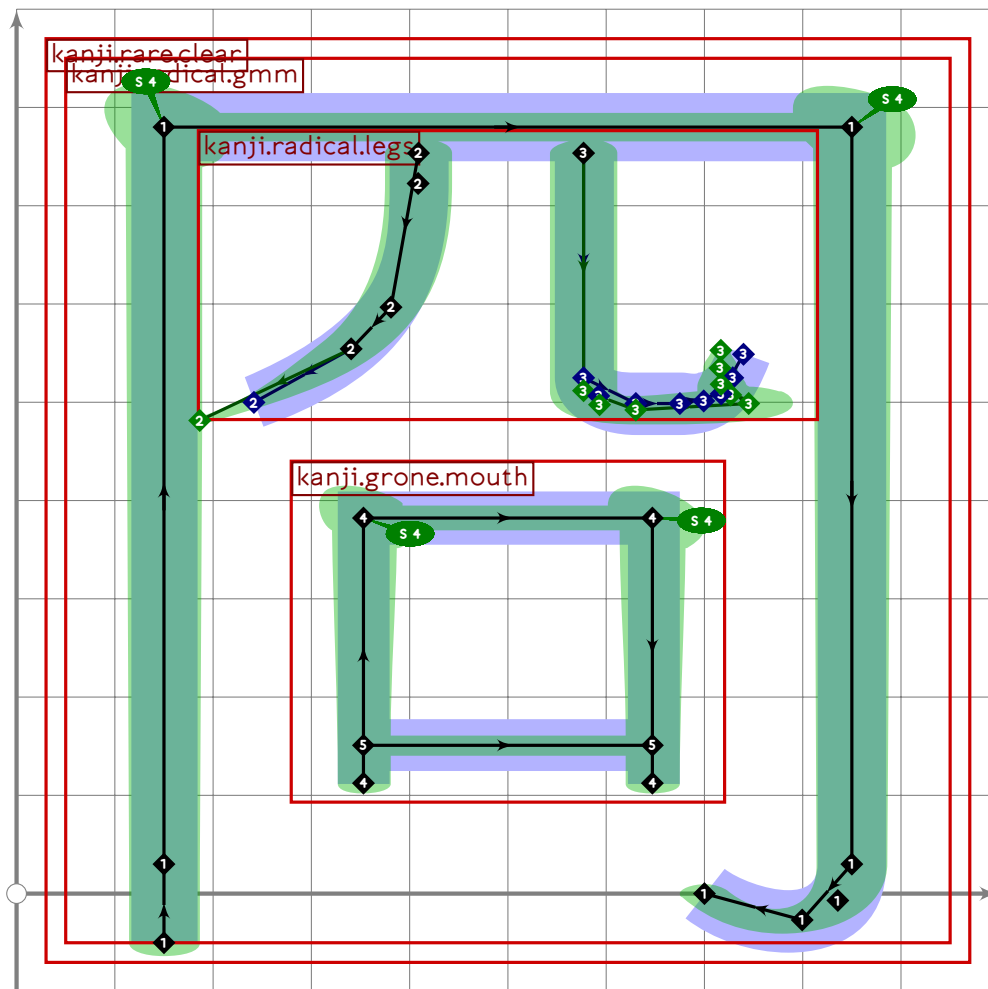
```

144
145 vardef kanji.rare.centurion =
146   push_pbox_toexpand("kanji.rare.centurion");
147   build_kanji.lr(300,20)
148     (kanji.leftrad.person)
149     (build_kanji.sscale(yscaled 0.9)(kanji.grone.hundred));
150   expand_pbox;
151 enddef;

```

RARE

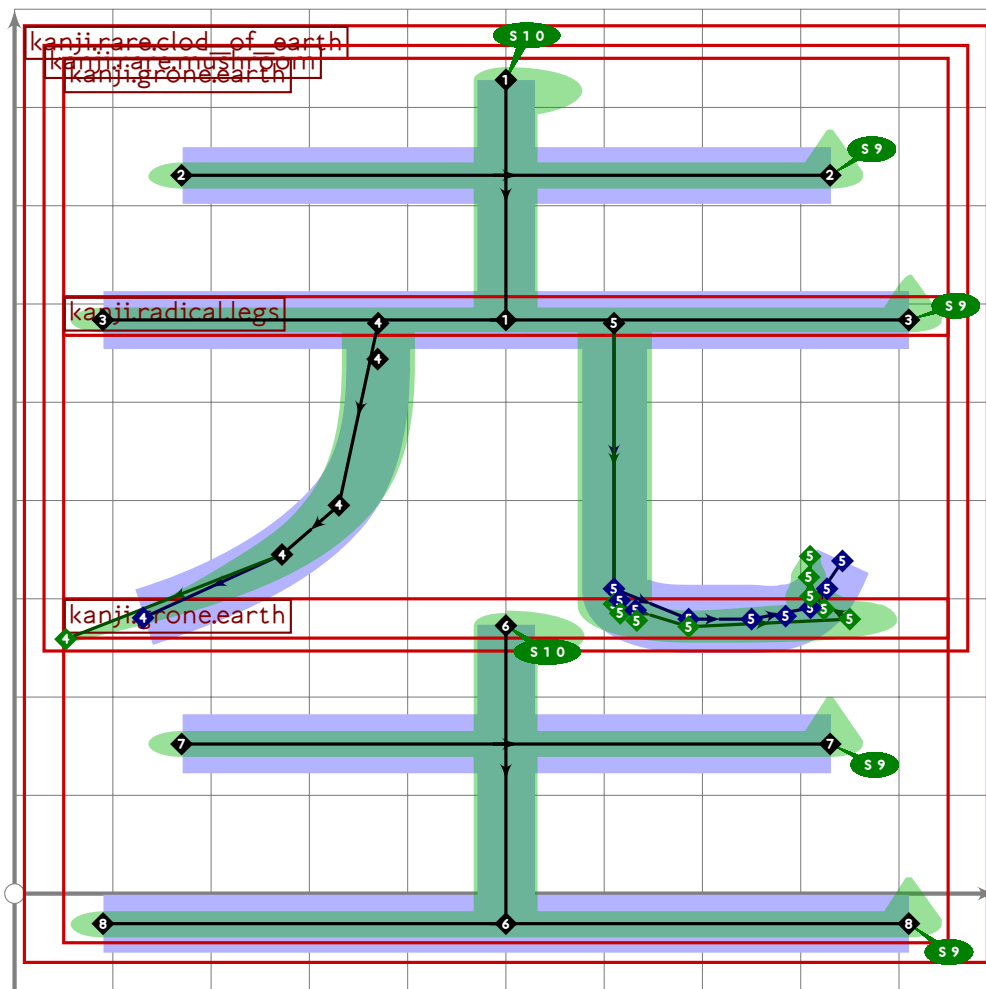




```

152
153 vardef kanji.rare.clear =
154   push_pbox__toexpand("kanji.rare.clear");
155   perl__structure:=perl__structure&"eids.u2FF5._11_";
156   kanji.radical.gmm;
157   build_kanji.sscale(xyscaled (0.70,84))(build_kanji.tb(520,40)
158     (kanji.radical.legs)
159     (build_kanji.sscale(scaled 0.7)(kanji.grone.mouth)));
160   expand_pbox;
161 enddef;

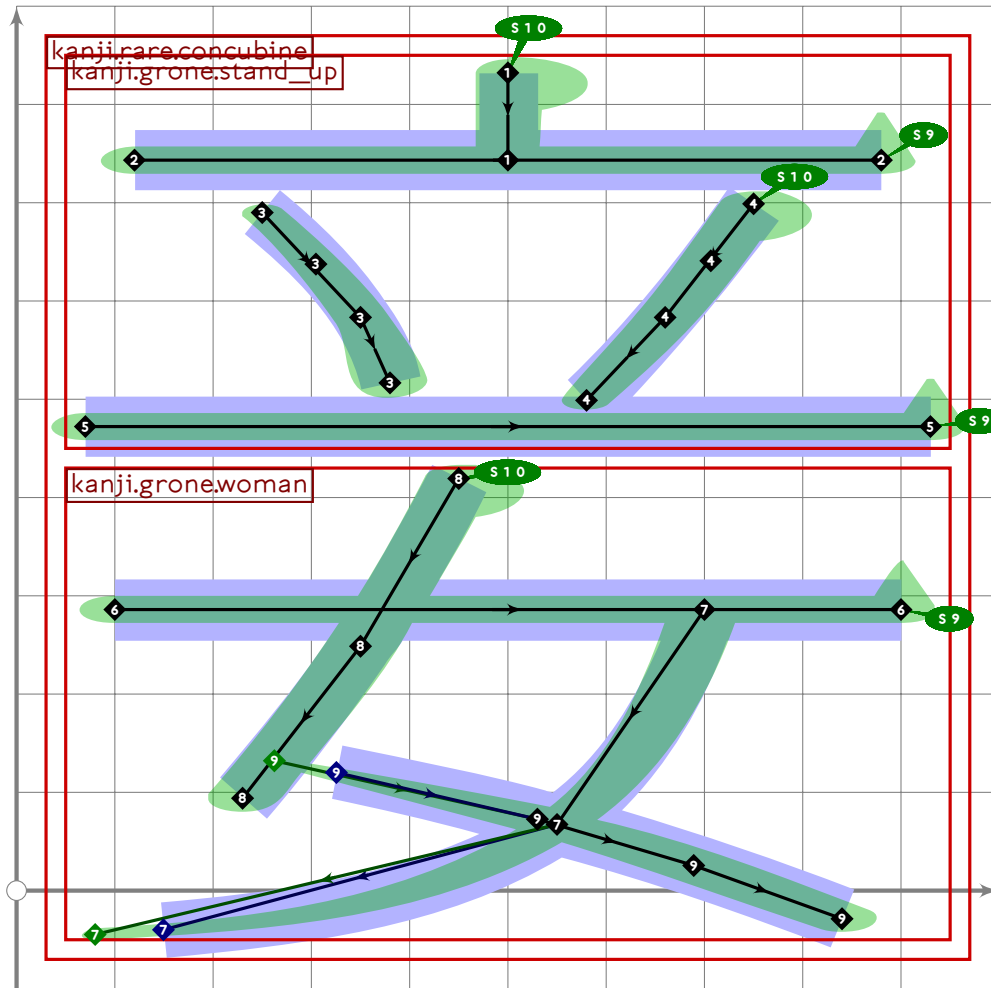
```



```

162
163 vardef kanji.rare.clod_of_earth =
164   push_pbox_toexpand("kanji.rare.clod_of_earth");
165   build_kanji.tb(28040)
166     (kanji.rare.mushroom)
167     (kanji.grone.earth);
168   expand_pbox;
169 enddef;

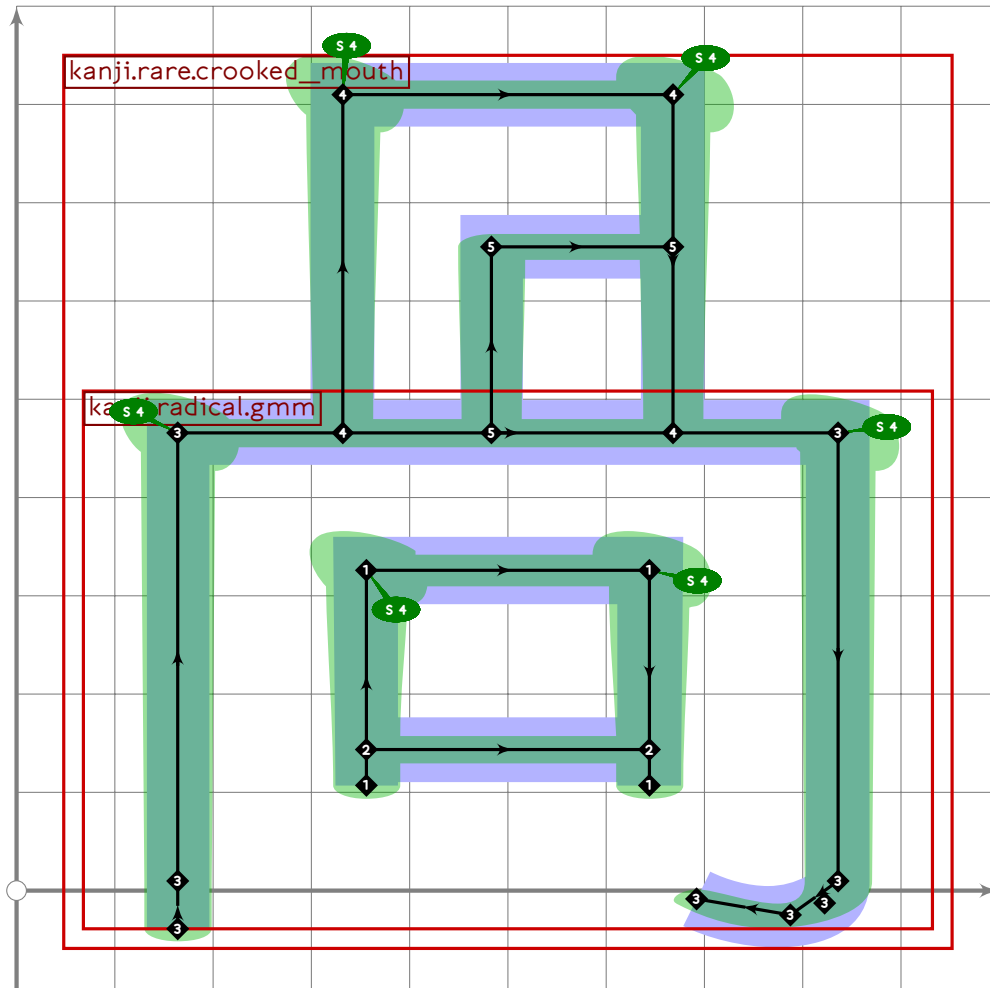
```



```

170
171 vardef kanji.rare.concubine =
172   push_pbox_toexpand("kanji.rare.concubine");
173   build_kanji.tb(440,20)
174     (kanji.grone.stand_up)
175     (kanji.grone.woman);
176   expand_pbox;
177 enddef;

```



```

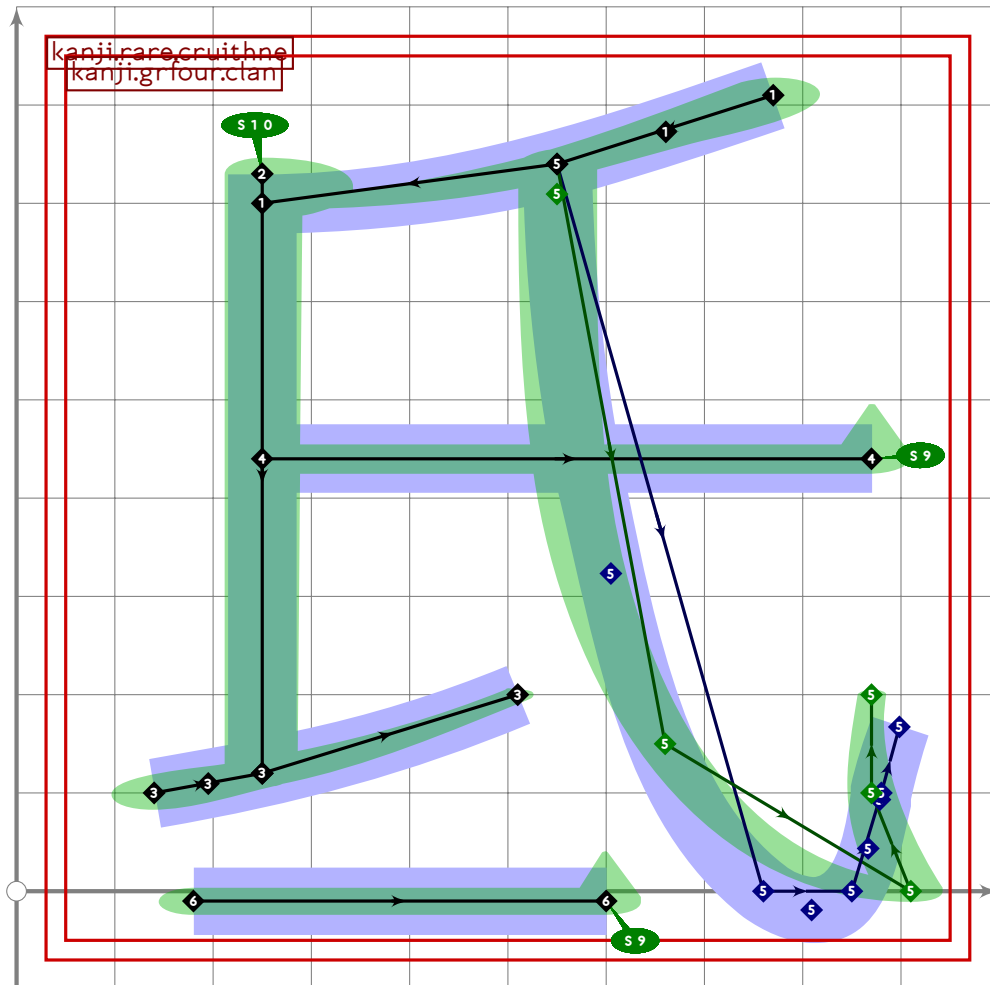
178
179 vardef kanji.rare.crooked_mouth =
180   push_pbox_toexpand("kanji.rare.crooked_mouth");
181   build_kanji.level(
182     build_kanji.tb(520,0)()
183     (build_kanji.sscale(scaled 0.96)(build_kanji.box((350,550),(650,250)));
184     kanji.radical.gmm));
185   begingroup
186     save gmm_path,top_path;
187     path gmm_path,top_path;
188     gmm_path:=get_strokep(0);
189     top_path:=(point 2.25 of gmm_path)-
190       (xpart point 2.25 of gmm_path,810)-
191       (xpart point 2.75 of gmm_path,810)-
192       (point 2.75 of gmm_path);
193     push_stroke(top_path,(14,14)-(1.6,1.6)-(1.6,1.6)-(14,14));
194     set_botip(0,1);
195     set_botip(0,2,1);
196     set_boserif(0,1,4);
197     set_boserif(0,2,4);
198     push_stroke(

```

```

199      (xpart point 145 of top_path,ypart point 0 of top_path)-
200      (xpart point 145 of top_path,ypart point 0.55 of top_path)-
201      (point 245 of top_path),
202      (14,14)-(1.5,1.5)-(1.5,1.5));
203      set_botip(0,1);
204      endgroup;
205  );
206  expand_pbox;
207  enddef;
208

```



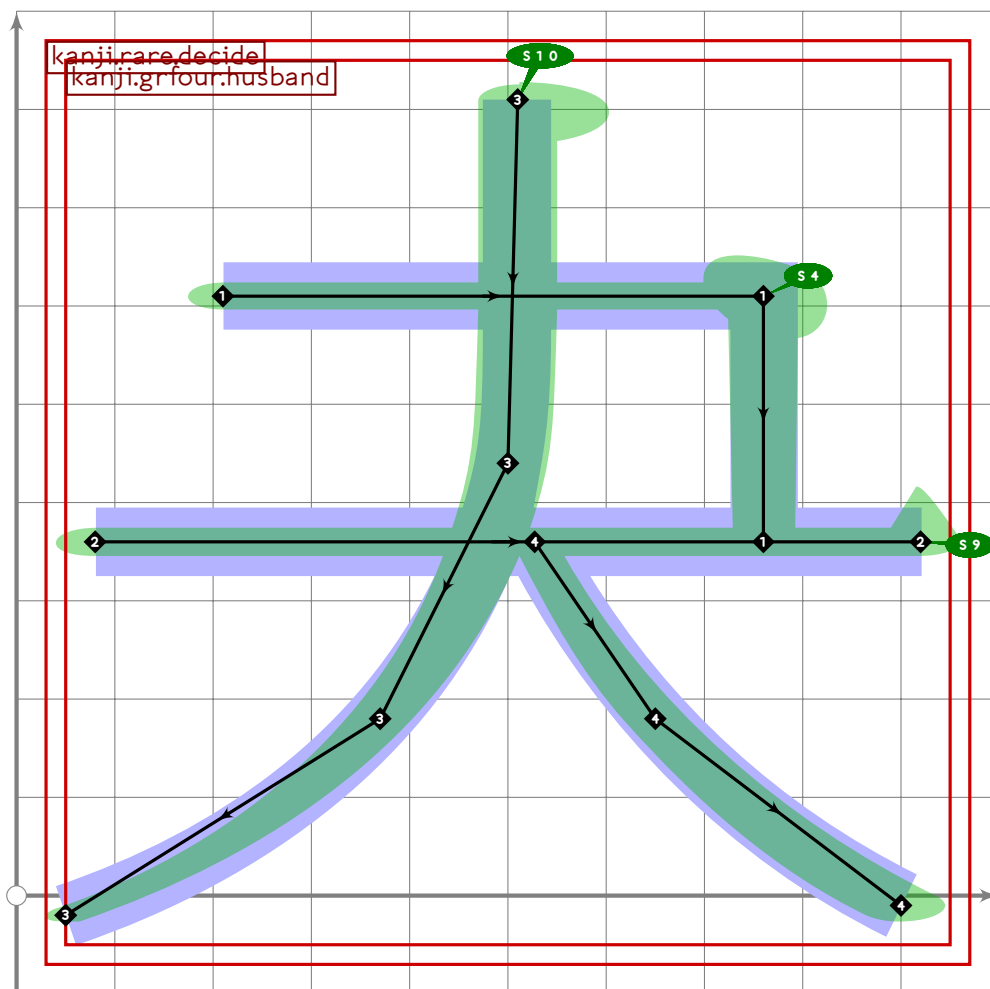
```

209 % dictionary says "name of an ancient tribe"; needed for grfour.low
210 vardef kanji.rare.cruithne =
211   push_pbox_toexpand("kanji.rare.cruithne");
212   kanji.grfour.clan;
213   replace_strokep(-3)((250,730)-(250,120));
214   replace_strokep(-2)(oldp shifted (0,130));
215   push_stroke((180,-10)-(600,-10),(1.5,1.5)-(1.5,1.5));
216   set_boserif(0,19);
217   expand_pbox;
218 enddef;

```

RARE

U+592C  
tsuku.uni592C

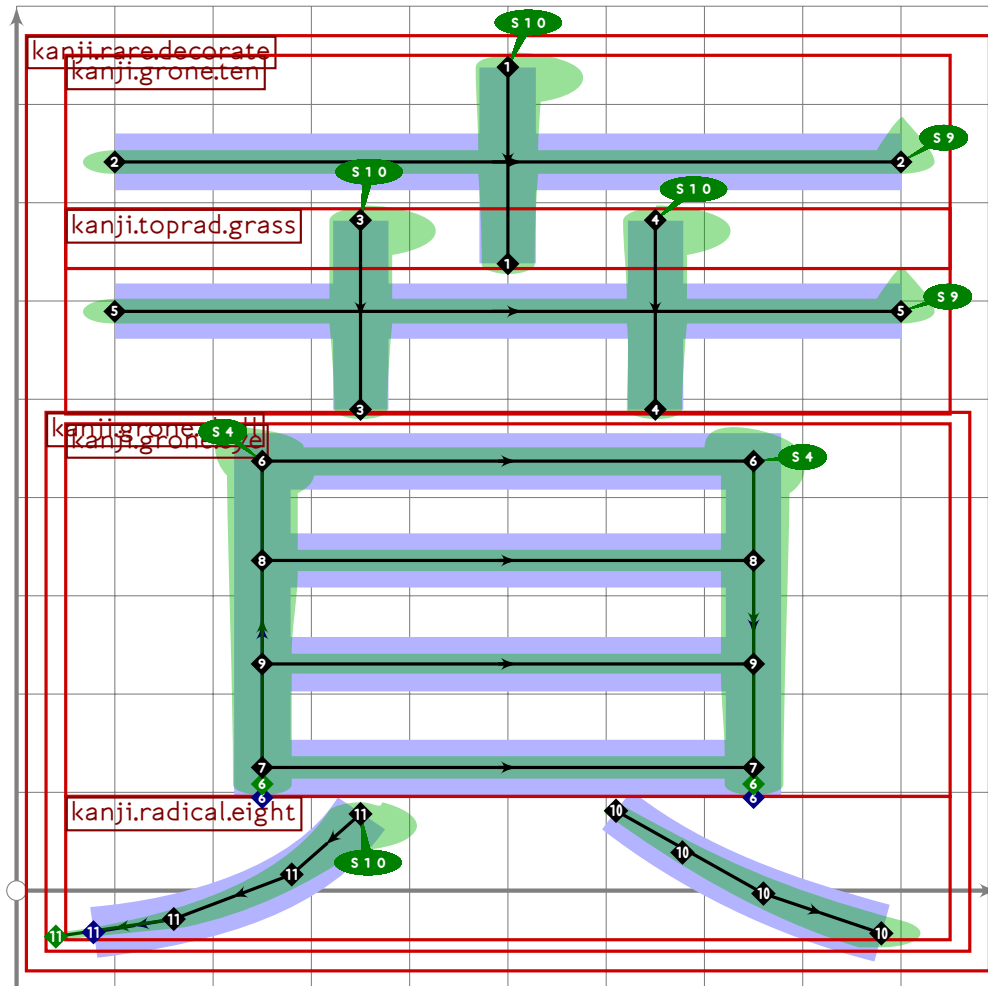


```

219
220 vardef kanji.rare.decide =
221   push_pbox__toexpand("kanji.rare.decide");
222   kanji.grfour.husband;
223   replace_strokep(-3)((210,610)-(760,610)-(760,360));
224   replace_strokeq(-3)((1.5,1.5)-(1.5,1.5)-(14,14));
225   set_boserif(-3,14);
226   set_botip(-3,11);
227   expand_pbox;
228 enddef;

```

RARE



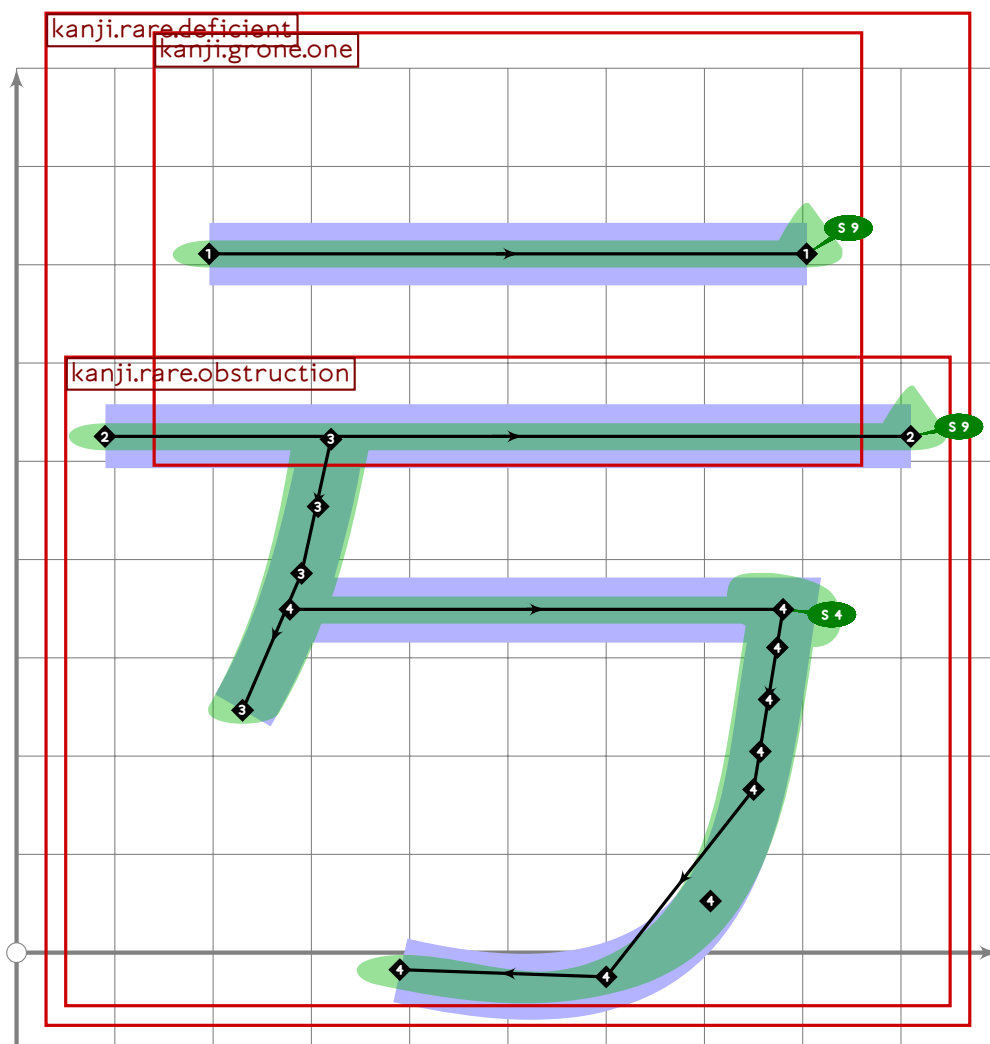
```

229
230 vardef kanji.rare.decorate =
231   push_pbox_toexpand("kanji.rare.decorate");
232   build_kanji.level(build_kanji.tb(480;10)
233     (build_kanji.tb(390;150)
234       (kanji.grone.ten)
235       (kanji.toprad.grass))
236     (kanji.grone.shell));
237   expand_pbox;
238 enddef;

```

RARE

U+4E8F  
tsuku.uni4E8F



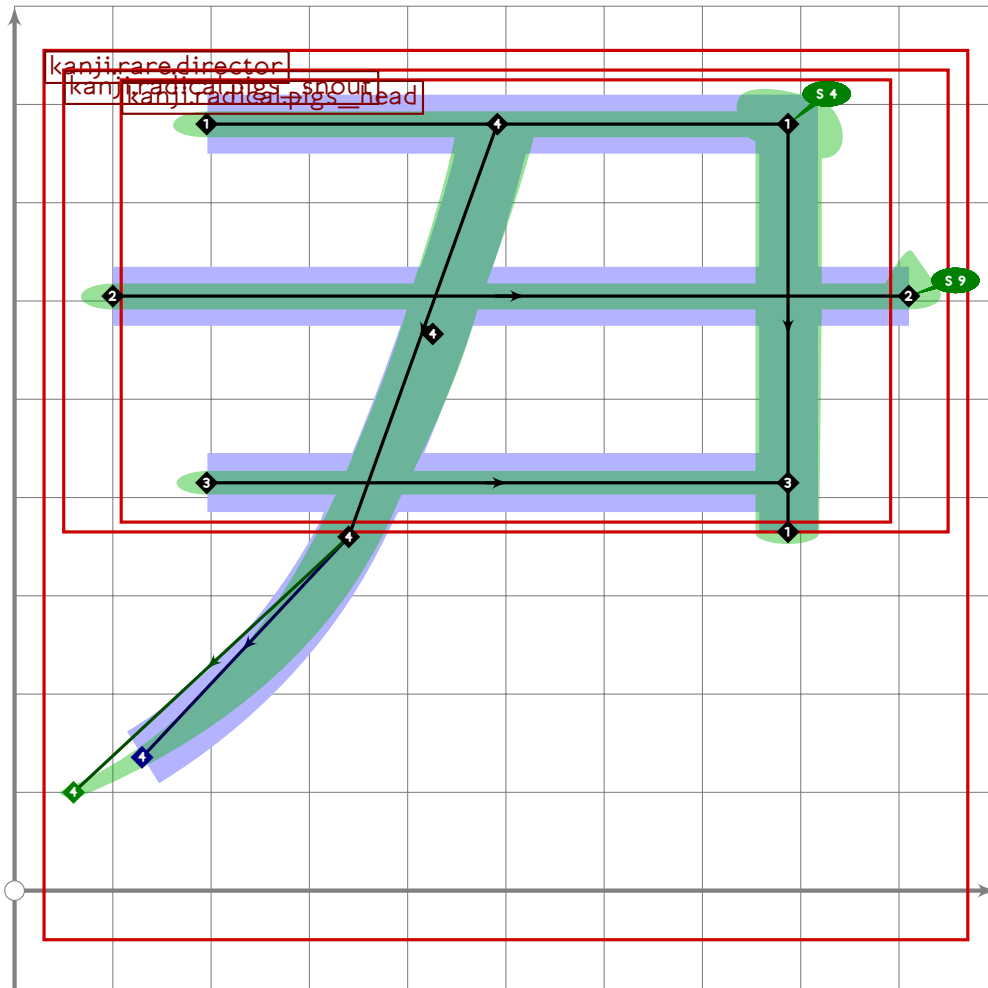
```

239
240 vardef kanji.rare.deficient =
241   push_pbox_toexpand("kanji.rare.deficient");
242   build_kanji.level(build_kanji.sscale(yscaled 1.1 shifted (0,40))
243     (build_kanji.tb(500,100)
244       (build_kanji.sscale(xscaled 0.8)(kanji.grone.one))
245       (kanji.rare.obstruction)));
246   expand_pbox;
247 enddef;

```

RARE



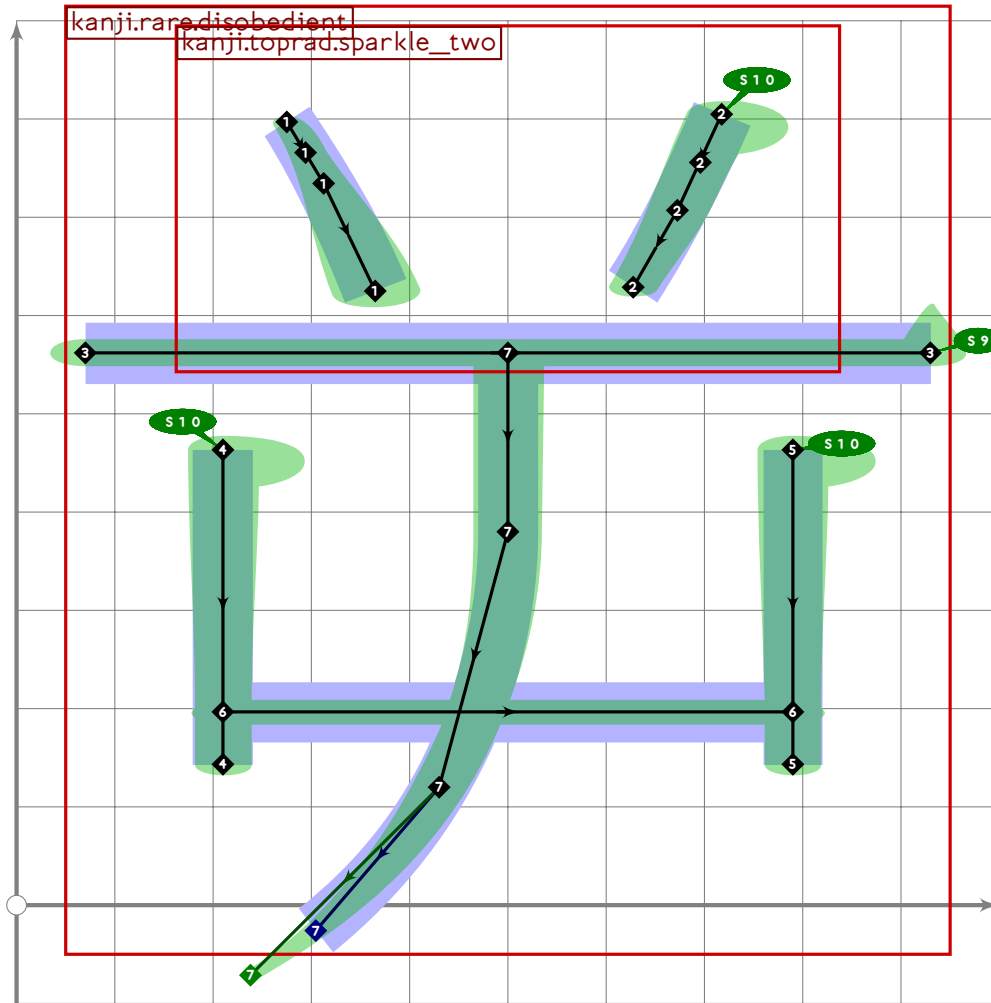


```

248
249 vardef kanji.rare.director =
250   push_pbox__toexpand("kanji.rare.director");
251   tsu_xform(identity yscaled 0.5 shifted (0,400))
252   (kanji.radical.pigs_snout);
253   push_stroke(
254     (point 0.5 of get_stroke(-2))..tension 14..(340,360)..(60,100),
255     (1,6,1,6)-(1,4,1,4)-(0,9,0,9));
256   expand_pbox;
257 enddef;

```

U+5C70  
tsuku.uni5C70

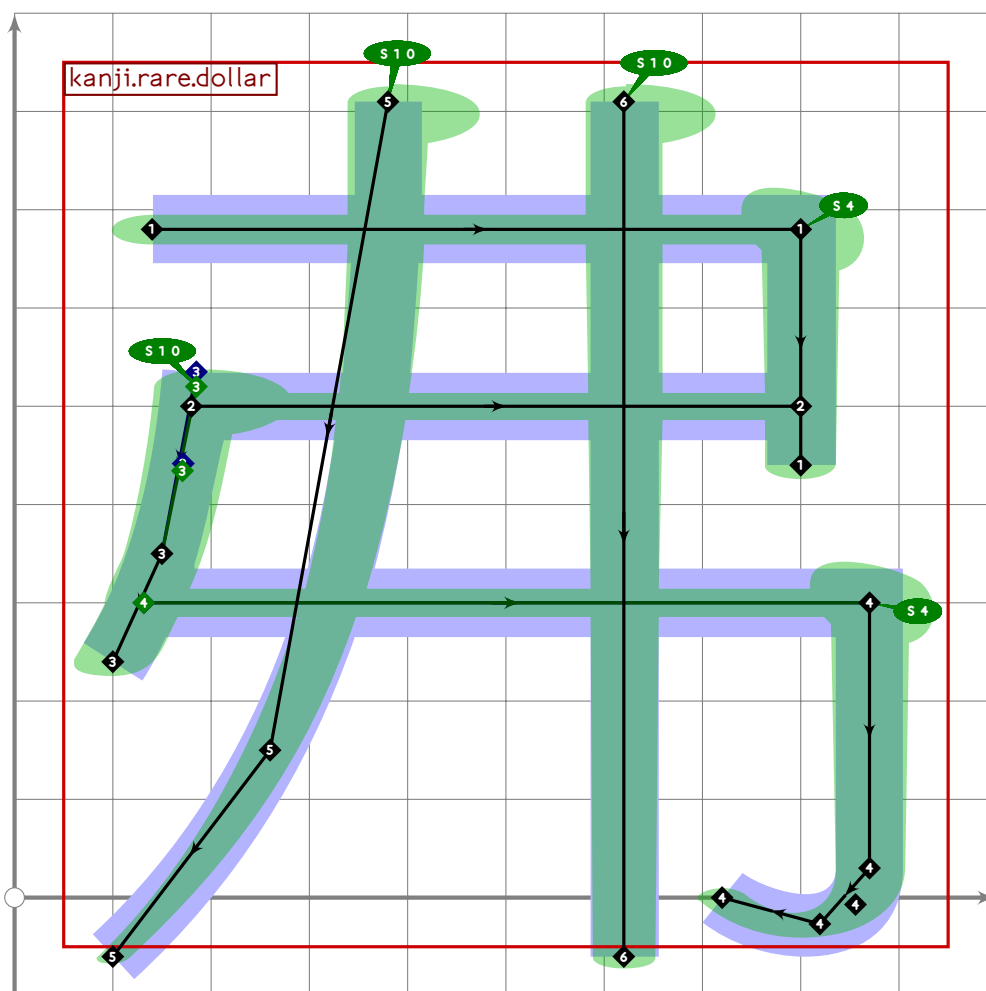


```

258
259 vardef kanji.rare.disobedient =
260   push_pbox_toexpand("kanji.rare.disobedient");
261   build_kanji.level(
262     build_kanji.tb(540,20)
263     (build_kanji.sscale(xyscaled (0.75,1,1) shifted (0,80))
264       (kanji.toprad.sparkle_two);
265     push_stroke((70,40)-(930,40),(1.6,1.6)-(1.6,1.6));
266     set_boserif(0,0,whatever);
267     set_boserif(0,1,9))
268     (build_kanji.cup((210,720),(790,320)));
269   push_stroke((point 0.5 of get_stroke(-3))-
270     (500,380){down}{.}(430,120){.}{curl 1}{(180,-100),
271     (1.6,1.6)-(1.55,1.55)-(1.4,1.4)-(0.70,7)}));
272   expand_pbox;
273 enddef;

```

RARE



```

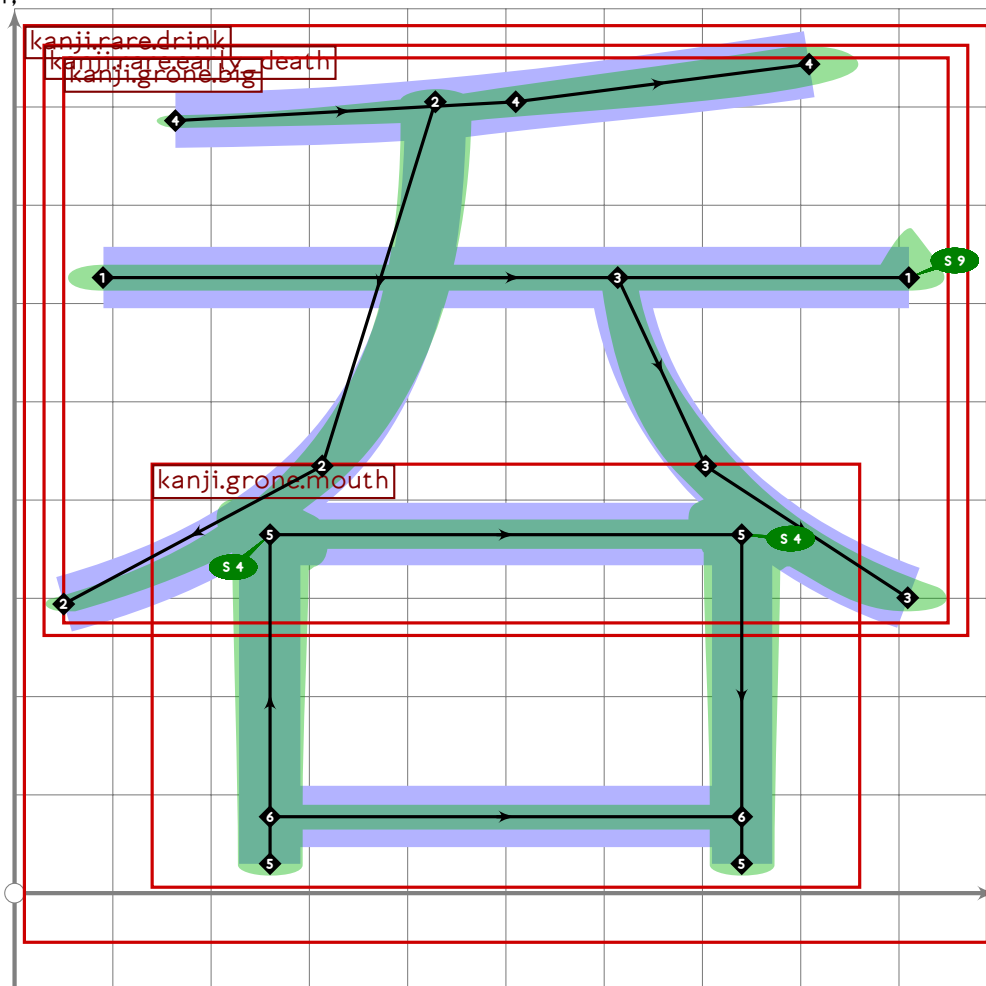
274
275 vardef kanji.rare.dollar =
276   push_pbox__toexpand("kanji.rare.dollar");
277   push_stroke((140,680)–(800,680)–(800,440),
278     (1.6,1.6)–(1.6,1.6)–(1.5,1.5));
279   set_botip(0,1);
280   set_boserif(0,14);
281   push_stroke((180,500)–(800,500),
282     (1.5,1.5)–(1.5,1.5));
283   push_stroke((185,535–15*mincho)..tension 1.2..(150,350)..(100,240),
284     (1.7,1.7)–(1.6,1.6)–(1.6,1.6));
285   set_boserif(0,0,10);
286   push_stroke((get_strokep(0) intersectionpoint ((0,300)–(1000,300)))–
287     (870,300),
288     (1.6,1.6)–(1.6,1.6));
289   build_kanji.add_jtail(0);
290   set_botip(0,1);
291   set_boserif(0,14);
292   push_stroke((380,810){down}..(260,150)..(100,60),
293     (1.6,1.6)–(1.3,1.3)–(1,1));
294   set_boserif(0,0,10);

```

RARE

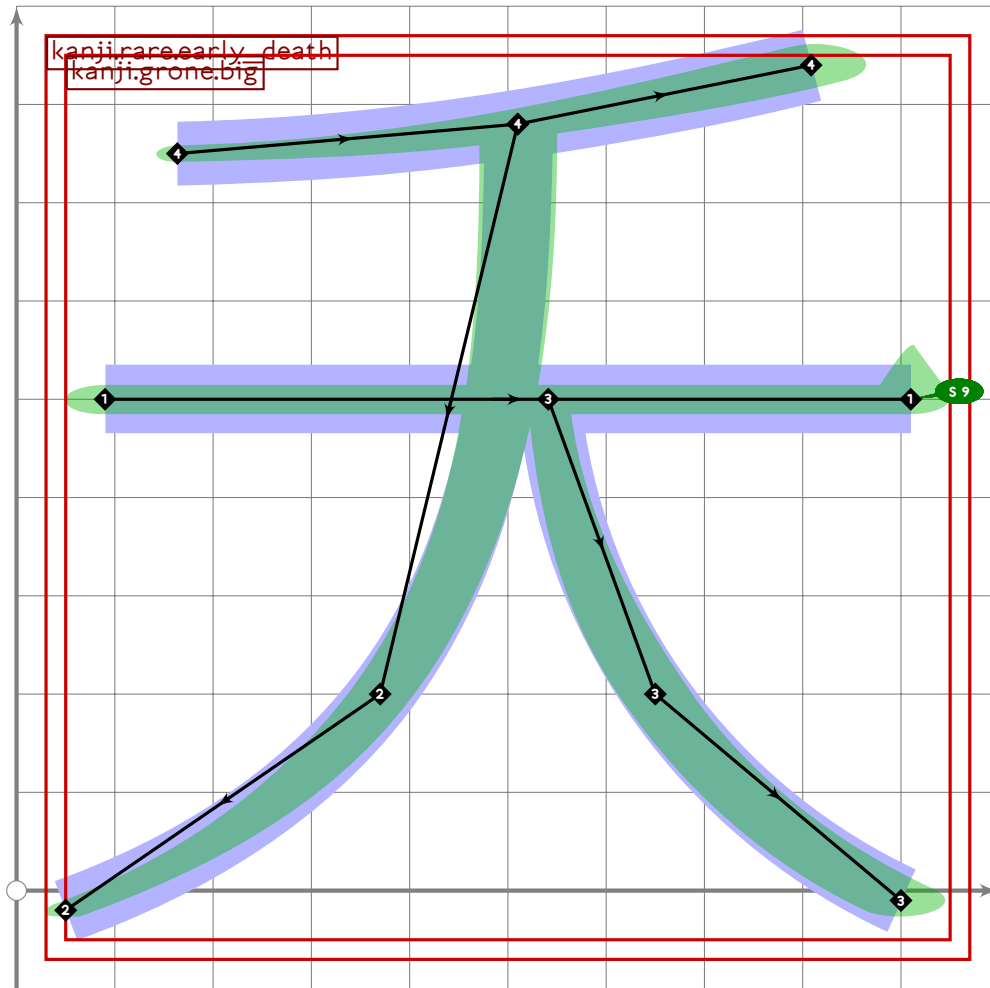
U+5451  
tsuku.uni5451

```
295 push_stroke((620,810)-(620,-60),(1.6,1.6)-(14,14));
296 set_boserif(0,0,10);
297 expand_pbox;
298 enddef;
```



```
299
300 vardef kanji.rare.drink =
301   push_pbox_toexpand("kanji.rare.drink");
302   build_kanji.level(build_kanji.tb(420,290)
303     (build_kanji.spread_legs(160)
304       (kanji.rare.early_death))
305     (build_kanji.sscale(xyscaled (0.8,0.7) shifted (0,-50))
306       (kanji.grone.mouth)));
307   expand_pbox;
308 enddef;
```

RARE

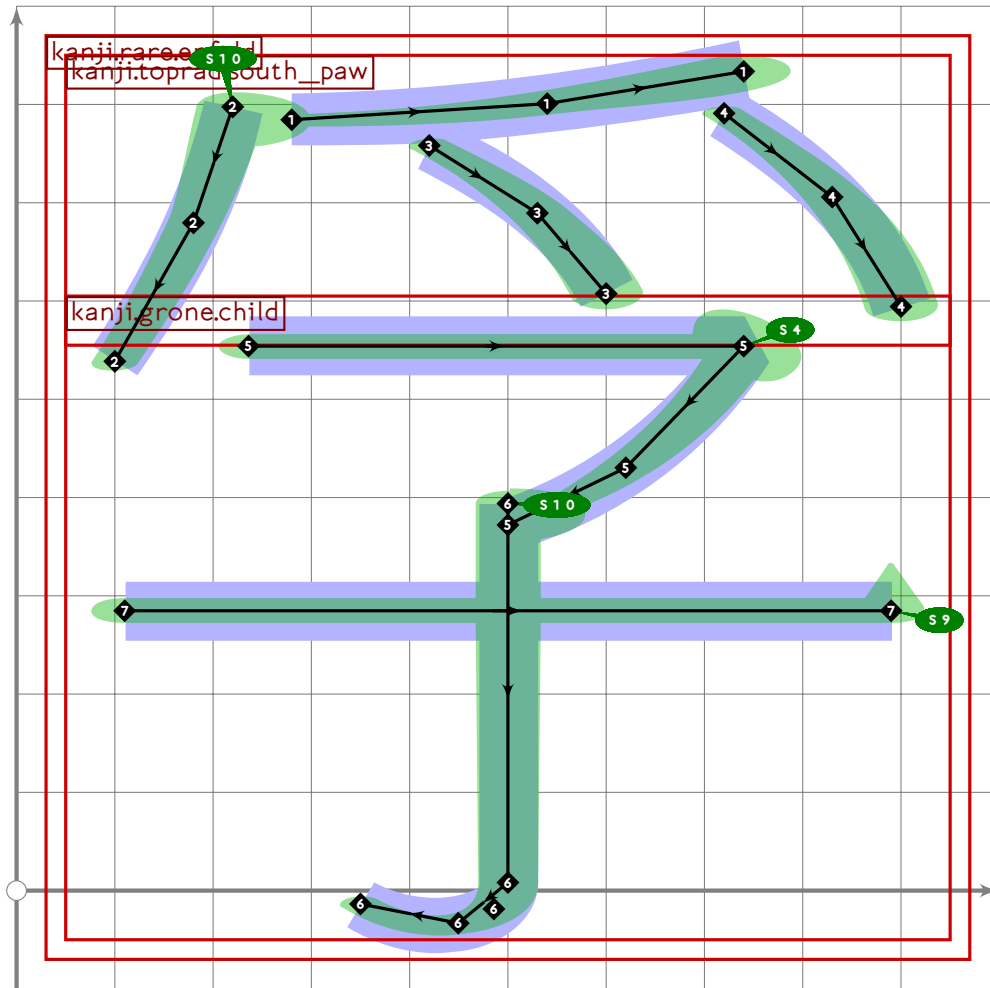


```

309
310 vardef kanji.rare.early_death =
311   push_pbox_toexpand("kanji.rare.early_death");
312   build_kanji.add_beret(kanji.grone.big);
313   expand_pbox;
314 enddef;

```

U+5B5A  
tsuku.uni5B5A

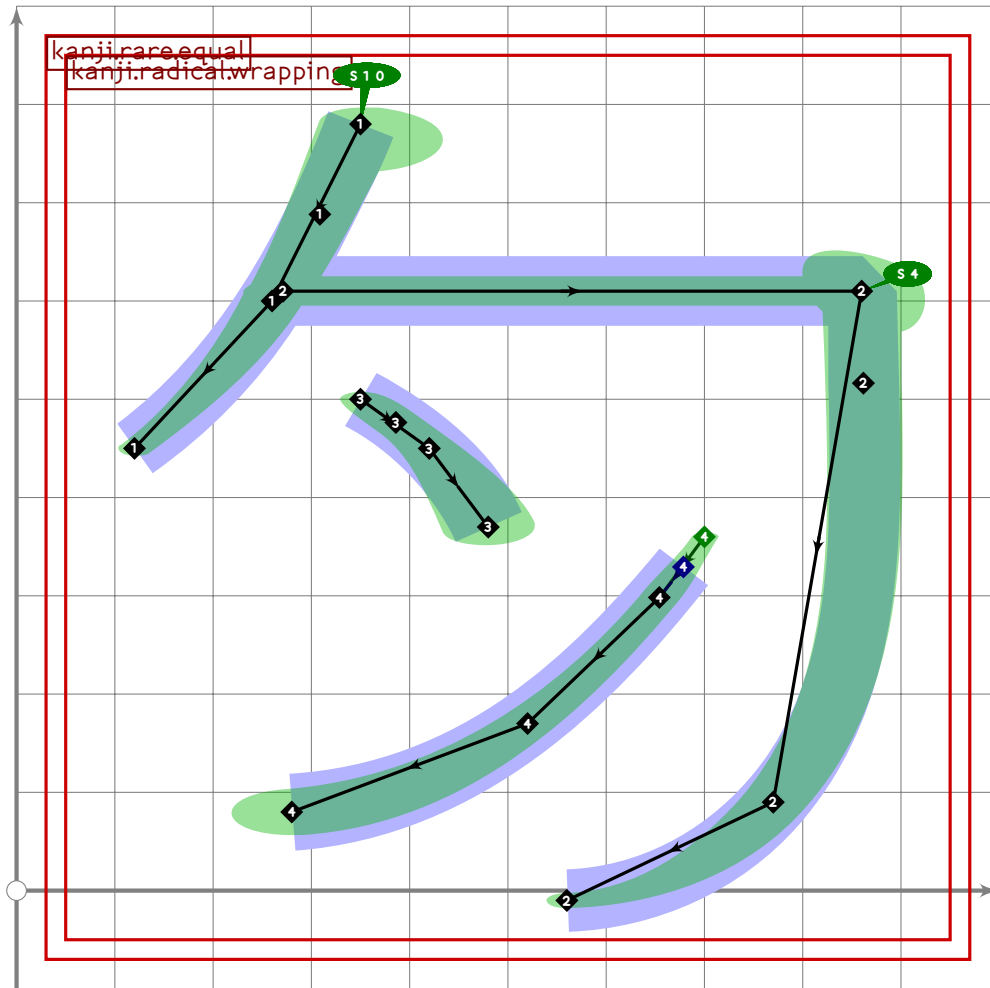


```

315
316 vardef kanji.rare.enfold =
317   push_pbox__toexpand("kanji.rare.enfold");
318   build_kanji.level(build_kanji.tb(580,50)
319     (kanji.toprad.south_paw)
320     (kanji.grone.child;
321       replace_strokep(-2)
322         (oldp shifted (-500,0) xscaled 0.8 shifted (500,0))));
323   expand_pbox;
324 enddef;

```

RARE

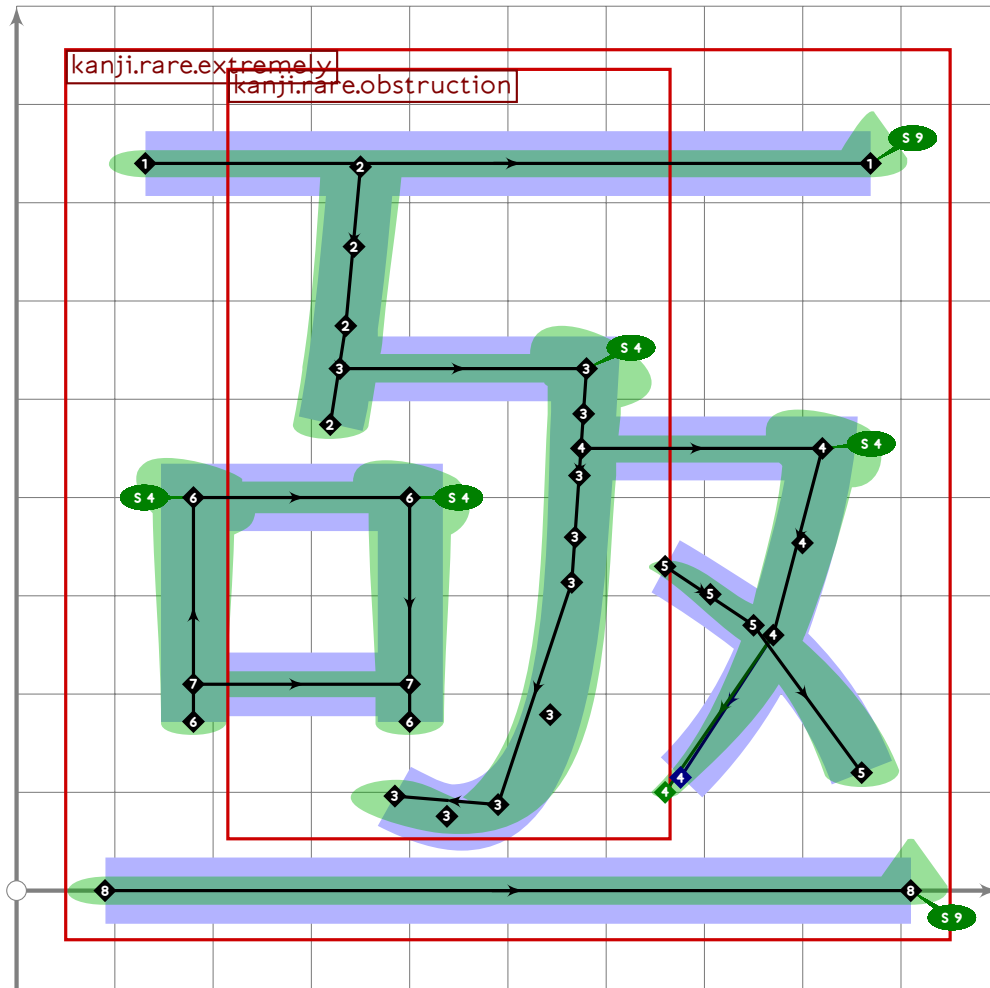


```

325
326 vardef kanji.rare.equal =
327   push_pbox__toexpand("kanji.rare.equal");
328   kanji.radical.wrapping;
329   push_stroke((350,500)..tension 1.2..(420,450)..(480,370),
330     (1,1,1)-(14,14)-(1.8,1.8));
331   push_stroke(insert_nodes((700,360)..tension 1.1..
332     (520,170)..{curl 1.2}(280,80))(0.3),
333     (09,09)-(11,11)-(14,14)-(2.2,2.2));
334   expand_pbox;
335 enddef;

```

U+4E9F  
tsuku.uni4E9F



```

336
337 vardef kanji.rare.extremely =
338   push_pbox_toexpand("kanji.rare.extremely");
339   build_kanji.level(
340     path my_saved_path;
341     tsu_xform(identity shifted (-500,740)
342       xyscaled (0.5,0.87) shifted (440,740))
343     (kanji.rare.obstruction;
344       my_saved_path:=get_stroke(-2));
345     replace_stroke(-2)(my_saved_path shifted (-500,0)
346       xscaled 0.9 shifted (500,0));
347     replace_stroke(-1)(subpath (0,(length oldp)-0.4) of oldp);
348     push_stroke((get_stroke(0) intersectionpoint ((0,450)-(1000,450)))-
349       (820,450)..tension 1.2..(770,260)..(660,100),
350       (1.5,1.5)-(1.6,1.6)-(1.4,1.4)-(0.9,0.95));
351     set_boserif(0,1,4);
352     set_botip(0,1,1);
353     push_stroke((660,330)..tension 1.2..(750,270)..(860,120),
354       (1,1)-(1.3,1.3)-(1.6,1.6));
355     build_kanji.box((180,400),(400,210));
356     push_stroke(my_saved_path shifted (0,-740),(1.6,1.6)-(1.6,1.6));

```

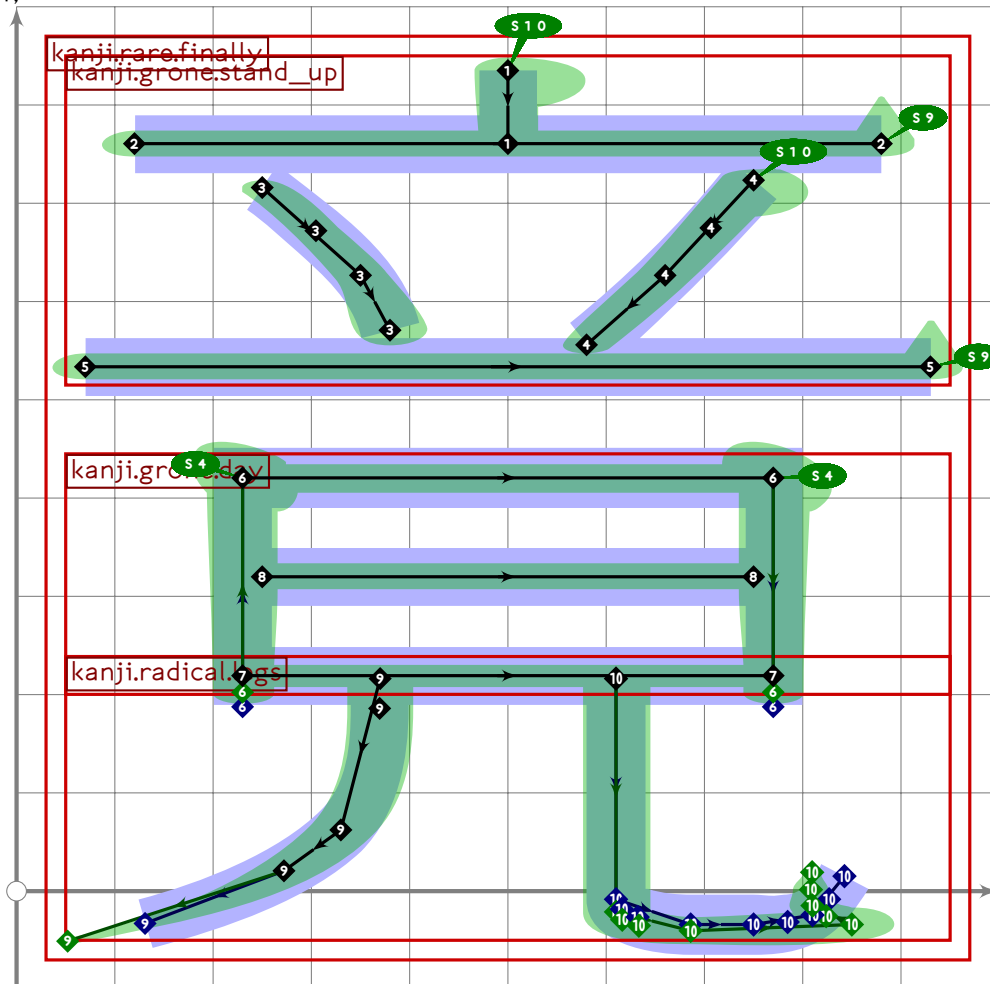
RARE



```

357   set_boserif(0,1,9);
358   );
359   expand_pbox;
360 enddef;

```

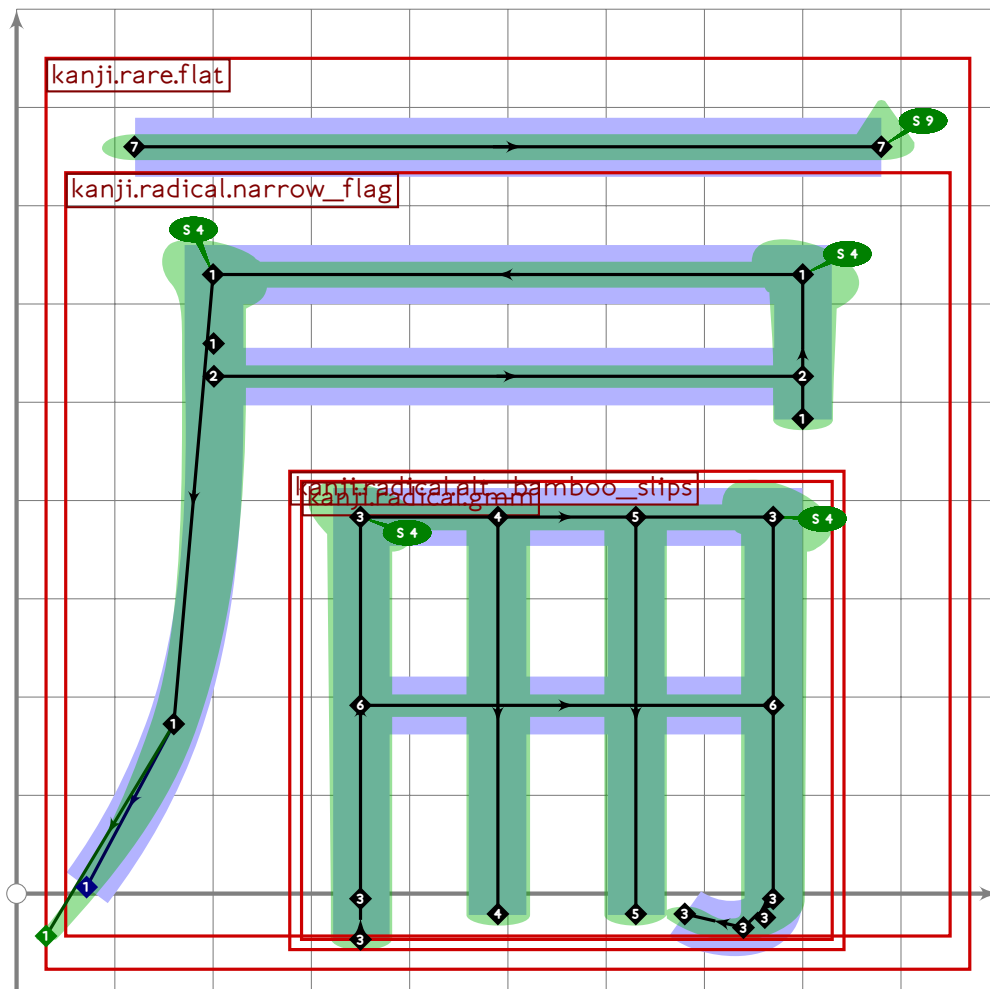


```

361
362 vardef kanji.rare.finally =
363   push_pbox_toexpand("kanji.rare.finally");
364   build_kanji.tb(480,70)
365     (kanji.grone.stand_up)
366     (build_kanji.level(build_kanji.tb(440,70)
367       (kanji.grone.day)
368       (kanji.radical.legs)));
369   expand_pbox;
370 enddef;

```

U+6241  
tsuku.uni6241

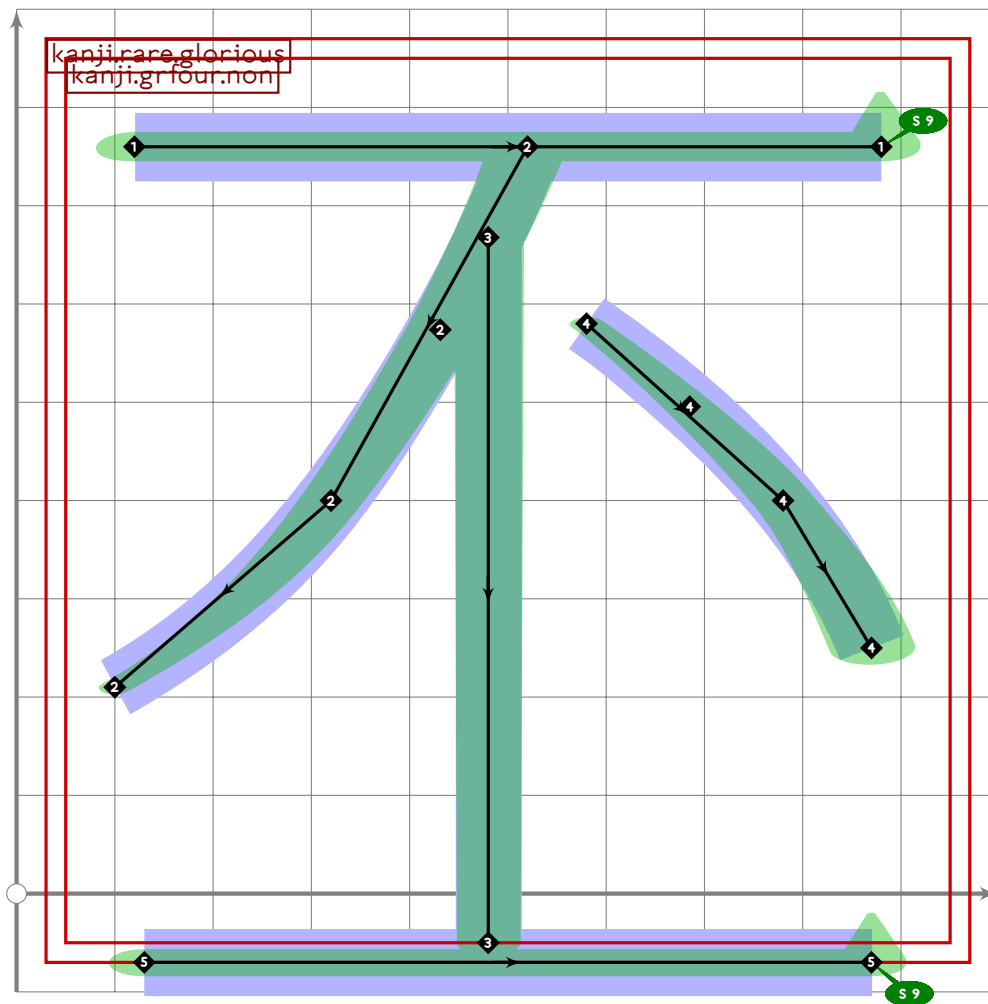


```

371
372 vardef kanji.rare.flat =
373   push_pbox_toexpand("kanji.rare.flat");
374   tsu_xform(identity yscaled (630/730))(build_kanji.level
375     (kanji.radical.narrow_flag;
376       build_kanji.sscale(scaled 0.60 shifted (60,180))
377         (kanji.radical.alt_bamboo_slips)));
378   push_stroke((120,760)-(880,760),(1.6,1.6));
379   set_boserif(0,19);
380   set_bosize(0,85);
381   expand_pbox;
382 enddef;

```

RARE

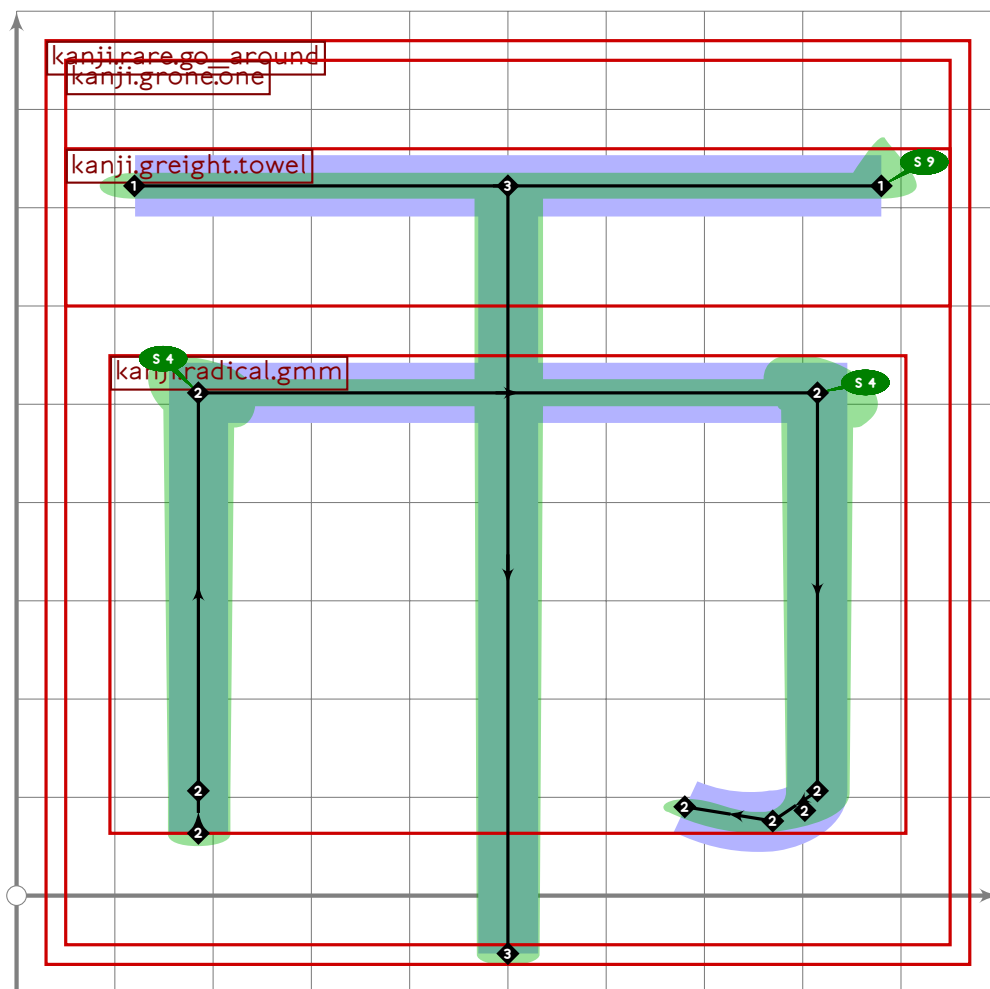


```

383
384 vardef kanji.rare.glorious =
385   push_pbox_toexpand("kanji.rare.glorious");
386   kanji.grfour.non;
387   push_stroke((130,-70)-(870,-70),(1.5,1.5)-(1.5,1.5));
388   set_boserif(0,19);
389   expand_pbox;
390 enddef;

```

U+5E00  
tsuku.uni5E00

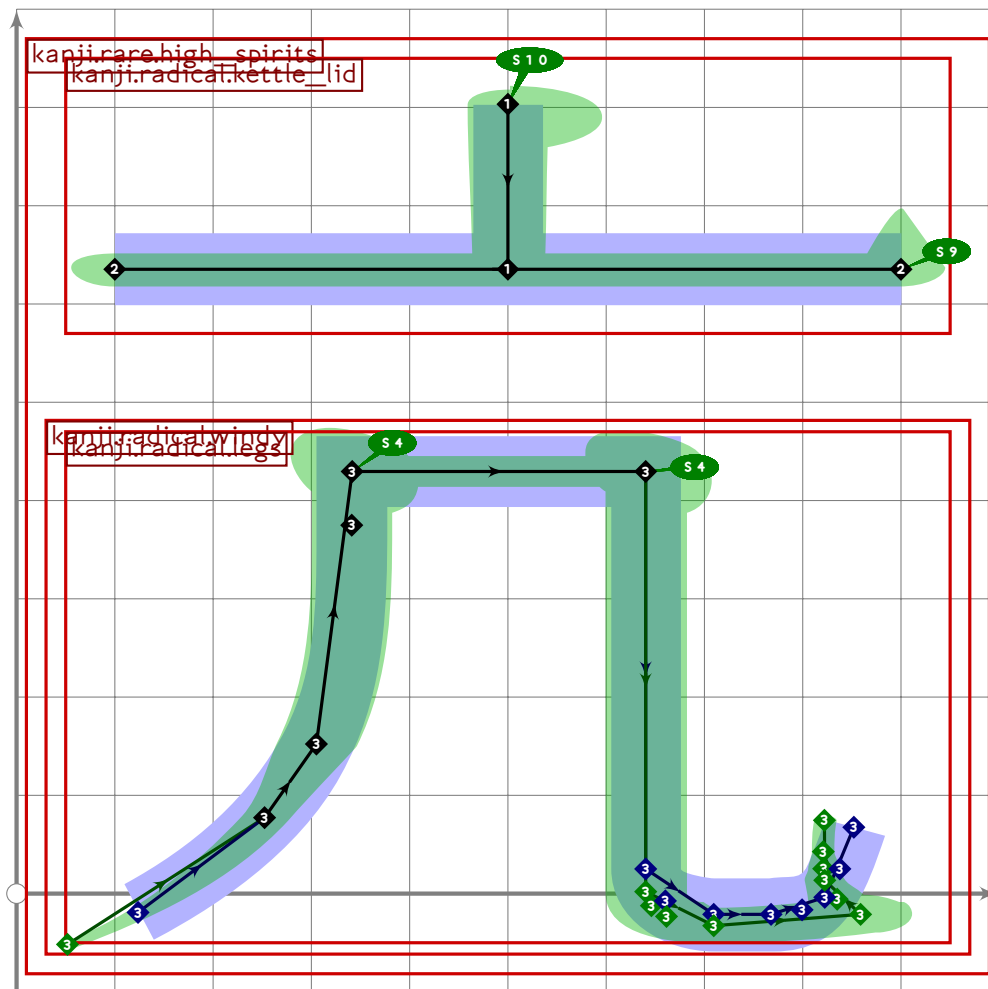


```

391
392 vardef kanji.rare.go_around =
393   push_pbox_toexpand("kanji.rare.go_around");
394   build_kanji.level(build_kanji.tb()
395     (kanji.grone.one)
396     (kanji.greight.towel));
397   expand_pbox;
398 enddef;

```

RARE

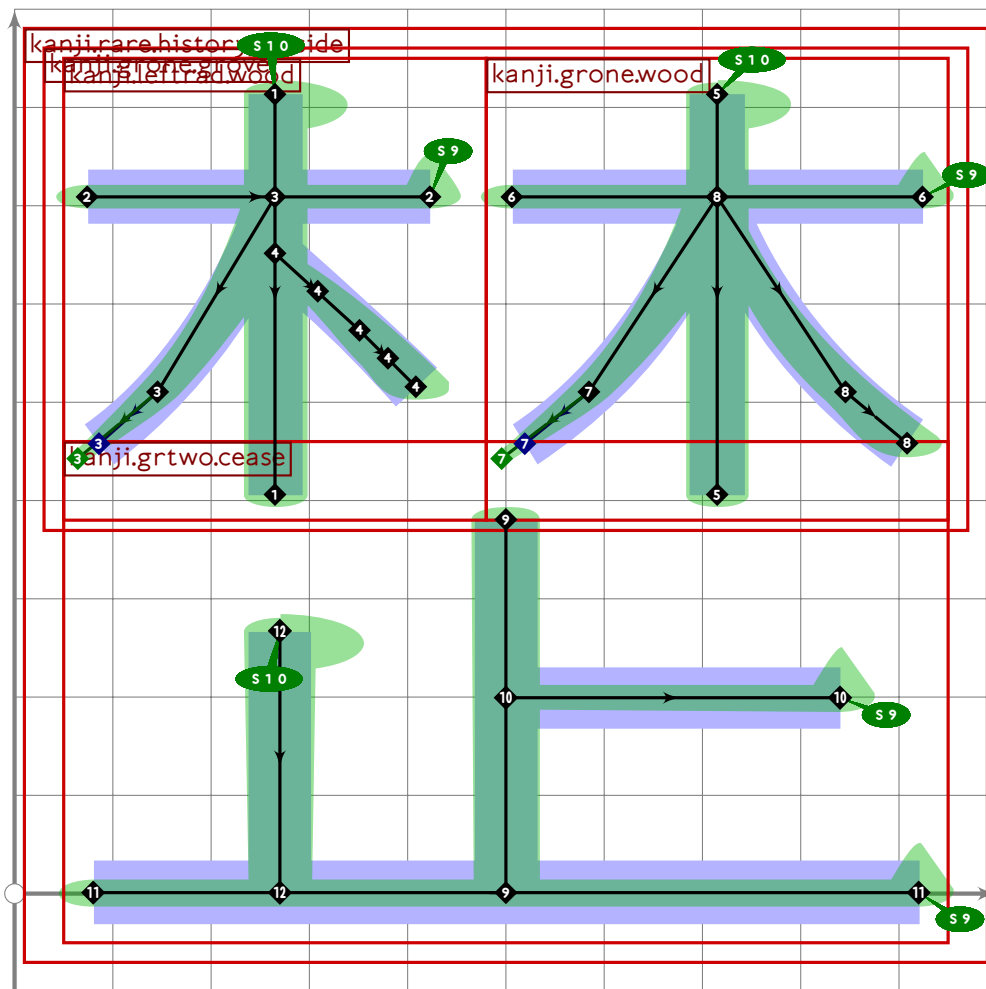


```

399
400 vardef kanji.rare.high_spirits =
401   push_pbox_toexpand("kanji.rare.high_spirits");
402   build_kanji.level(build_kanji.tb(520;100)
403     (kanji.radical.kettle_lid)
404     (kanji.radical.windy));
405   expand_pbox;
406 enddef;

```

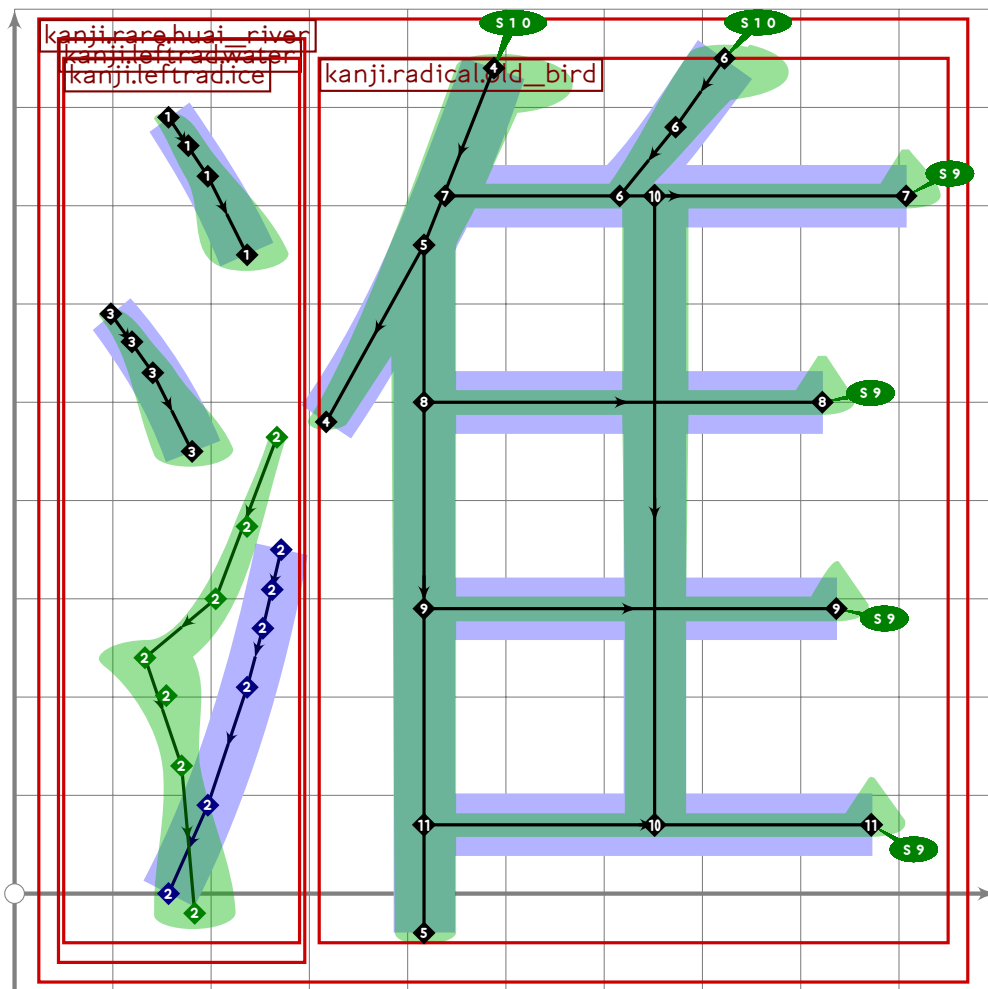
RARE



```

407
408 vardef kanji.rare.history_inside =
409   push_pbox_toexpand("kanji.rare.history_inside");
410   build_kanji.tb(420,80)
411     (kanji.grone.grove)
412     (kanji.grtwo.cease);
413   expand_pbox;
414 enddef;

```



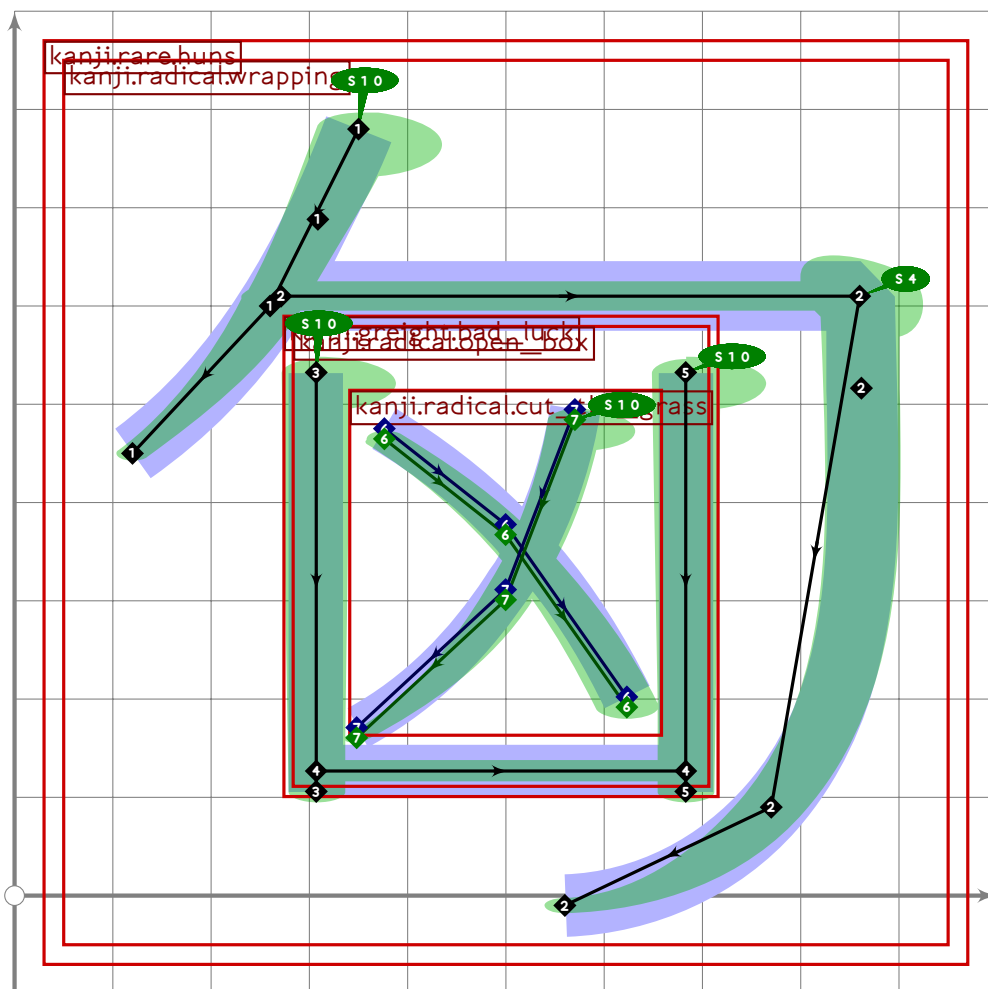
```

415
416 vardef kanji.rare.huai_river =
417   push_pbox_toexpand("kanji.rare.huai_river");
418   build_kanji.lr(300,-20)
419     (kanji.leftrad.water)
420     (kanji.radical.old_bird);
421   expand_pbox;
422 enddef;

```

RARE

U+5308  
tsuku.uni5308



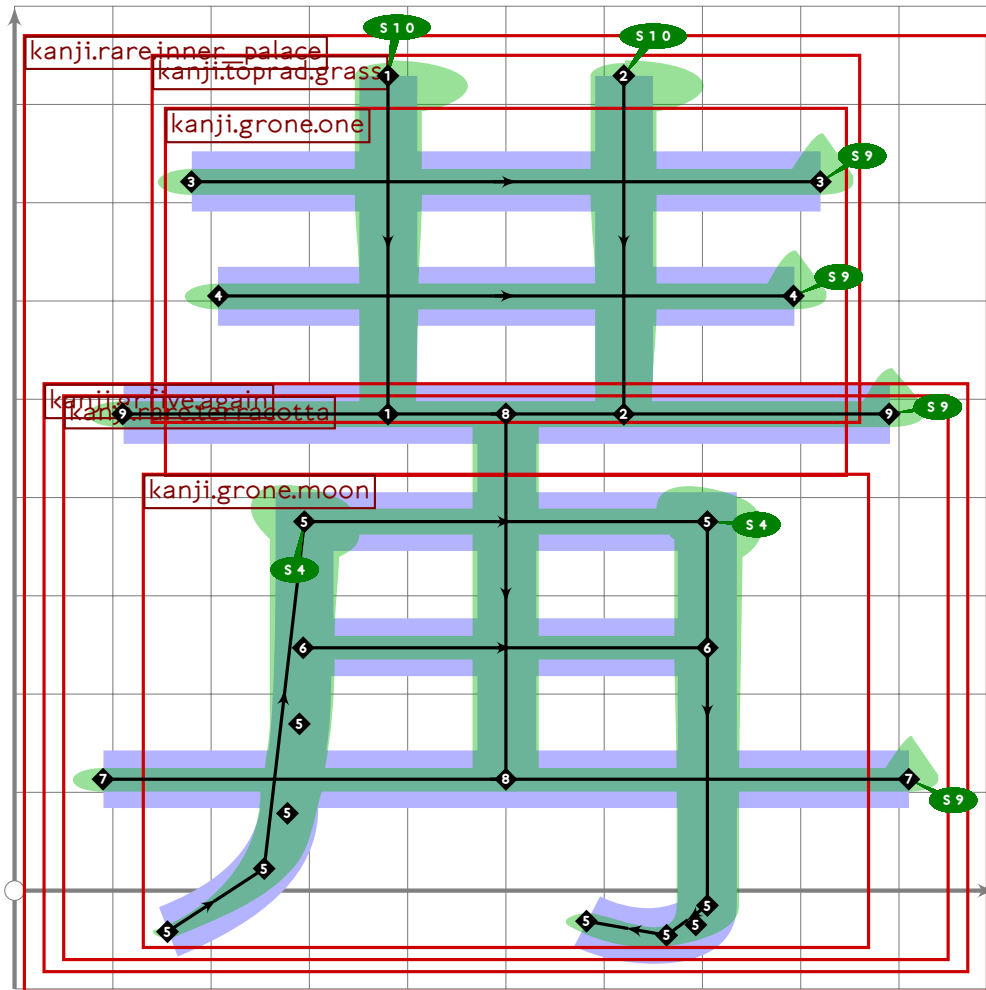
```

423
424 vardef kanji.rare.huns =
425   push_pbox_toexpand("kanji.rare.huns");
426   perl_structure:=perl_structure&"eids.u2FF9_1.1_";
427   kanji.radical.wrapping;
428   build_kanji.scale(xyscaled (0.47,0.52) shifted (-5,-50))
429     (kanji.greight.bad_luck);
430   expand_pbox;
431 enddef;

```

RARE



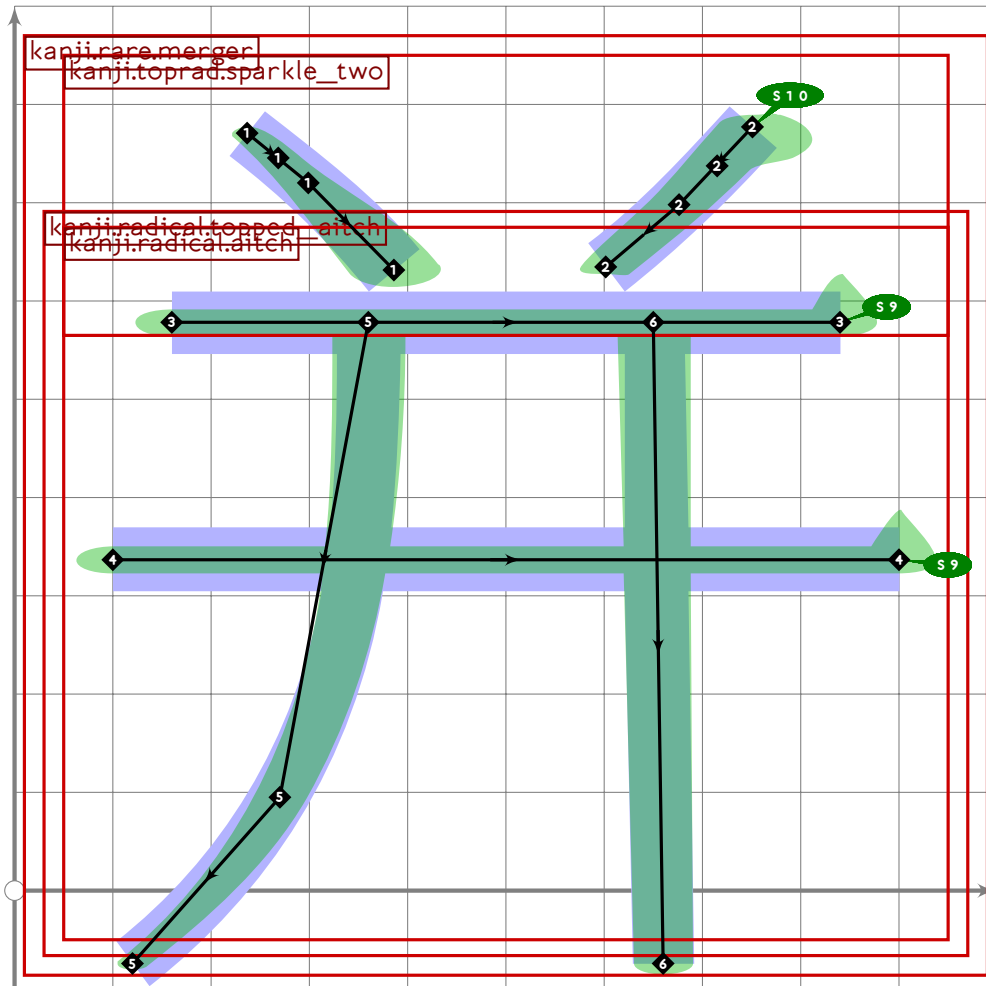


```

432
433 vardef kanji.rare.inner_palace =
434   push_pbox_toexpand("kanji.rare.inner_palace");
435   build_kanji.level(build_kanji.tb(490,27)
436     (build_kanji.sscale(xscaled 0.8)(kanji.toprad.grass);
437       replace_strokep(0)(oldp shifted (0,140));
438       build_kanji.sscale(xscaled 0.77 shifted (0,-130))(kanji.grone.one))
439     (kanji.grfive.again));
440   expand_pbox;
441 enddef;

```

RARE



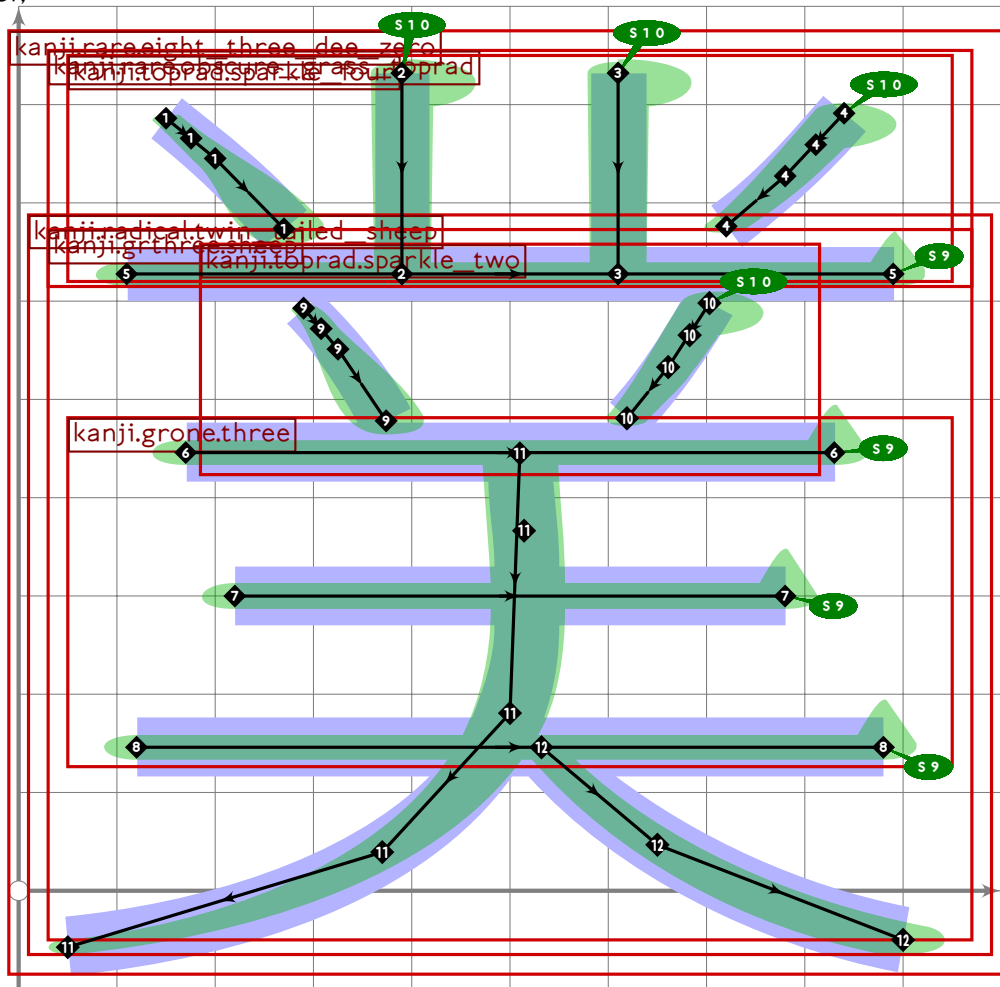
```

442
443 vardef kanji.rare.merger =
444   push_pbox_toexpand("kanji.rare.merger");
445   build_kanji.level(build_kanji.tb(620,110)
446     (build_kanji.spread_legs(-220)(kanji.toprad.sparkle_two))
447     (kanji.radical.topped_aitch));
448   expand_pbox;
449 enddef;
450
451 % This obscure form of the "grass" radical seems to be used only in U+83D0,
452 % an obscure kanji that doesn't seem to have a meaning of its own but forms
453 % the right-hand side of the fairly common kanji for the masculine
454 % first-person pronoun "boku," which we need in order to spell the type
455 % style name "Bokukko." It's not even clear that it really is a form of the
456 % "grass" radical at all, but that's how Unicode seems to classify it.
457
458 vardef kanji.rare.obscure_grass_toprad =
459   push_pbox_toexpand("kanji.rare.obscure_grass_toprad");
460   kanji.toprad.sparkle_four;
461   push_stroke((110,-20)-(890,-20),(1.6,1.6)-(1.6,1.6));
462   set_bosserif(0,19);

```

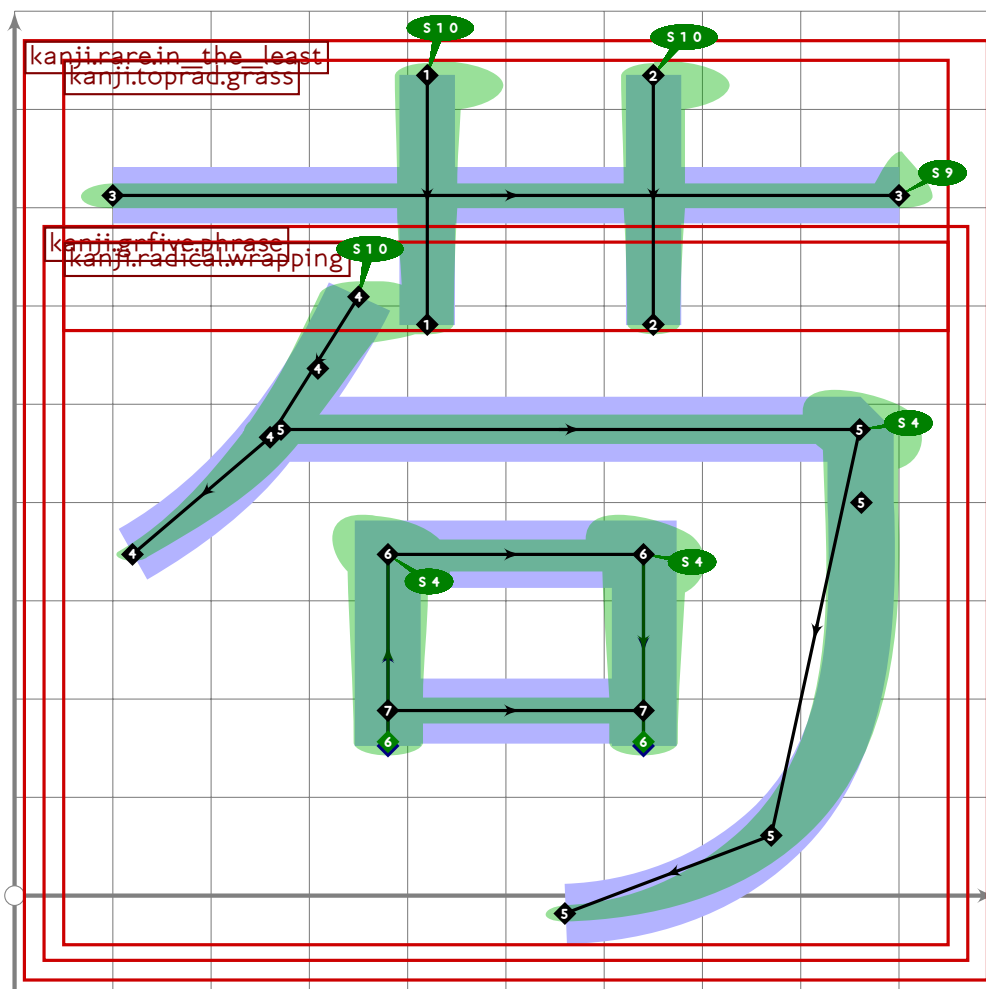
RARE

```
463   expand_pbox;
464 enddef;
```



```
465
466 vardef kanji.rare.eight_three_dee_zero =
467   push_pbox_toexpand("kanji.rare.eight_three_dee_zero");
468   build_kanji.tb(620,0)
469     (kanji.rare.obscure_grass_toprad)
470     (kanji.radical.twin_tailed_sheep);
471   expand_pbox;
472 enddef;
```

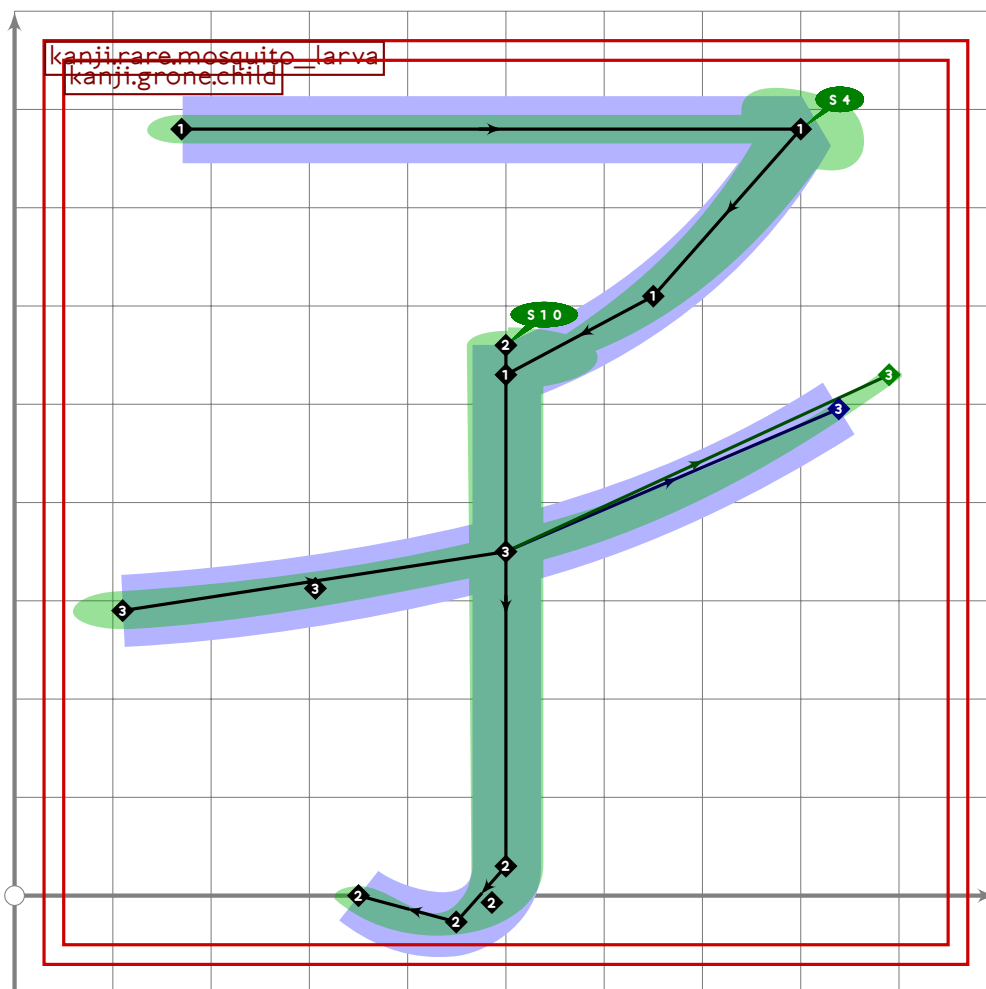
RARE



```

473
474 vardef kanji.rare.in_the_least =
475   push_pbox_toexpand("kanji.rare.in_the_least");
476   build_kanji.tb(620,90)
477     (kanji.toprad.grass;
478       replace_strokep(-2)(oldp shifted (70,0)))
479     (kanji.grfive.phrase);
480   expand_pbox;
481 enddef;

```



```

482
483 vardef kanji.rare.mosquito_larva =
484   push_pbox_toexpand("kanji.rare.mosquito_larva");
485   kanji.grone.child;
486   replace_strokeq(0)((110,290)..tension 1.2..(500,350)..(890,530));
487   replace_strokeq(0)((19,19)-(1.6,1.6)-(09,09));
488   set_boserif(0,1,whatever);
489   expand_pbox;
490 enddef;
491
492 vardef hook.mound_bottoms(expr left_i,right_i,bottom_i) =
493   if (obstacktype[left_i]=otstroke)
494     and (obstacktype[right_i]=otstroke)
495     and (obstacktype[bottom_i]=otstroke):
496     if (3=length obstackp[left_i])
497       and (2=length obstackp[right_i])
498       and (1=length obstackp[bottom_i]):
499       begingroup;
500       save x,y,p,e;
501       numeric x[],y[],e[];
502       path p[];

```

```

503
504     p1=obstackp[left_i];
505     p2=obstackp[bottom_i];
506     p3=obstackp[right_i];
507
508     z1=-(direction 0 of p1)/abs(direction 0 of p1);
509     z2=(direction 0.5 of p2)/abs(direction 0.5 of p2);
510     z3=(direction 2 of p3)/abs(direction 2 of p3);
511
512     e3=obstackna.bosize[bottom_i]*tsu_brush_max.brletter
513         *tsu_brush_shape.brletter*0.5;
514     if abs(z1 dotprod z2)<0.1:
515         point 0 of p1=z4+e1*z1;
516         z4=(point 0.5 of p2)+whatever*z2;
517
518         if e1<e3:
519             p1:=(z4+e3*z1)-(subpath (1,3) of p1);
520             obstackp[left_i]:=p1;
521         fi;
522     fi;
523     if abs(z3 dotprod z2)<0.1:
524         point 2 of p3=z5+e2*z3;
525         z5=(point 0.5 of p2)+whatever*z2;
526
527         if e2<e3:
528             p3:=(subpath (0,1) of p3)-(z5+e3*z3);
529             obstackp[right_i]:=p3;
530         fi;
531     fi;
532     endgroup;
533 fi;
534 fi;
535 enddef;
536
537 vardef kanji.rare_helper.mound =
538     push_pbox__toexpand("kanji.rare_helper.mound");
539     begingroup
540         save x,y;
541         numeric x[],y[];
542
543         x1=x2=x5=x7=x10=180;
544         x3=x4=x6=0.87[x1,x8];
545         x8=x9=x11=1000-x1;
546
547         y1=y9=(-0.2)[y10,y7];
548         y2=y3=780;
549         y4=(-0.2)[y5,y2];
550         y5=y6=530;

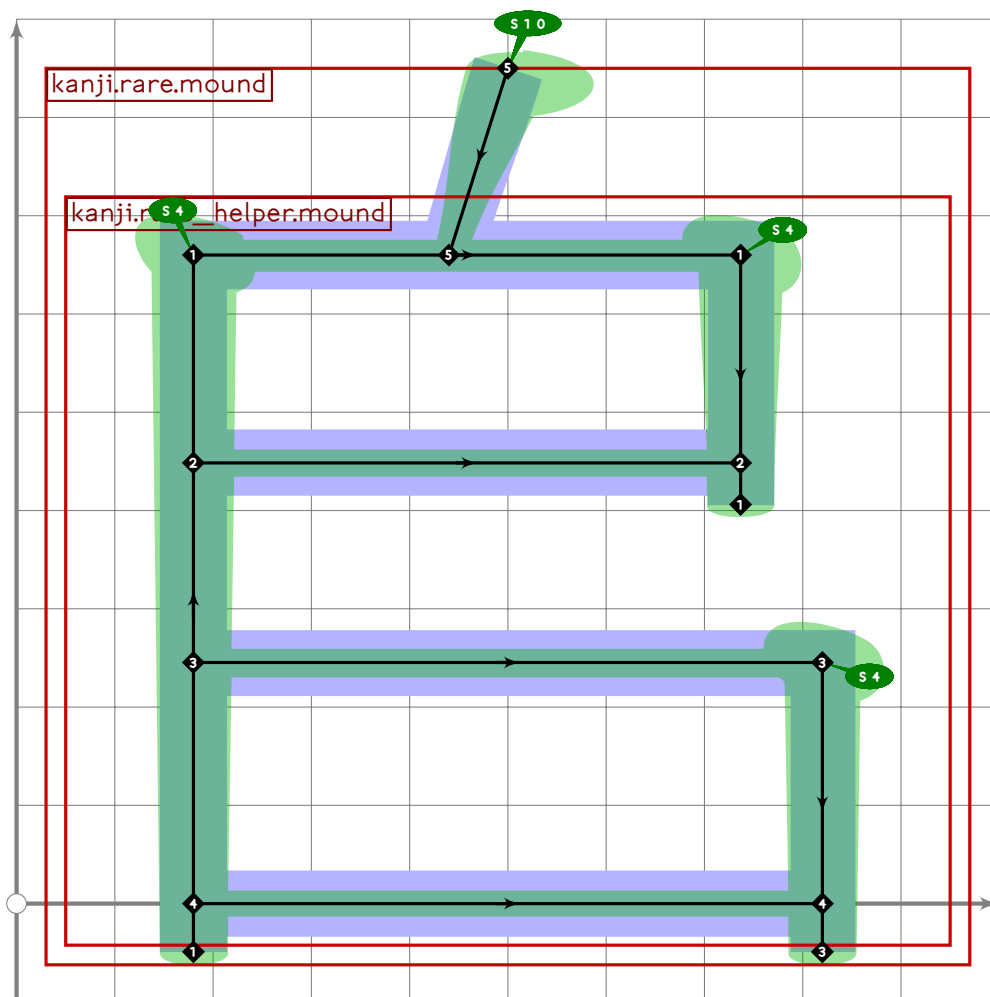
```

**RARE**

```

551 y7=y8=290;
552 y10=y11=0;
553
554 push_stroke(z1-z2-z3-z4,(1.5,1.5)-(1.7,1.7)-(1.7,1.7)-(1.5,1.5));
555 set_botip(0,1,1);
556 set_botip(0,2,1);
557 set_boserif(0,1,4);
558 set_boserif(0,2,4);
559 push_stroke(z5-z6,(1.5,1.5)-(1.5,1.5));
560 push_stroke(z7-z8-z9,(1.5,1.5)-(1.6,1.6)-(1.5,1.5));
561 set_botip(0,1,1);
562 set_boserif(0,1,4);
563 push_stroke(z10-z11,(1.5,1.5)-(1.5,1.5));
564
565 push_hook(hsmain_render,
566     "hook.box_bottom("&(decimal find_stroke(-3))&"
567         &(decimal find_stroke(-2))&");" );
568 push_hook(hsmain_render,
569     "hook.mound_bottoms("&(decimal find_stroke(-3))&"
570         &(decimal find_stroke(-1))&"
571         &(decimal find_stroke(0))&");" );
572 endgroup;
573 expand_pbox;
574 endif;

```

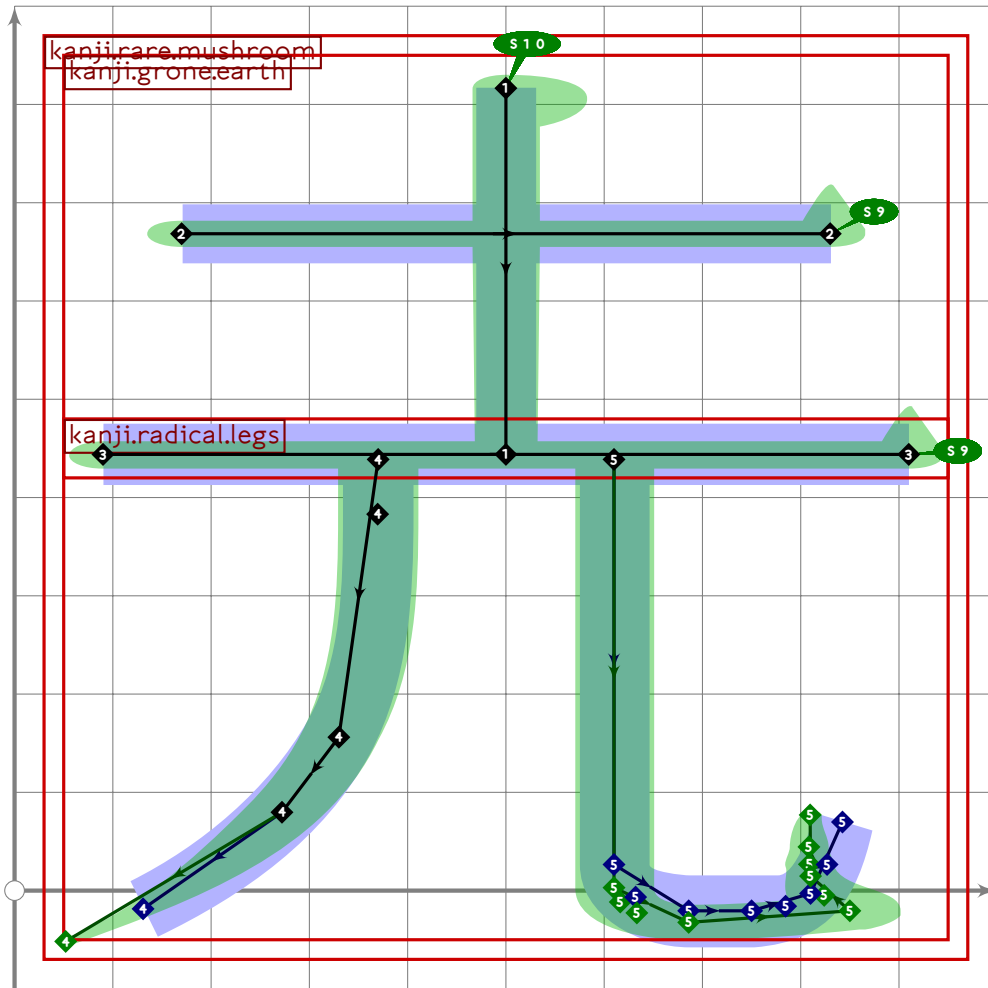


```

575
576 vardef kanji.rare.mound =
577   push_pbox_toexpand("kanji.rare.mound");
578   build_kanji.attach_tick(660)(kanji.rare_helper.mound);
579   expand_pbox;
580 enddef;

```





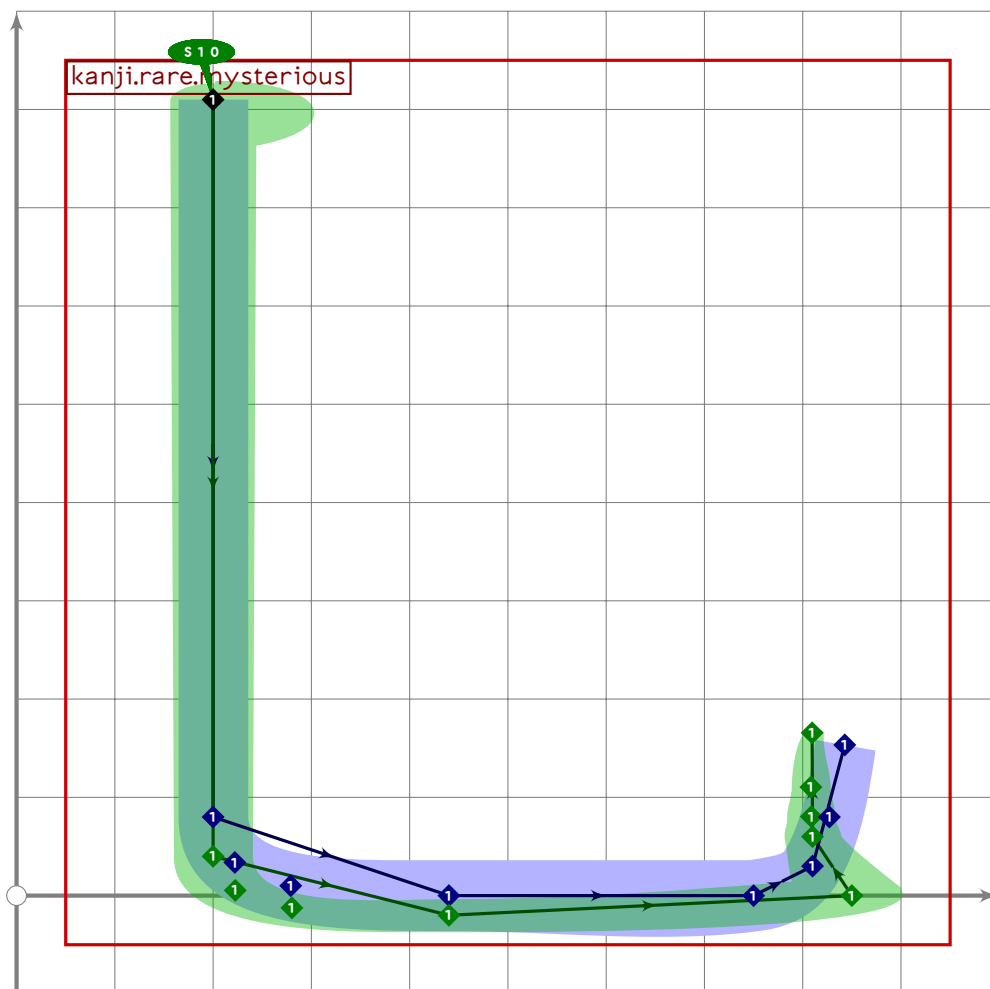
```

581
582 vardef kanji.rare.mushroom =
583   push_pbox_toexpand("kanji.rare.mushroom");
584   build_kanji.tb(450,60)
585     (kanji.grone.earth)
586     (kanji.radical.legs);
587   expand_pbox;
588 enddef;

```

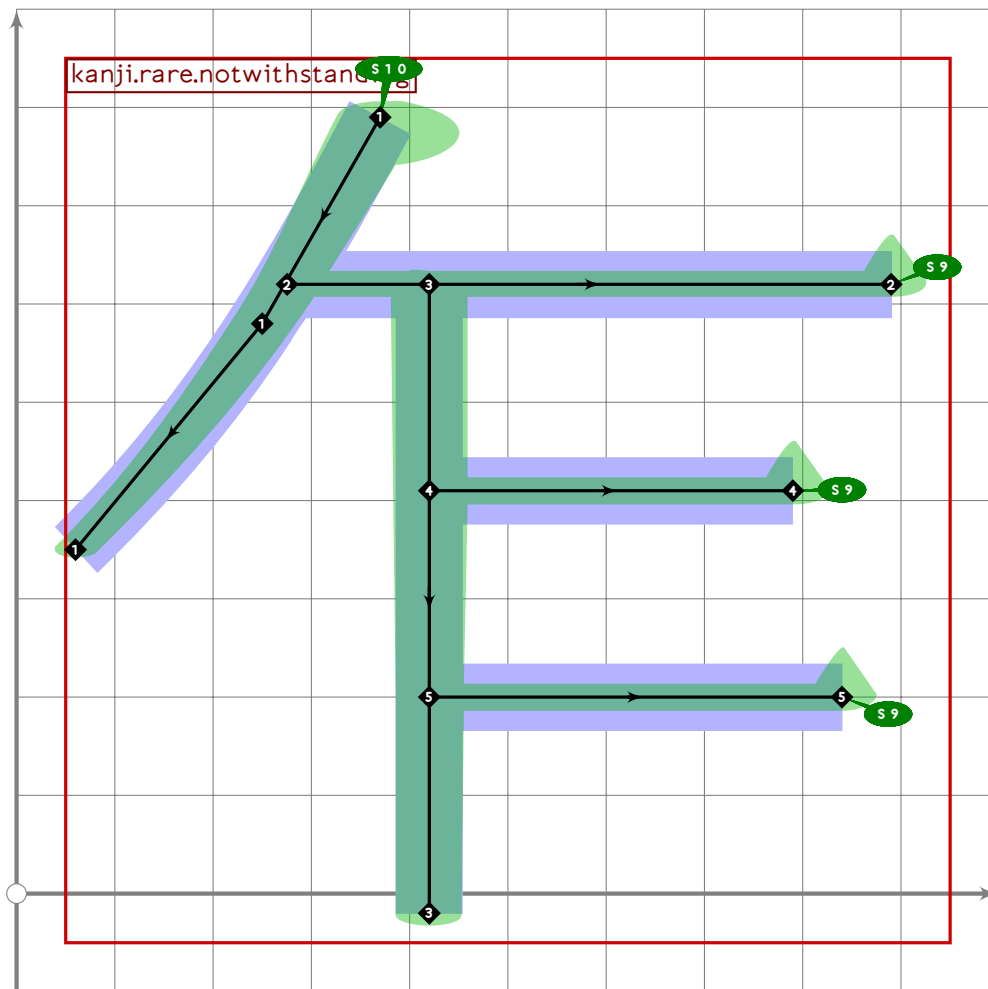
**RARE**

U+4E5A  
tsuku.uni4E5A



```
589
590 vardef kanji.rare.mysterious =
591   push_pbox_toexpand("kanji.rare.mysterious");
592   push_stroke((200,810))((1,7,7));
593   build_kanji.add_ltail(0);
594   set_boserif(0,0,10);
595   expand_pbox;
596 enddef;
```

RARE



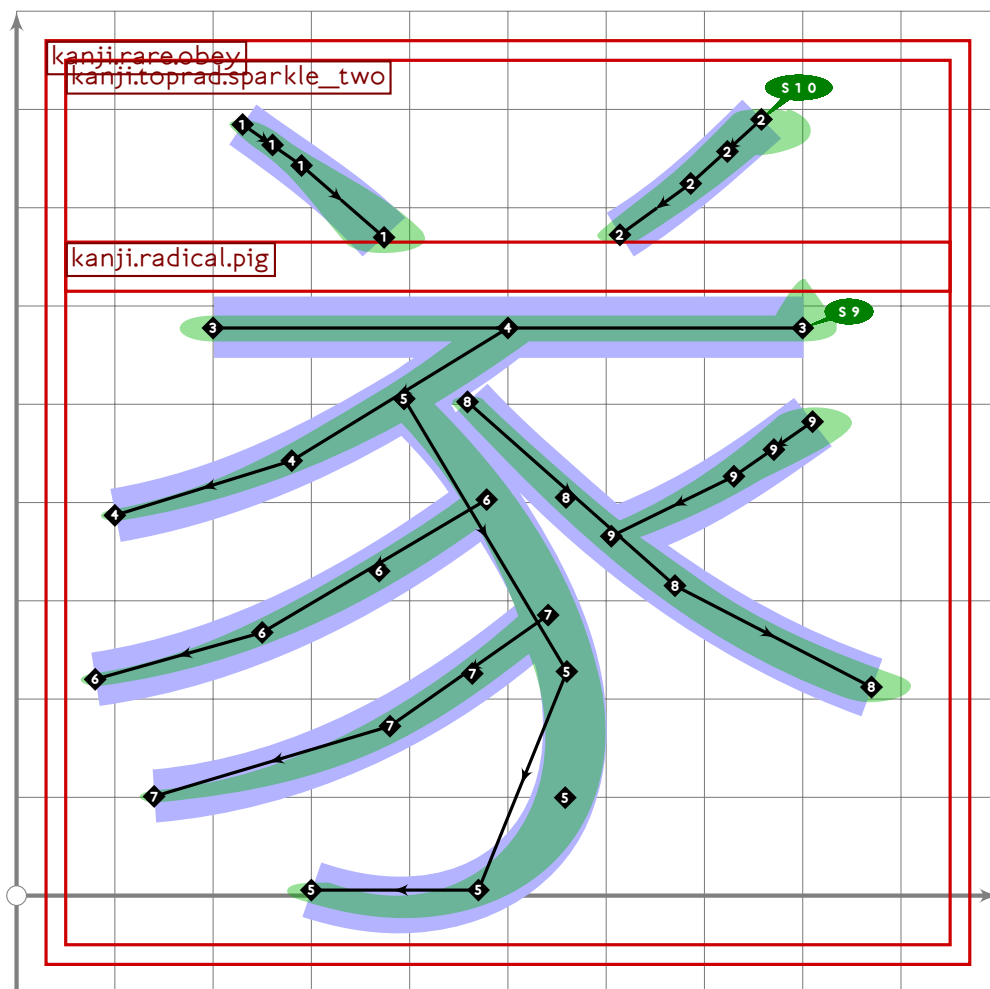
```

597
598 vardef kanji.rare.notwithstanding =
599   push_pbox_toexpand("kanji.rare.notwithstanding");
600   push_stroke((370,790){curl 0.1}..(250,580)..(60,350),
601     (1.7,1.7)–(1.4,1.4)–(1.1,1.1));
602   set_boserif(0,0,10);
603   push_stroke(
604     (((0,620)–(1000,620)) intersectionpoint get_stroke(0))–(890,620),
605     (1.4,1.4)–(1.5,1.5));
606   set_boserif(0,1,9);
607   push_stroke((420,620)–(420,20),
608     (1.6,1.6)–(1.4,1.4));
609   push_stroke((420,410)–(790,410),
610     (1.5,1.5)–(1.5,1.5));
611   set_boserif(0,1,9);
612   push_stroke((420,200)–(840,200),
613     (1.5,1.5)–(1.5,1.5));
614   set_boserif(0,1,9);
615   expand_pbox;
616 enddef;

```

RARE

U+34B8  
tsuku.uni34B8

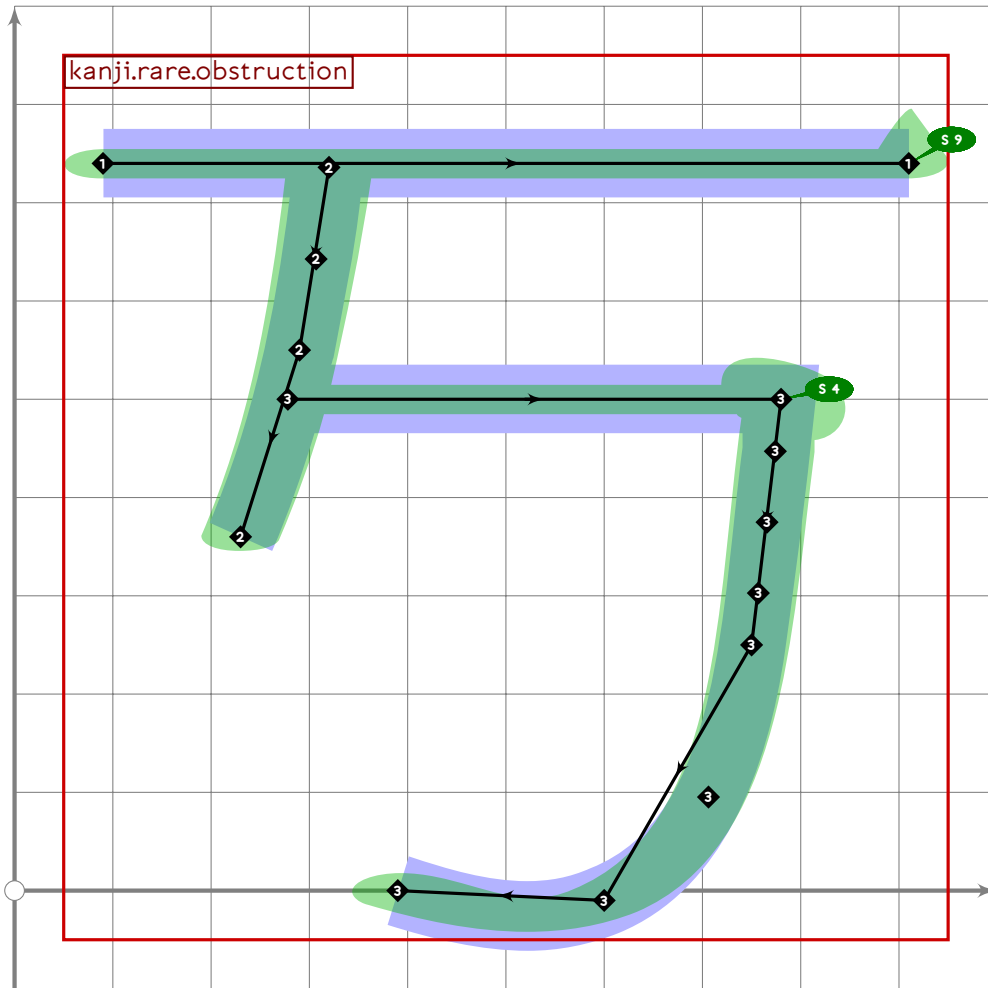


```

617
618 vardef kanji.rare.obey =
619   push_pbox_toexpand("kanji.rare.obey");
620   build_kanji.tb(640,50)
621     (build_kanji.spread_legs(-180)(kanji.toprad.sparkle_two))
622     (kanji.radical.pig);
623   expand_pbox;
624 enddef;

```

RARE



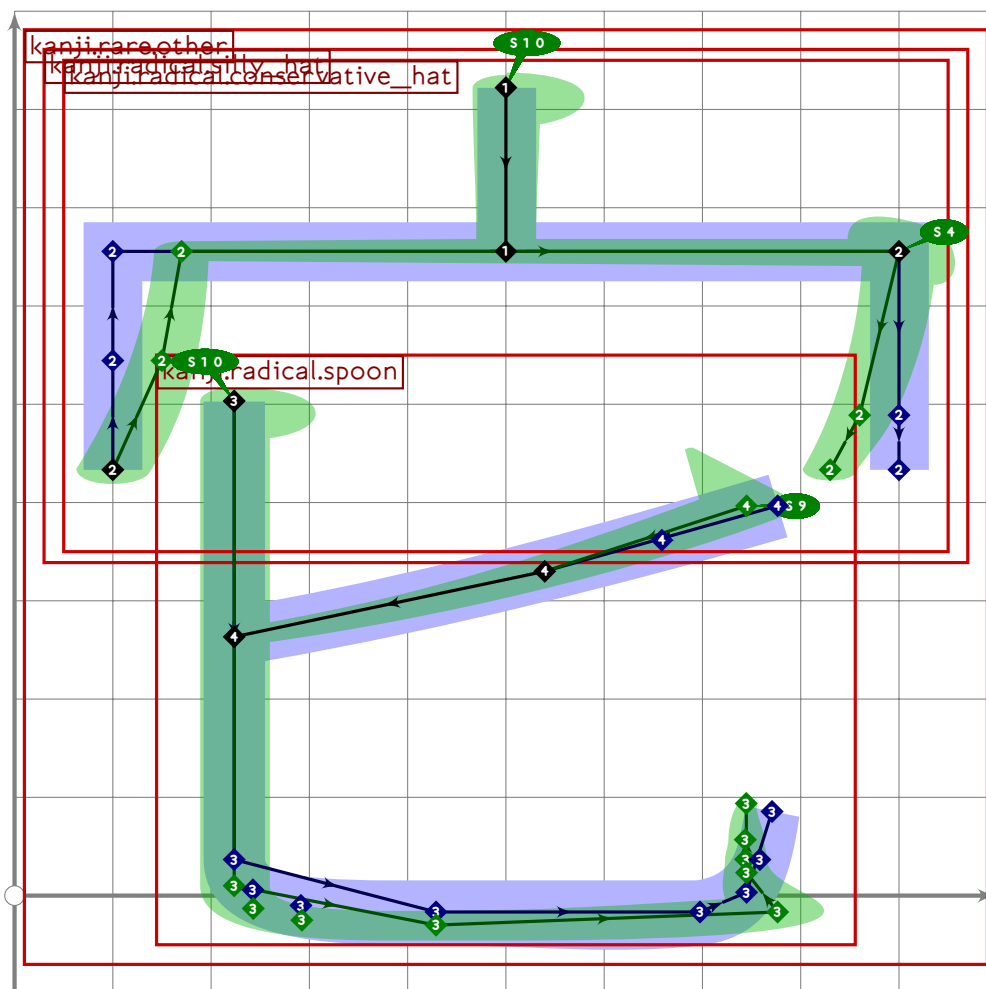
```

625
626 vardef kanji.rare.obstruction =
627   push_pbox_toexpand("kanji.rare.obstruction");
628   push_stroke((90,740)-(910,740),(1.6,1.6)-(1.6,1.6));
629   set_boserif(0,19);
630   push_stroke((320,736)..tension 1.2..(290,550)..(230,360),
631     (1.7,1.7)-(1.6,1.6)-(1.6,1.6));
632   push_stroke((get_strokep(0) intersectionpoint ((0,500)-(1000,500)))-
633     (780,500)..tension 1.7..(750,250)..(600,10)..{curl 0.1}(390,0),
634     (1.6,1.6)-(1.6,1.6)-(1.5,1.5)-(1.7,1.7)-(1.8,1.8));
635   set_botip(0,11);
636   set_boserif(0,14);
637   expand_pbox;
638 enddef;

```

**RARE**

U+5B83  
tsuku.uni5B83

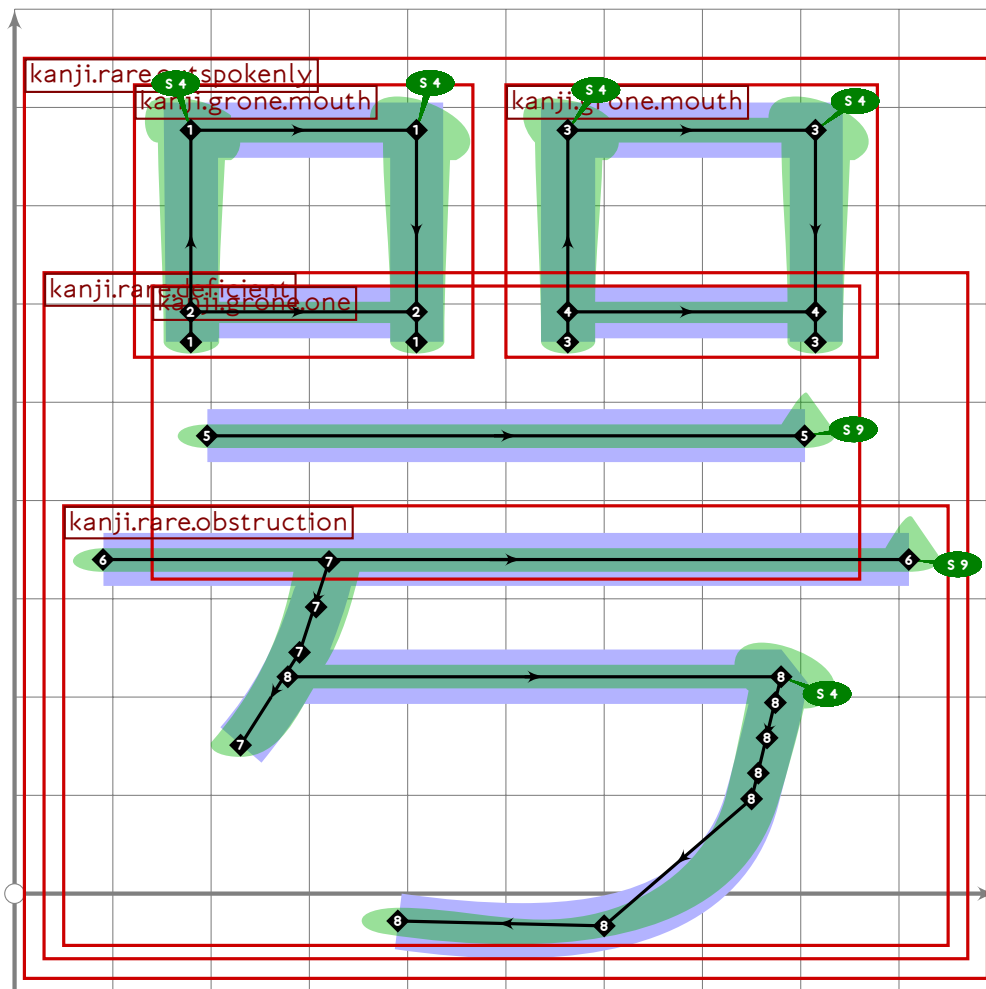


```

639
640 vardef kanji.rare.other =
641   push_pbox__toexpand("kanji.rare.other");
642   build_kanji.tb(450,200)
643     (kanji.radical.silly_hat)
644     (build_kanji.sscale(xscaled 0.79)
645       (kanji.radical.spoon));
646   expand_pbox;
647 enddef;

```

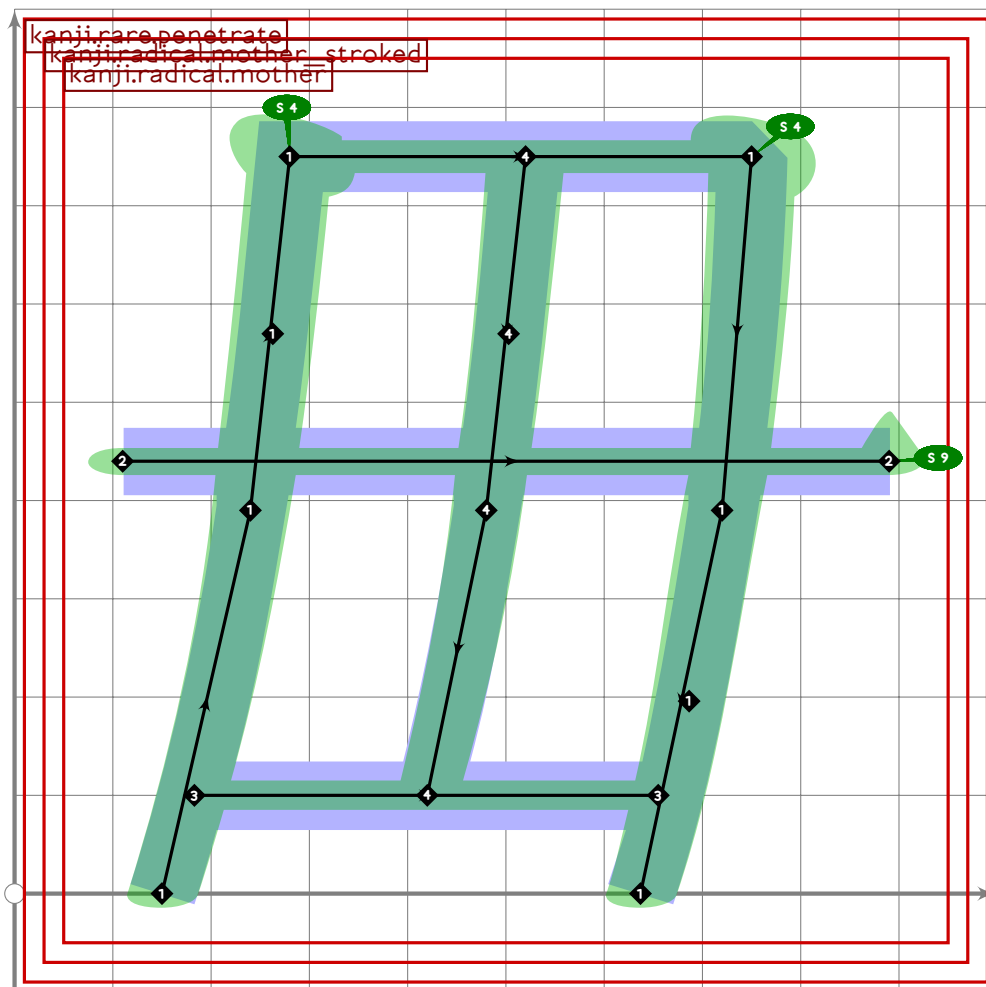
RARE



```

648
649 vardef kanji.rare.outspokenly =
650   push_pbox__toexpand("kanji.rare.outspokenly");
651   build_kanji.level(build_kanji.tb(540,40)
652     (build_kanji.sscale(scaled 0.84)(build_kanji.lr(480,-40)
653       (kanji.grone.mouth)(kanji.grone.mouth)))
654     (kanji.rare.deficient));
655   expand_pbox;
656 enddef;

```

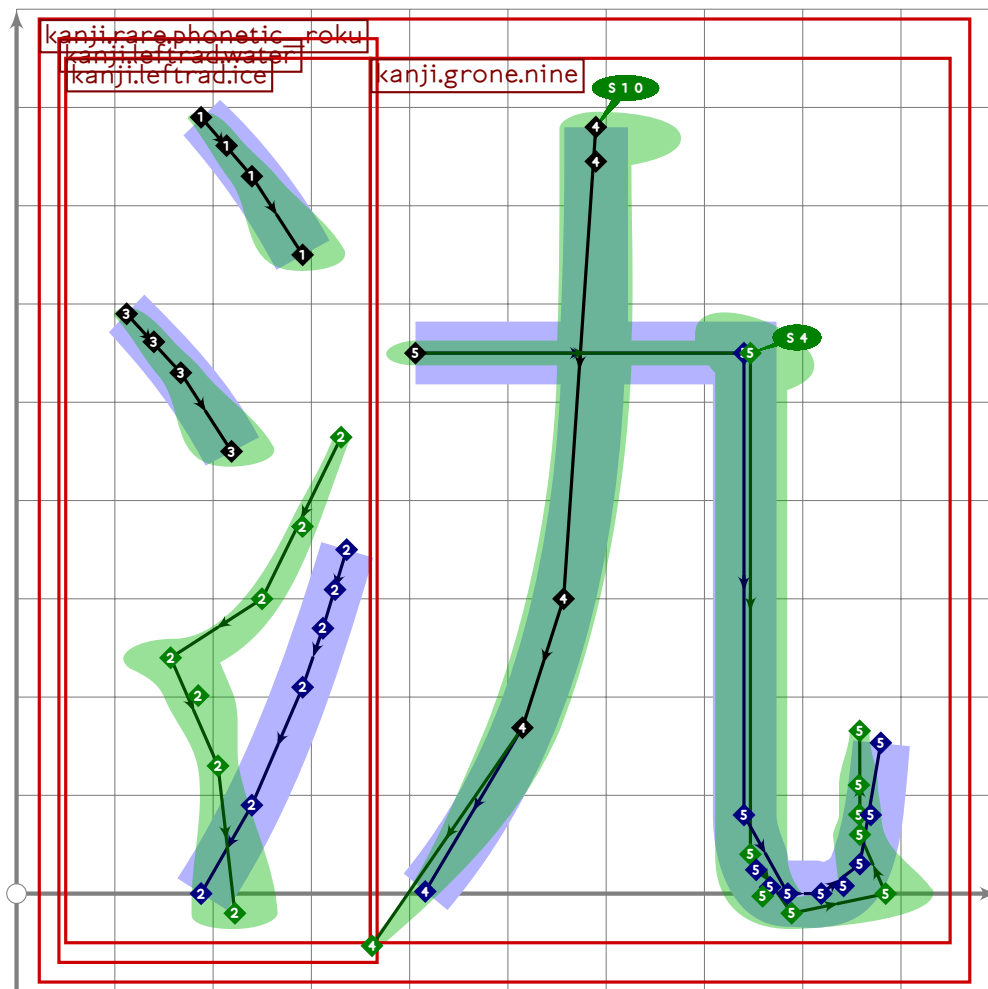


```

657
658 vardef kanji.rare.penetrate =
659   push_pbox__toexpand("kanji.rare.penetrate");
660   kanji.radical.mother_stroked;
661   replace_strokep(-3)(subpath (0,xpart (oldp intersectiontimes
662     ((500,0)-(1000,0)))) of oldp);
663   replace_strokeq(-3)(subpath (0,length get_strokep(-3)) of oldq);
664   replace_strokep(-1)((183,100)-(655,100));
665   set_boserif(-1,whatever);
666   expand_pbox;
667 enddef;

```



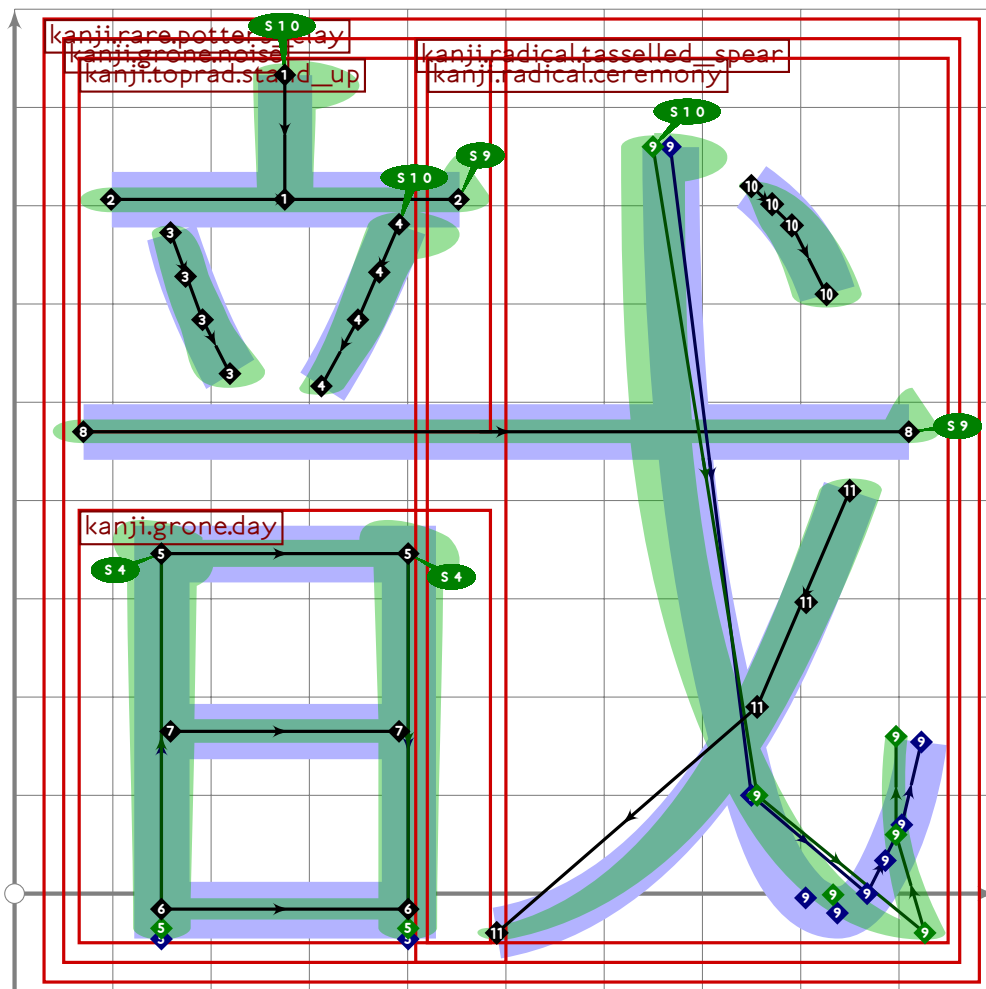


```

668
669 vardef kanji.rare.phonetic_roku =
670   push_pbox_toexpand("kanji.rare.phonetic_roku");
671   build_kanji.lr(360,0)
672     (kanji.leftrad.water)
673     (kanji.grone.nine);
674   expand_pbox;
675 enddef;

```

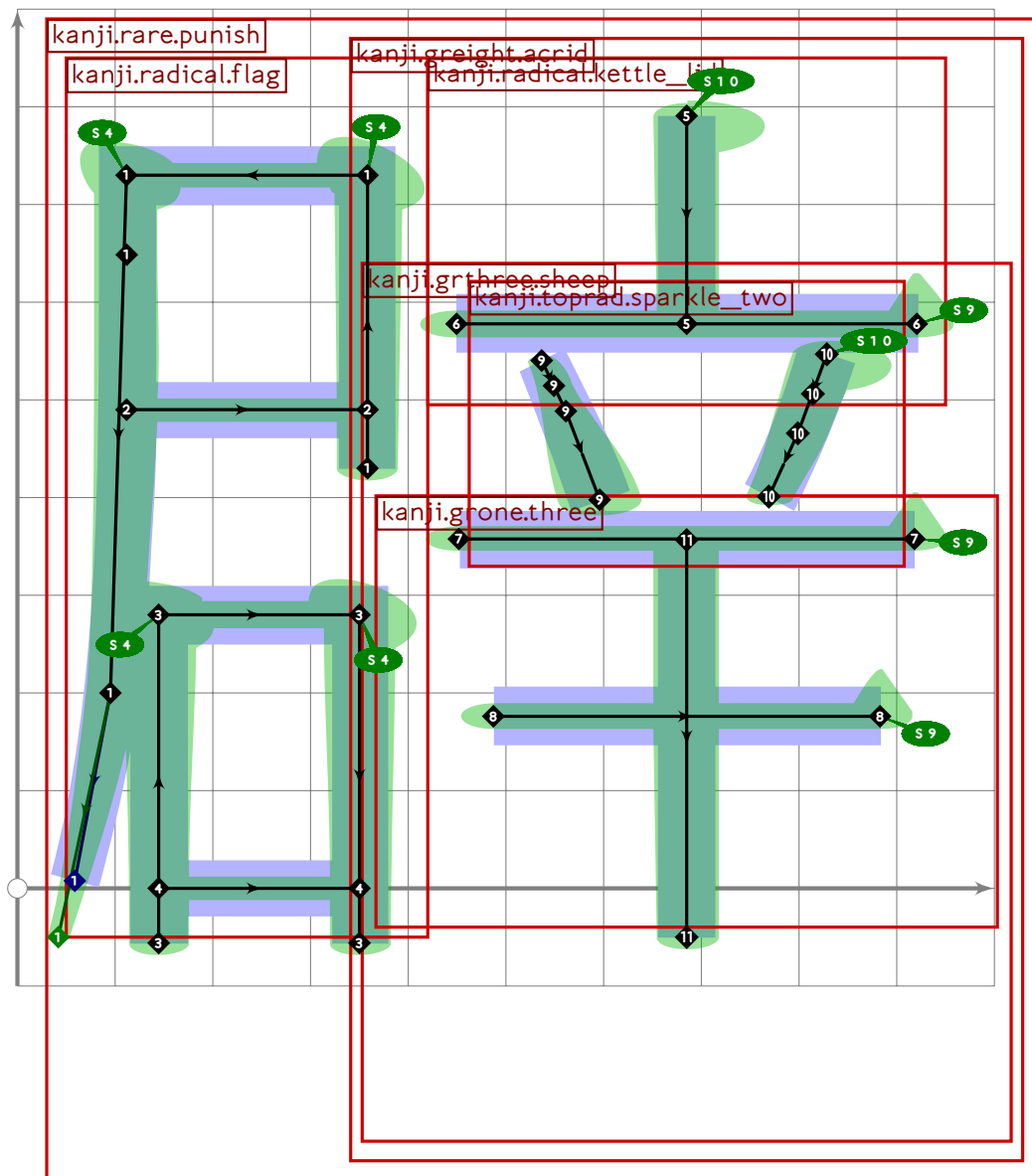
RARE



```

676
677 vardef kanji.rare.potters_clay =
678   push_pbox__toexpand("kanji.rare.potters_clay");
679   build_kanji.level(
680     build_kanji.lr(460,80)
681     (kanji.grone.noise;
682       obstacktype[find_whatsoever(otstroke,3)]:=otnull)
683     (kanji.radical.tasselled_spear;
684       replace_strokep(-3)((70,470)-(910,470)));
685   expand_pbox;
686 enddef;

```



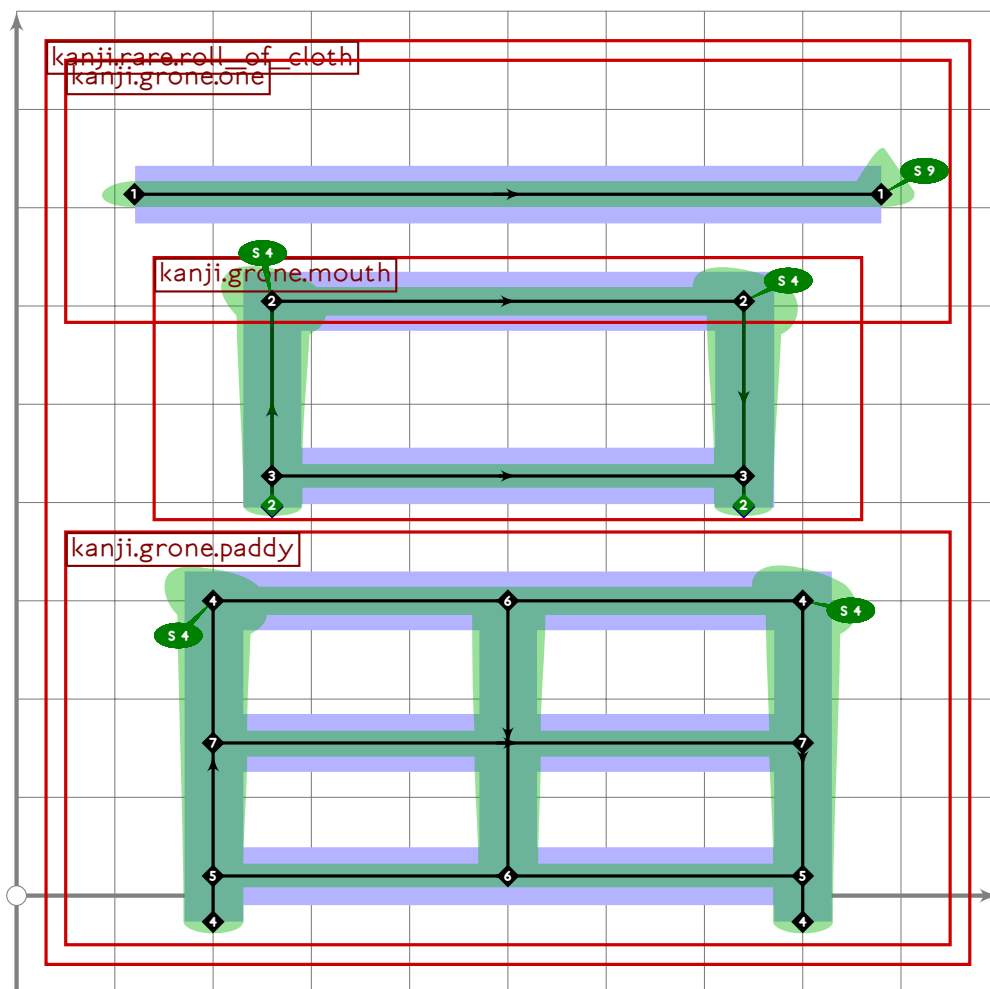
```

687
688 vardef kanji.rare.punish =
689   push_pbox_toexpand("kanji.rare.punish");
690   build_kanji.level(build_kanji.lr(420,0)
691     (kanji.radical.flag;
692       build_kanji.box((280,280),(780,0)))
693     (kanji.greight.acrid));
694   expand_pbox;
695 enddef;

```

RARE

U+7550  
tsuku.uni7550

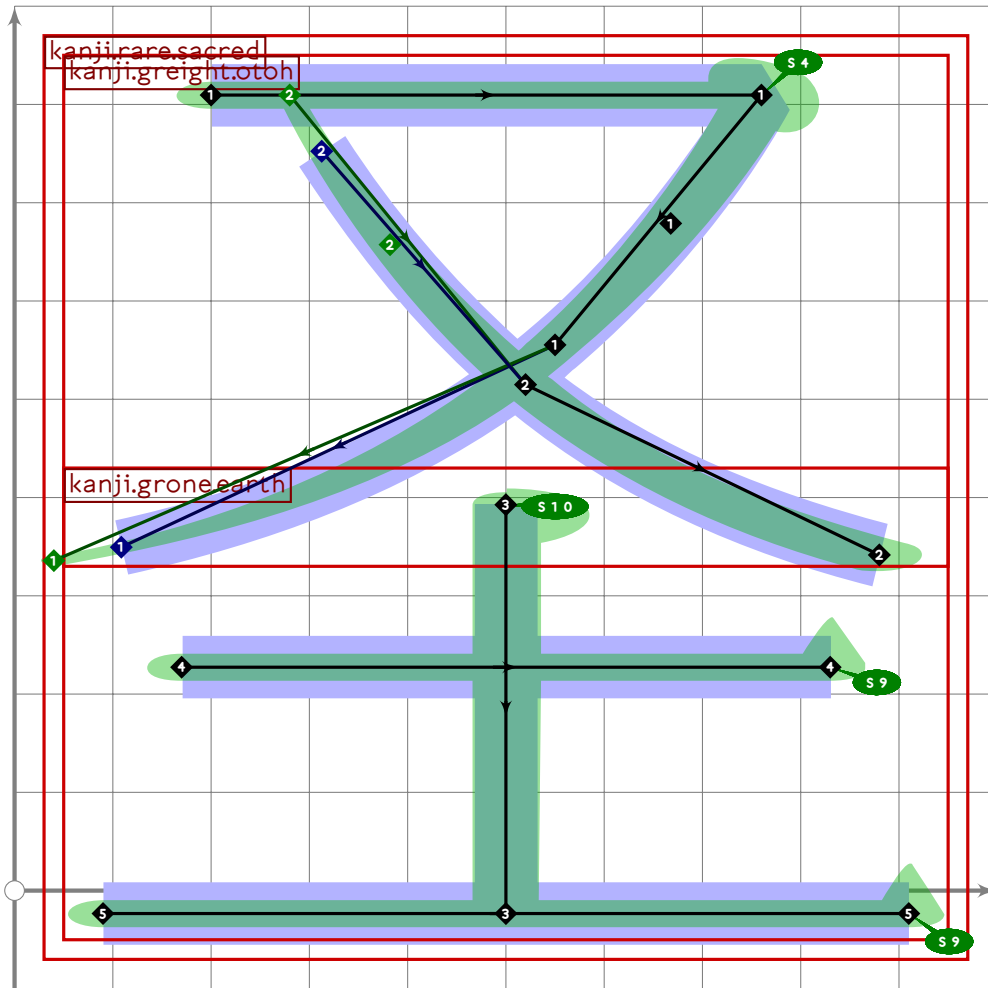


```

696
697 vardef kanji.rare.roll_of_cloth =
698   push_pbox_toexpand("kanji.rare.roll_of_cloth");
699   build_kanji.level(build_kanji.tb(360,20)
700     (build_kanji.tb(460,180)
701       (kanji.grone.one)
702       (build_kanji.sscale(scaled 0.8)(kanji.grone.mouth)))
703     (kanji.grone.paddy));
704   expand_pbox;
705 enddef;

```

RARE



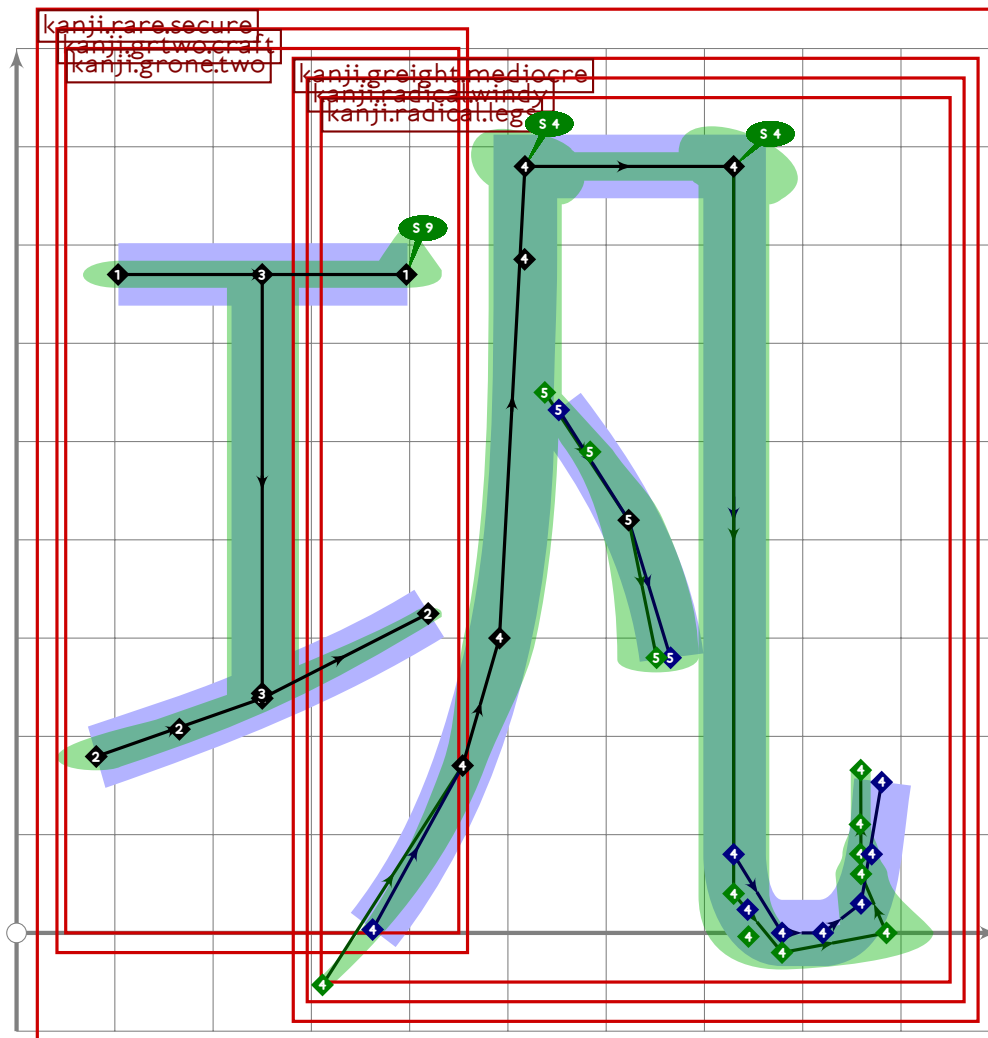
```

706
707 vardef kanji.rare.sacred =
708   push_pbox_toexpand("kanji.rare.sacred");
709   build_kanji.level(build_kanji.tb(380,100)
710     (kanji.greight.otoh)
711     (kanji.grone.earth));
712   expand_pbox;
713 enddef;

```

RARE

U+5DE9  
tsuku.uni5DE9

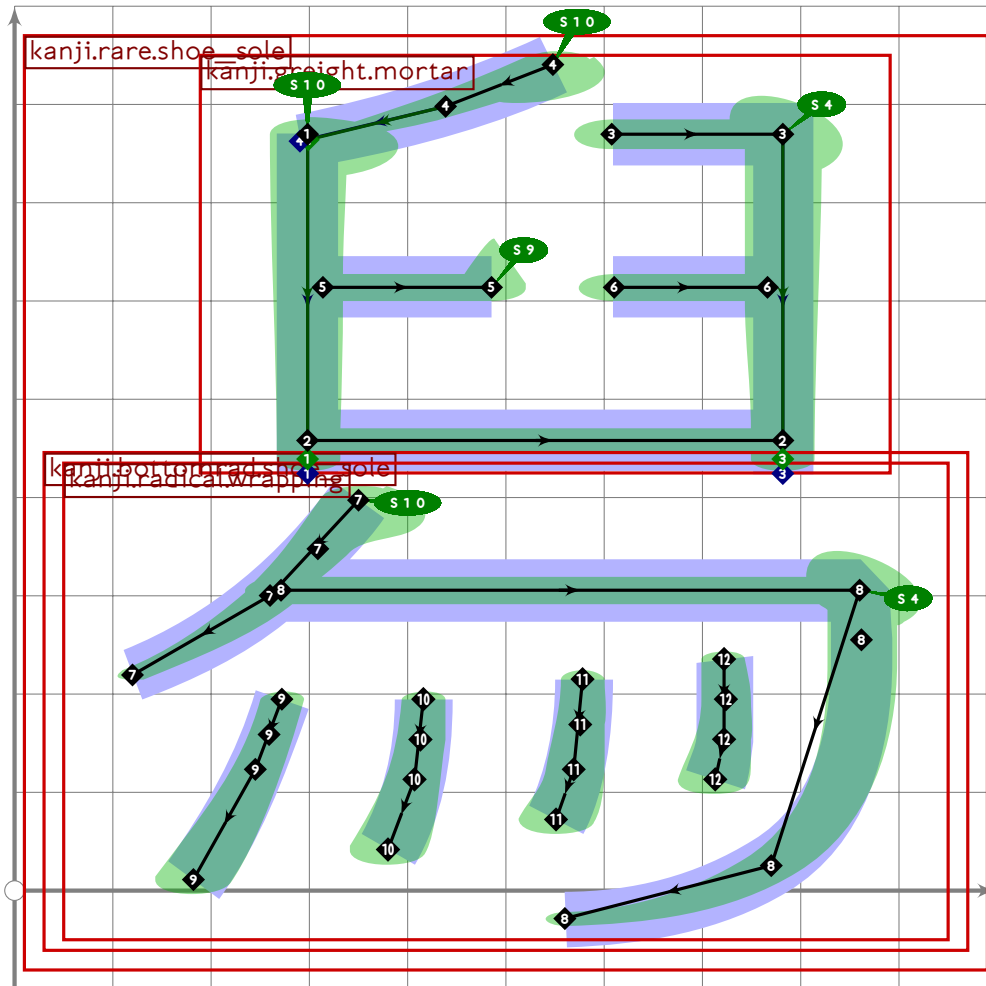


```

714
715 vardef kanji.rare.secure =
716   push_pbox_toexpand("kanji.rare.secure");
717   build_kanji.level(build_kanji.lr(380,140)
718     (tsu_xform(identity shifted (0,50))(build_kanji.lift_skirt(400,250)
719       (kanji.grtwo.craft)))
720     (kanji.greight.mediocre));
721   expand_pbox;
722 enddef;

```

RARE

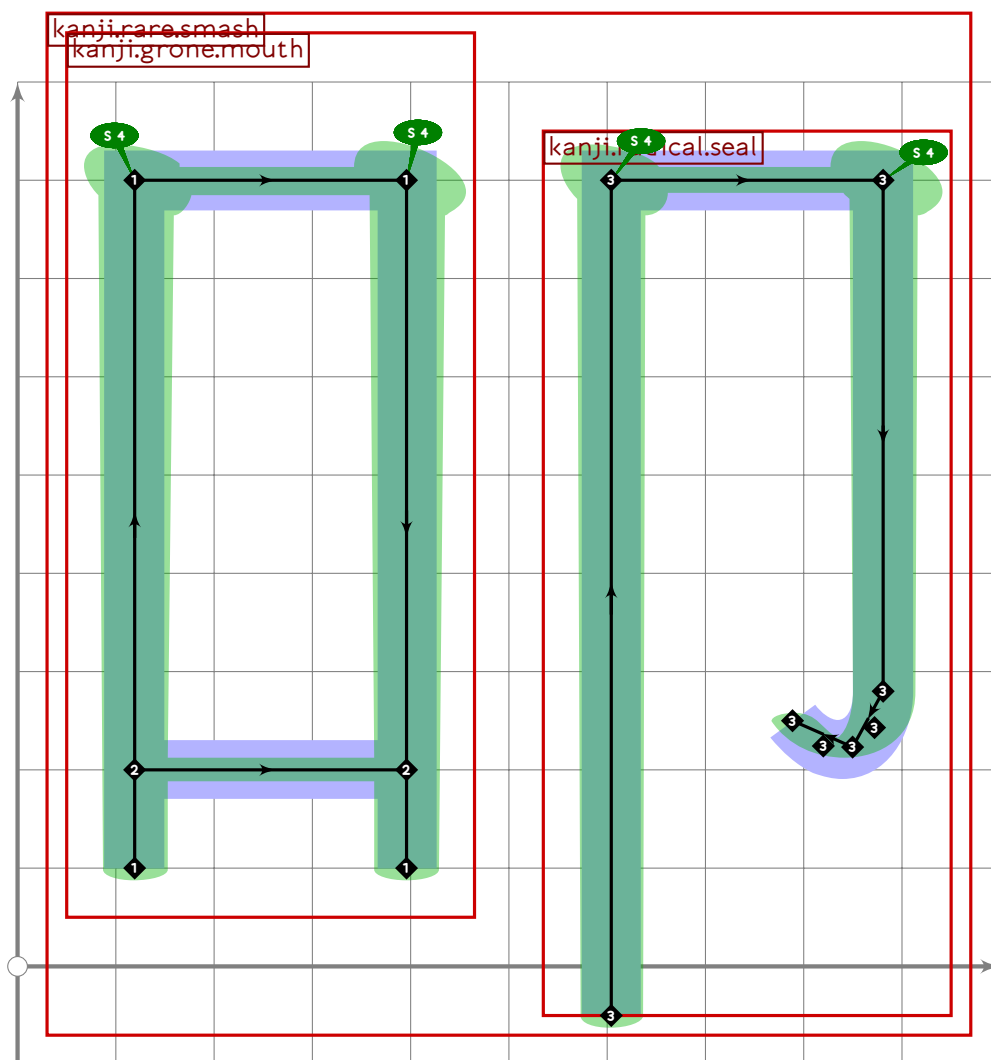


```

723
724 vardef kanji.rare.shoe_sole =
725   push_pbox_toexpand("kanji.rare.shoe_sole");
726   build_kanji.level(
727     build_kanji.tb(430,10)
728     (build_kanji.sscale(xscaled 0.78 shifted (40,0))(kanji.greight.mortar))
729     (kanji.bottomrad.shoe_sole);
730   build_kanji.sscale(xyscaled (0.90,1.02) shifted (60,70))
731     (push_stroke((180,130)..tension 1.2..(150,60)..(80,-50),
732       (1.2,1.2)-(1.4,1.4)-(1.7,1.7));
733     push_stroke((340,130)..tension 1.2..(330,50)..(300,-20),
734       (1.2,1.2)-(1.4,1.4)-(1.7,1.7));
735     push_stroke((520,150)..tension 1.2..(510,60)..(490,10),
736       (1.2,1.2)-(1.4,1.4)-(1.7,1.7));
737     push_stroke((680,170)..tension 1.2..(680,90)..(670,50),
738       (1.2,1.2)-(1.4,1.4)-(1.7,1.7)));
739   );
740   expand_pbox;
741 enddef;

```

U+53E9  
tsuku.uni53E9



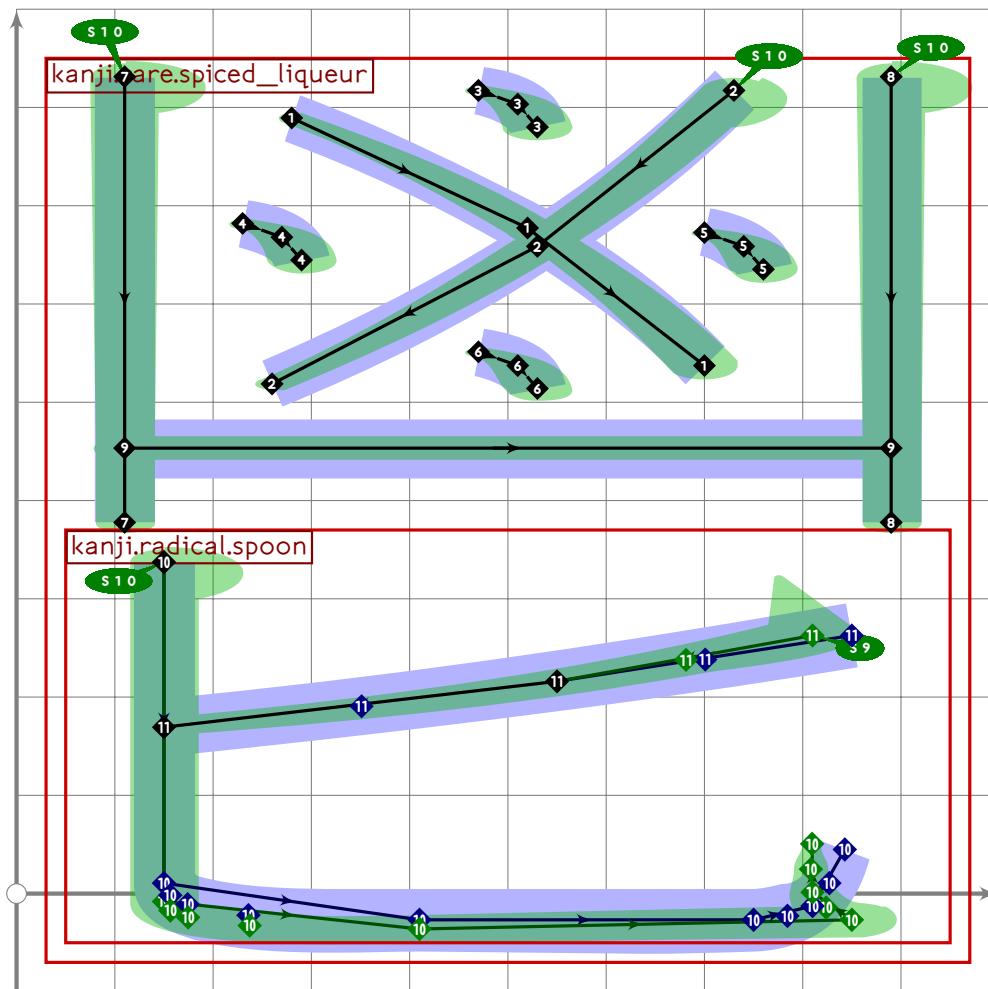
```

742
743 vardef kanji.rare.smash =
744   push_pbox_toexpand("kanji.rare.smash");
745   build_kanji.level(build_kanji.lr(500;70)
746     (tsu_xform(identity shifted (0,100))(kanji.grone.mouth))
747     (kanji.radical.seal));
748   expand_pbox;
749 enddef;

```

RARE





```

750
751 vardef kanji.rare.spiced_liqueur =
752   push_pbox_toexpand("kanji.rare.spiced_liqueur");
753   build_kanji.tb(400,-60)
754     (push_stroke((280,720)..(520,480)..(700,180),
755       (1,1)-(1,4,1,4)-(1,7,1,7));
756     set_bosize(0,90);
757     push_stroke((730,780)..(530,440)..(260,140),
758       (1,1)-(1,5,1,5)-(1,1,1,1));
759     set_boserif(0,0,10);
760     set_bosize(0,90);
761     push_stroke((470,780)..(510,750)..(530,700),
762       (1,1)-(1,5,1,5)-(1,7,1,7));
763     set_bosize(0,90);
764     push_stroke((230,490)..(270,460)..(290,410),
765       (1,1)-(1,5,1,5)-(1,7,1,7));
766     set_bosize(0,90);
767     push_stroke((700,470)..(740,440)..(760,390),
768       (1,1)-(1,5,1,5)-(1,7,1,7));
769     set_bosize(0,90);
770     push_stroke((470,210)..(510,180)..(530,130),

```

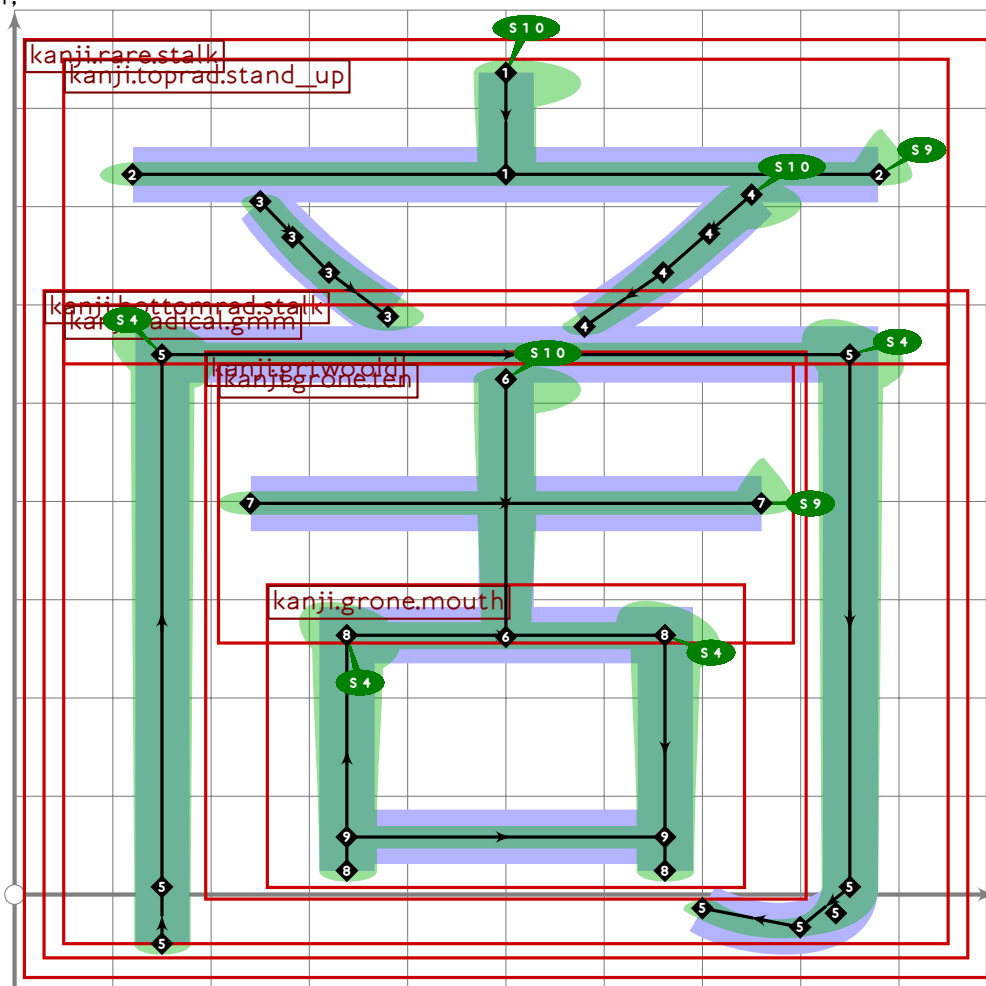
RARE

U+5547  
tsuku.uni5547

```

771      (1,1)-(1.5,1.5)-(1.7,1.7));
772      set_bosize(0,90);
773      build_kanji.cup((110,810),(890,0)))
774      (kanji.radical.spoon);
775      expand_pbox;
776  enddef;

```

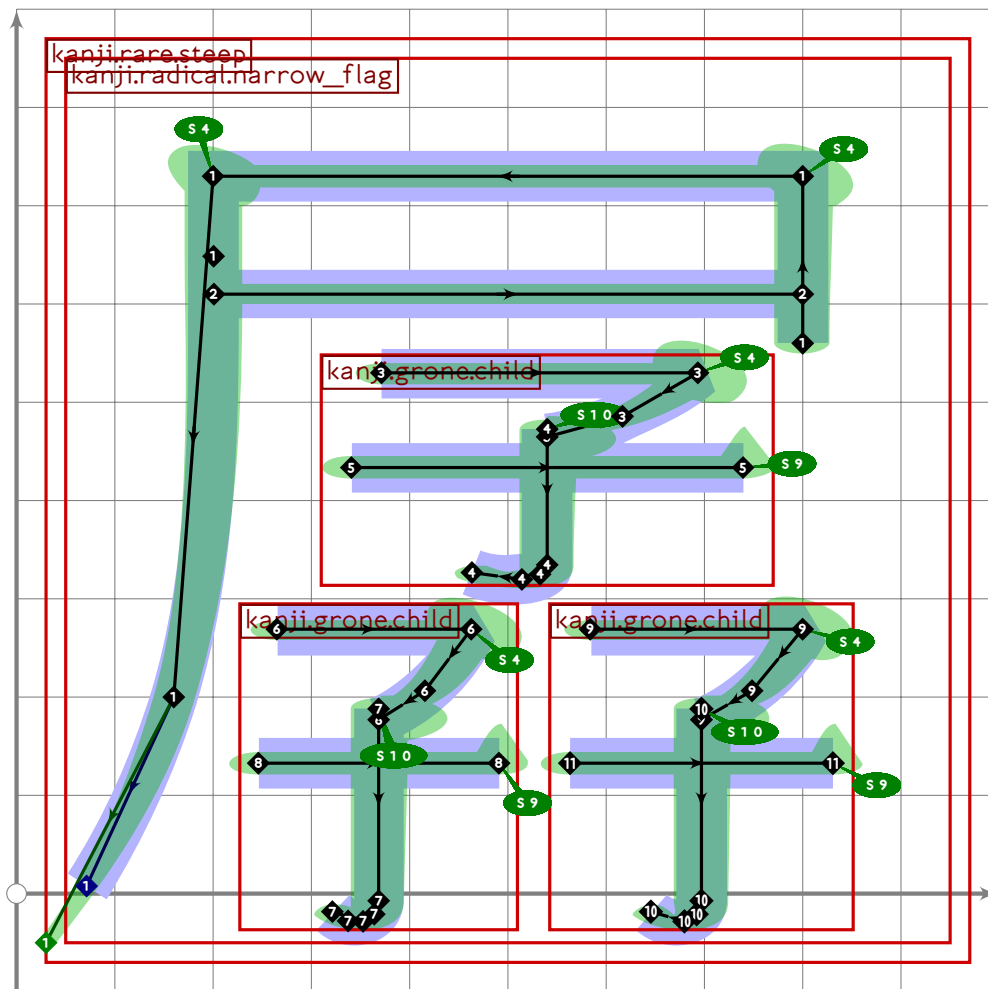


```

777
778  vardef kanji.rare.stalk =
779    push_pbox_toexpand("kanji.rare.stalk");
780    build_kanji.level(build_kanji.tb(570,60)
781      (kanji.toprad.stand_up;
782        pop_stroke)
783      (kanji.bottomrad.stalk));
784    expand_pbox;
785  enddef;

```

RARE

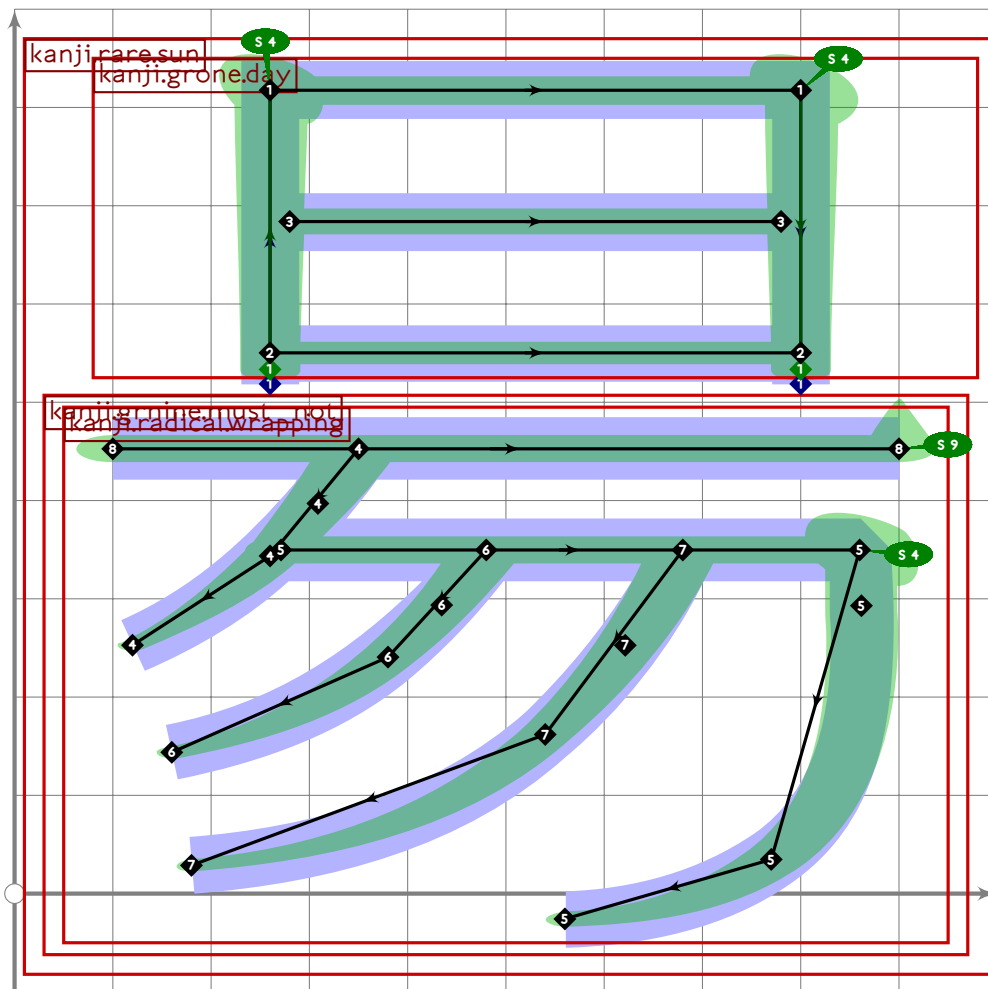


```

786
787 vardef kanji.rare.steep =
788   push_pbox__toexpand("kanji.rare.steep");
789   build_kanji.level(
790     kanji.radical.narrow_flag;
791     build_kanji.sscale(xyscaled (0.73,0.67) shifted (40;150))
792     (build_kanji.tricluster(0.7)
793       (kanji.grone.child)
794       (build_kanji.sscale(scaled 0.9)(kanji.grone.child))
795       (build_kanji.sscale(scaled 0.9)(kanji.grone.child))));
796   expand_pbox;
797 enddef;

```

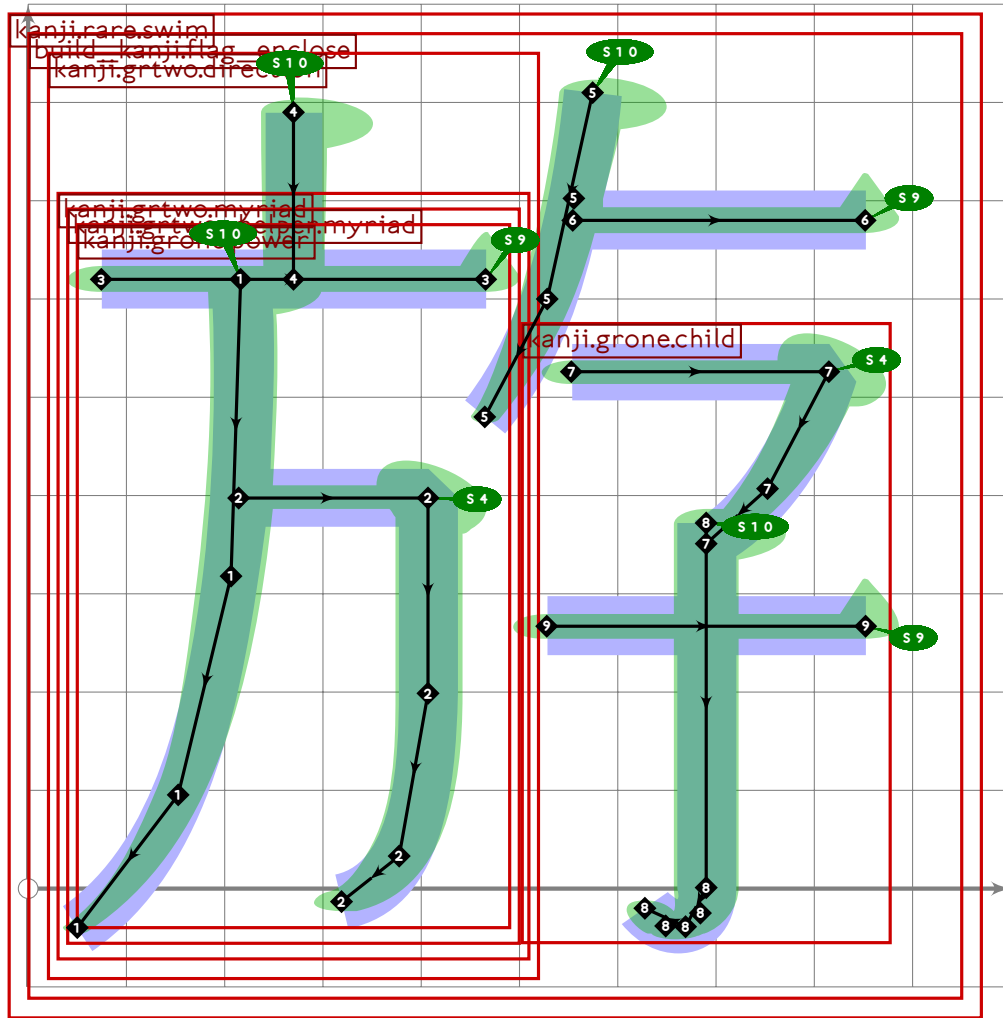
RARE



```

798
799 vardef kanji.rare.sun =
800   push_pbox__toexpand("kanji.rare.sun");
801   build_kanji.tb(510,30)
802     (tsu_xform(identity shifted (30,0))(kanji.grone.day))
803     (kanji.grnine.must_not;
804       set_boserif(-3,0,whatever);
805       push_stroke((100,780)-(900,780),(1.6,1.6)-(1.6,1.6));
806       set_boserif(0,1,9));
807   expand_pbox;
808 enddef;

```



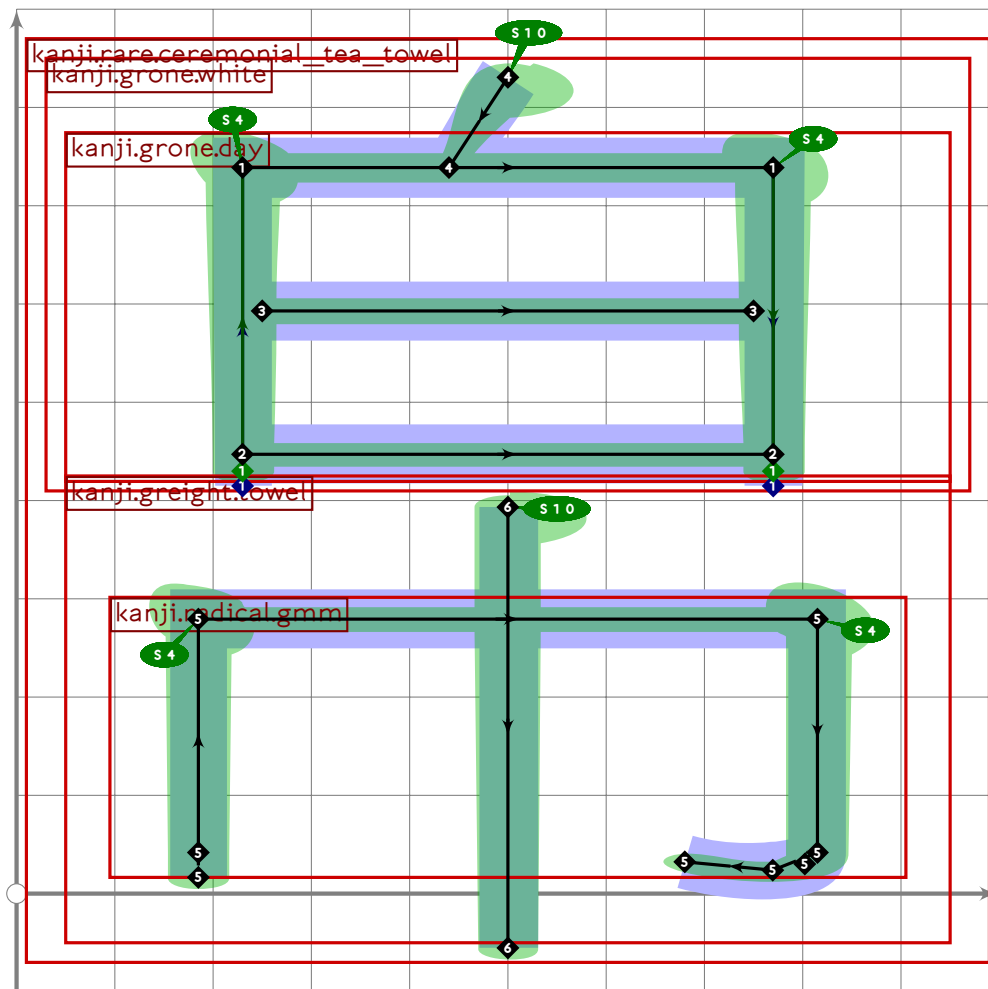
```

809
810 vardef kanji.rare.swim =
811   push_pbox_toexpand("kanji.rare.swim");
812   build_kanji.level(build_kanji.flag_enclose(0.72,0.7)
813     (kanji.grone.child));
814   expand_pbox;
815 enddef;

```

RARE

U+5E1B  
tsuku.uni5E1B

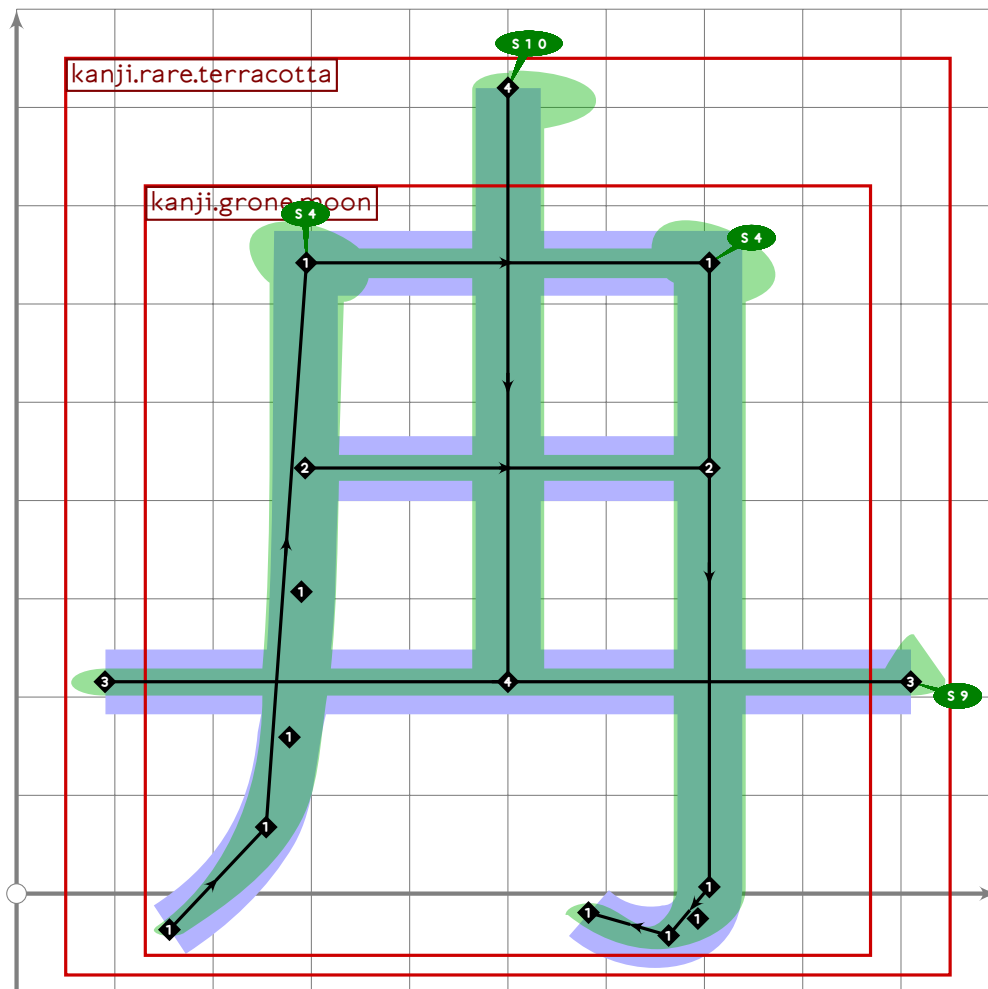


```

816
817 vardef kanji.rare.ceremonial_tea_towel =
818   push_pbox_toexpand("kanji.rare.ceremonial_tea_towel");
819   build_kanji.level(build_kanji.tb(420,10)
820     (kanji.grone.white)
821     (kanji.groneight.towel));
822   expand_pbox;
823 enddef;

```

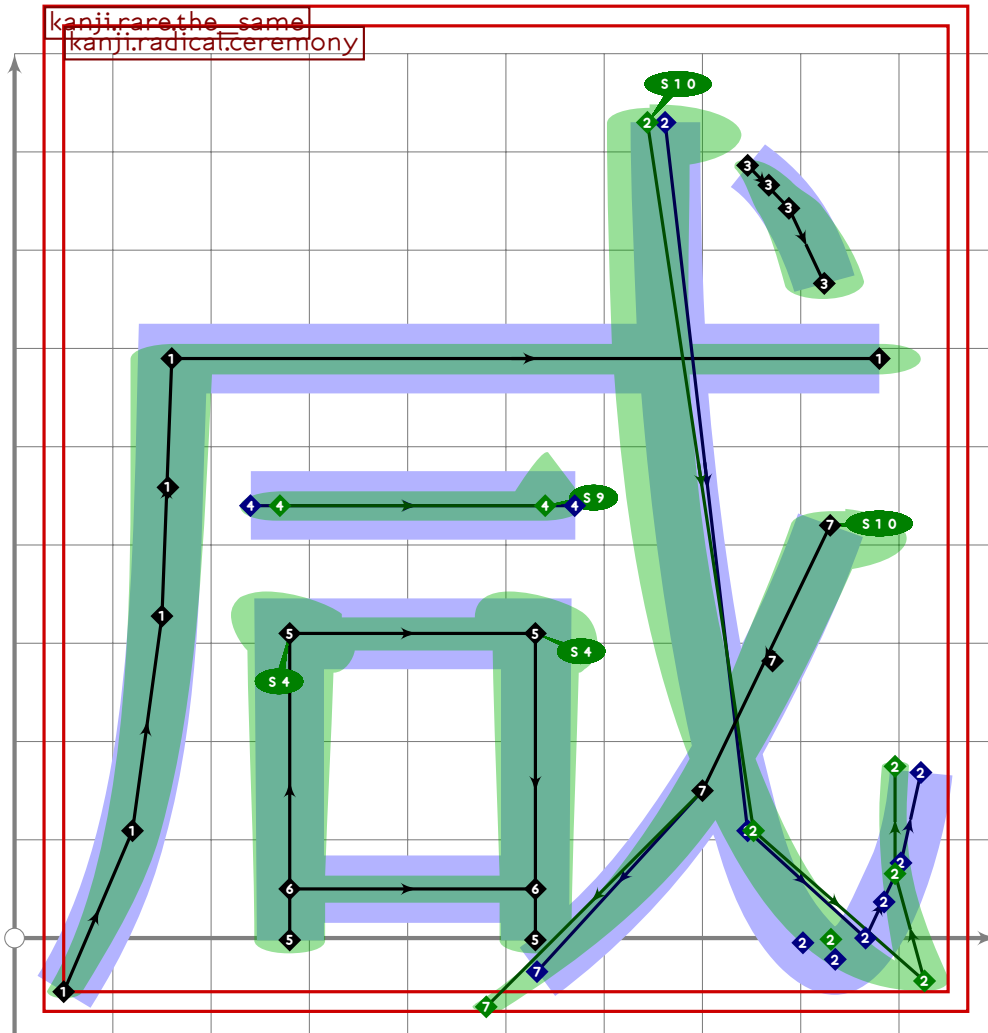
RARE



```

824
825 vardef kanji.rare.terracotta =
826   push_pbox__toexpand("kanji.rare.terracotta");
827   build_kanji.level(build_kanji.sscale(xyscaled (0.82,0.87) shifted (0,-70))
828     (kanji.grone.moon);
829   replace_strokep(0)((90,0)-(910,0)) shifted (0,y part point 0 of oldp));
830   set_boserif(0,1,9);
831   push_stroke((500,820)-(point 0.5 of get_strokep(0)),
832     (1.6,1.6)-(1.5,1.5));
833   set_boserif(0,0,10));
834   expand_pbox;
835 enddef;

```



```

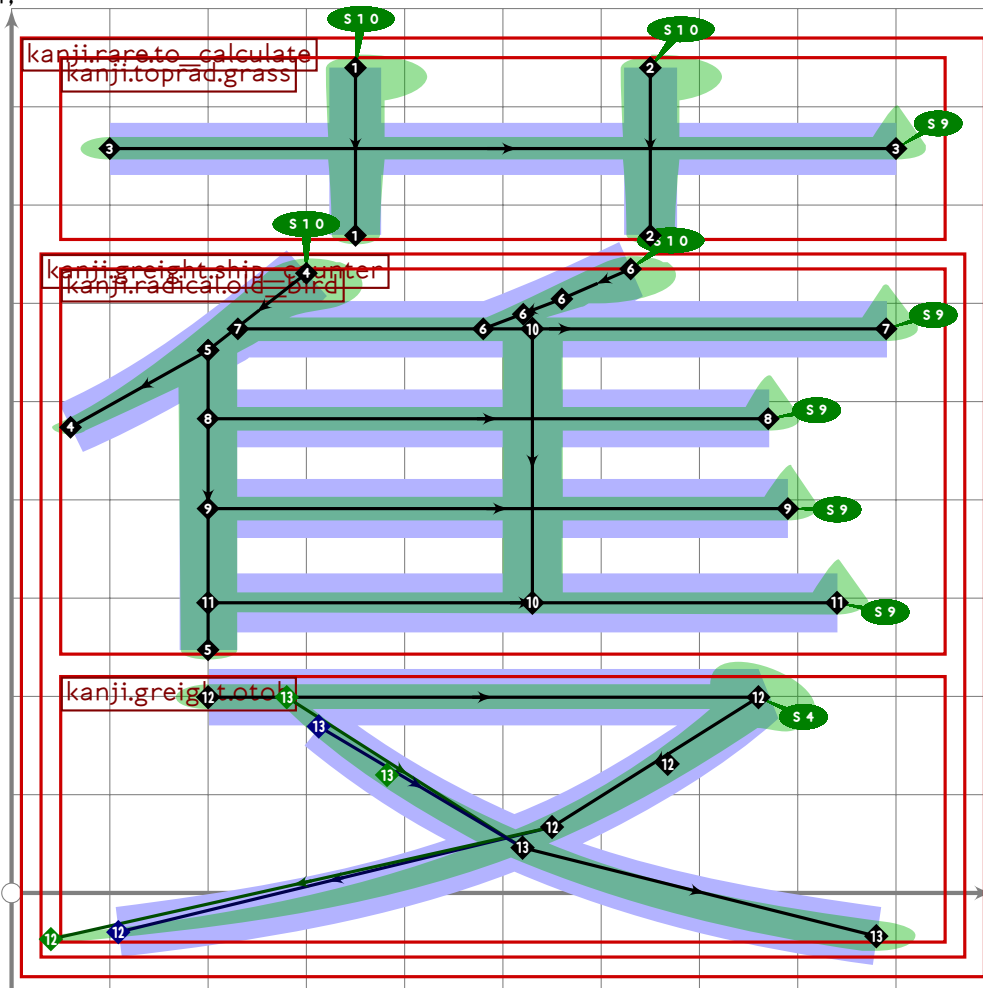
836
837 vardef kanji.rare.the_same =
838   push_pbox_toexpand("kanji.rare.the_same");
839   tsu_xform(identity yscaled (830/760))
840   (kanji.radical.ceremony;
841     replace_strokep(-2)
842       ((50,50)..(120,100)..(150,300)..tension 1.2..(160,540)-(880,540));
843     replace_strokeq(-2)
844       ((1,1)-(1.3,1.3)-(1.5,1.5)-(1.6,1.6)-(1.6,1.6)));
845     set_botip(-2,3,1);
846     set_boserif(-2,1,whatever);
847     replace_strokep(-1)(oldp shifted (-950,0) xscaled 0.6 shifted (950,0));
848     replace_strokep(0)(oldp shifted (-950,0) xscaled 0.6 shifted (950,0));
849     push_stroke((if sharp_corners: 240 else: 270 fi,440)-
850       (if sharp_corners: 570 else: 540 fi,440),
851       (1.6,1.6)-(1.6,1.6));
852     set_boserif(0,1,9);
853     build_kanji.box((280,310),(530,50));
854     push_stroke((830,420)..tension 1.2..(700,150)..(480,-70),
855       (1.6,1.6)-(1.4,1.4)-(0.9,0.9));

```

RARE

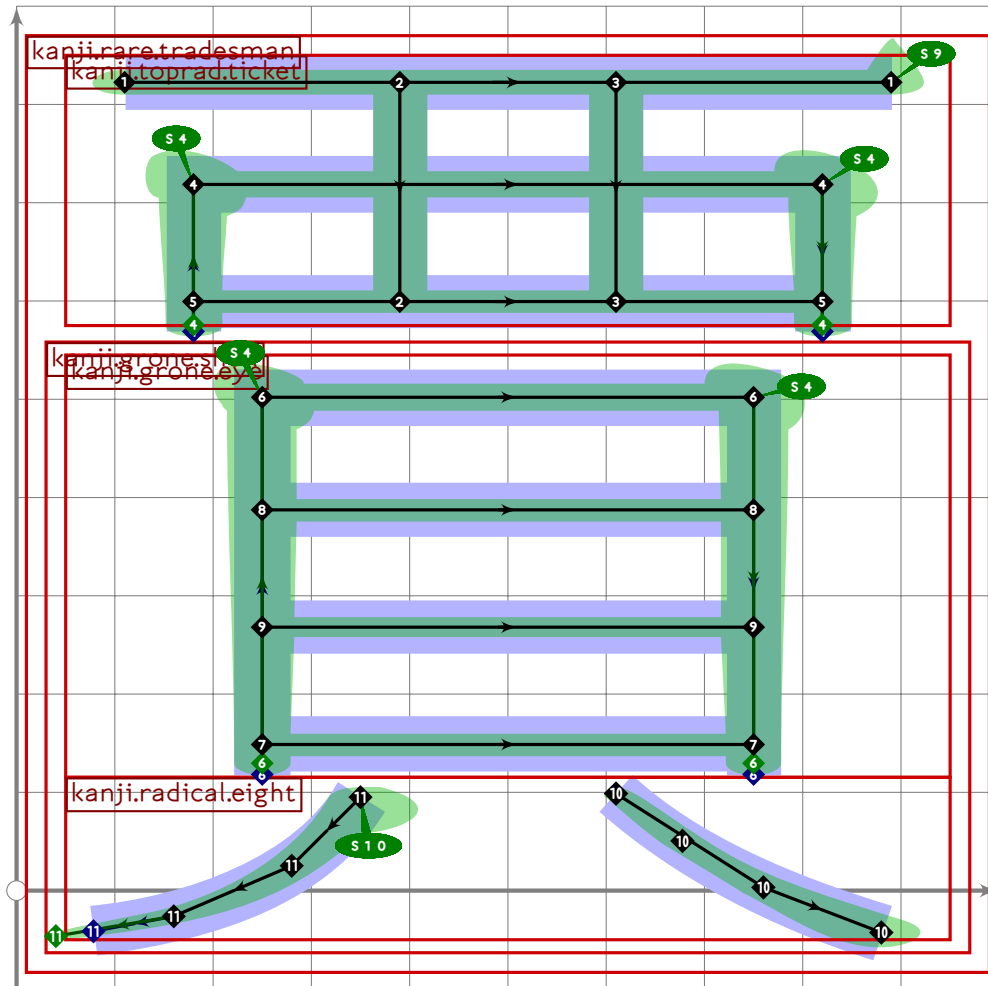


```
856 set_boserif(0,0,10);
857 expand_pbox;
858 enddef;
```



```
859
860 vardef kanji.rare.to_calculate =
861   push_pbox_toexpand("kanji.rare.to_calculate");
862   build_kanji.tb(650;30)
863     (kanji.toprad.grass)
864     (kanji.greight.ship_counter);
865   expand_pbox;
866 enddef;
```

U+8CC8  
tsuku.uni8CC8

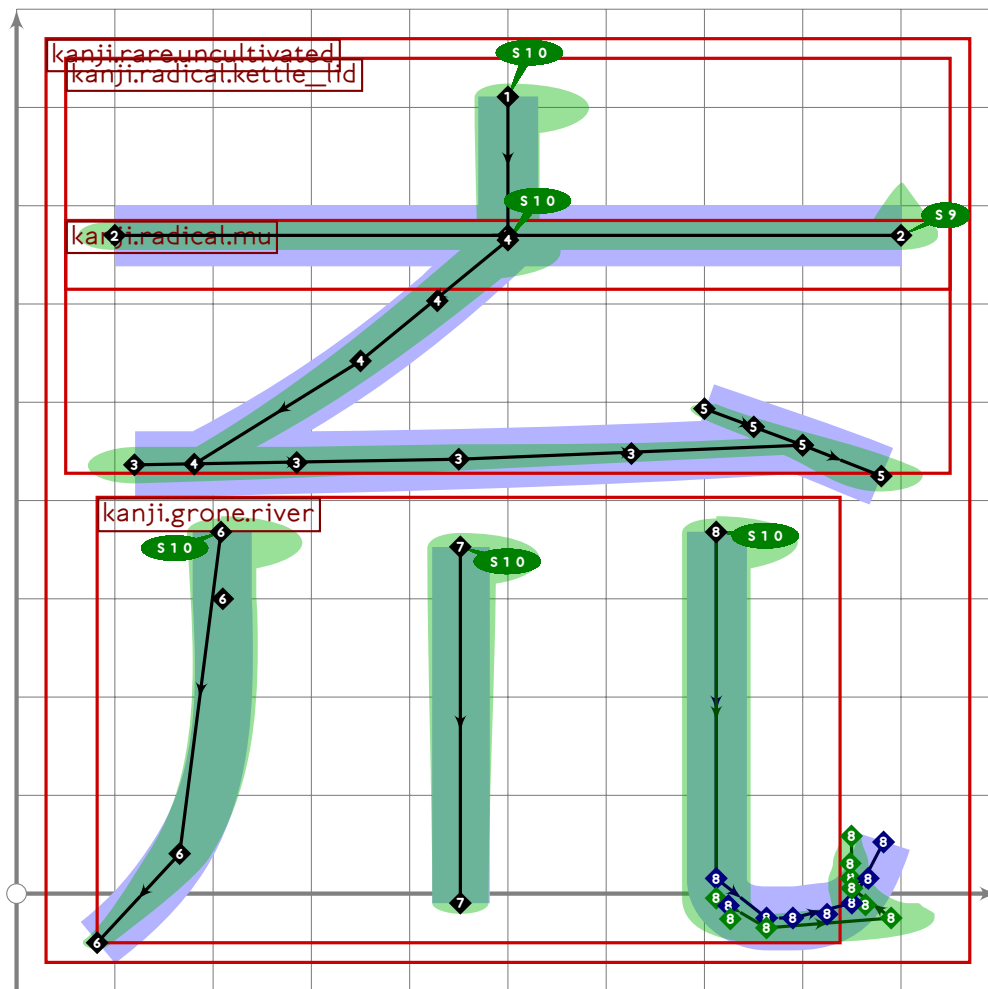


```

867
868 vardef kanji.rare.tradesman =
869   push_pbox_toexpand("kanji.rare.tradesman");
870   build_kanji.level(build_kanji.tb(560;30)
871     (kanji.toprad.ticket)
872     (kanji.grone.shell));
873   expand_pbox;
874 enddef;

```

RARE

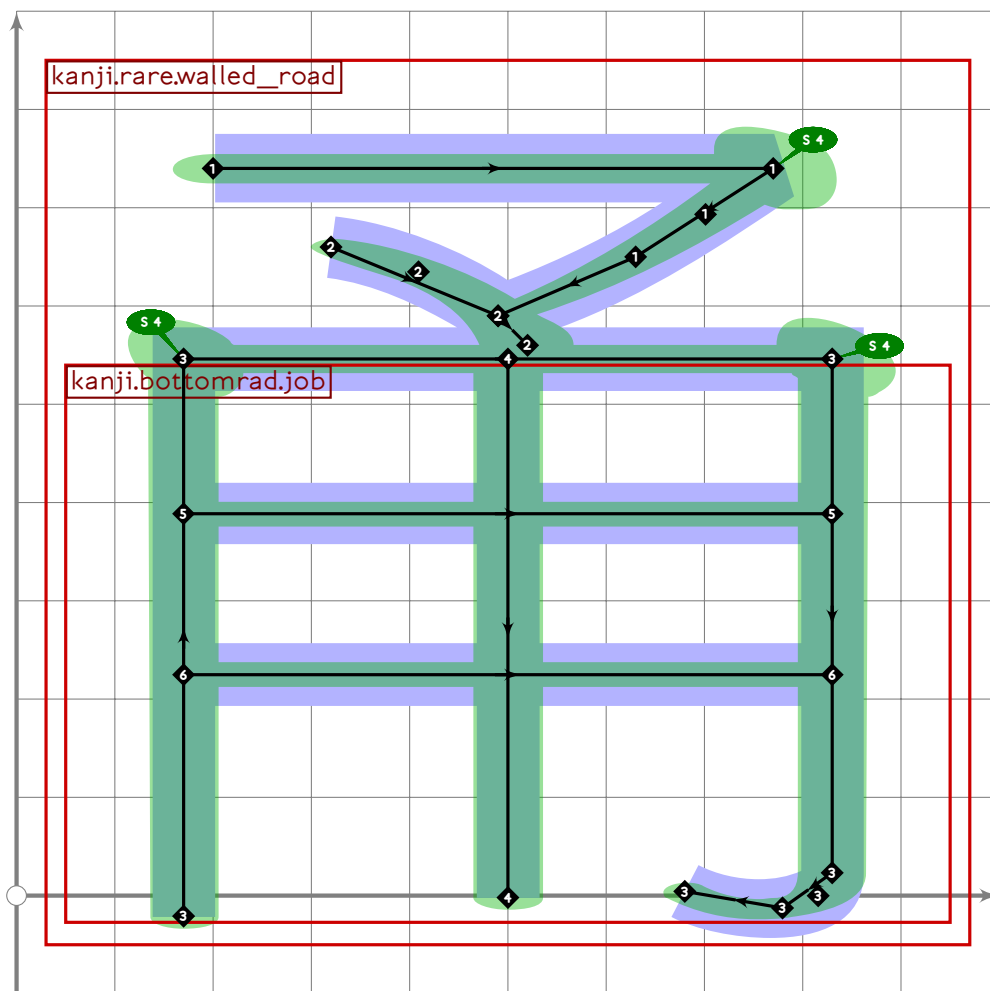


```

875
876 vardef kanji.rare.uncultivated =
877   push_pbox__toexpand("kanji.rare.uncultivated");
878   build_kanji.level(build_kanji.tb(650,70)
879     (kanji.radical.kettle_lid)
880     (build_kanji.tb(520;30)
881       (kanji.radical.mu)
882       (tsu_xform(identity shifted (40,0))
883         (tsu_xform(identity xscaled 0.84)(kanji.grone.river);
884           replace_strokep(0)((point 0 of oldp));
885           replace_strokeq(0)((point 0 of oldq));
886           build_kanji.add_ltail(0)))));
887   expand_pbox;
888 enddef;

```

U+752C  
tsuku.uni752C

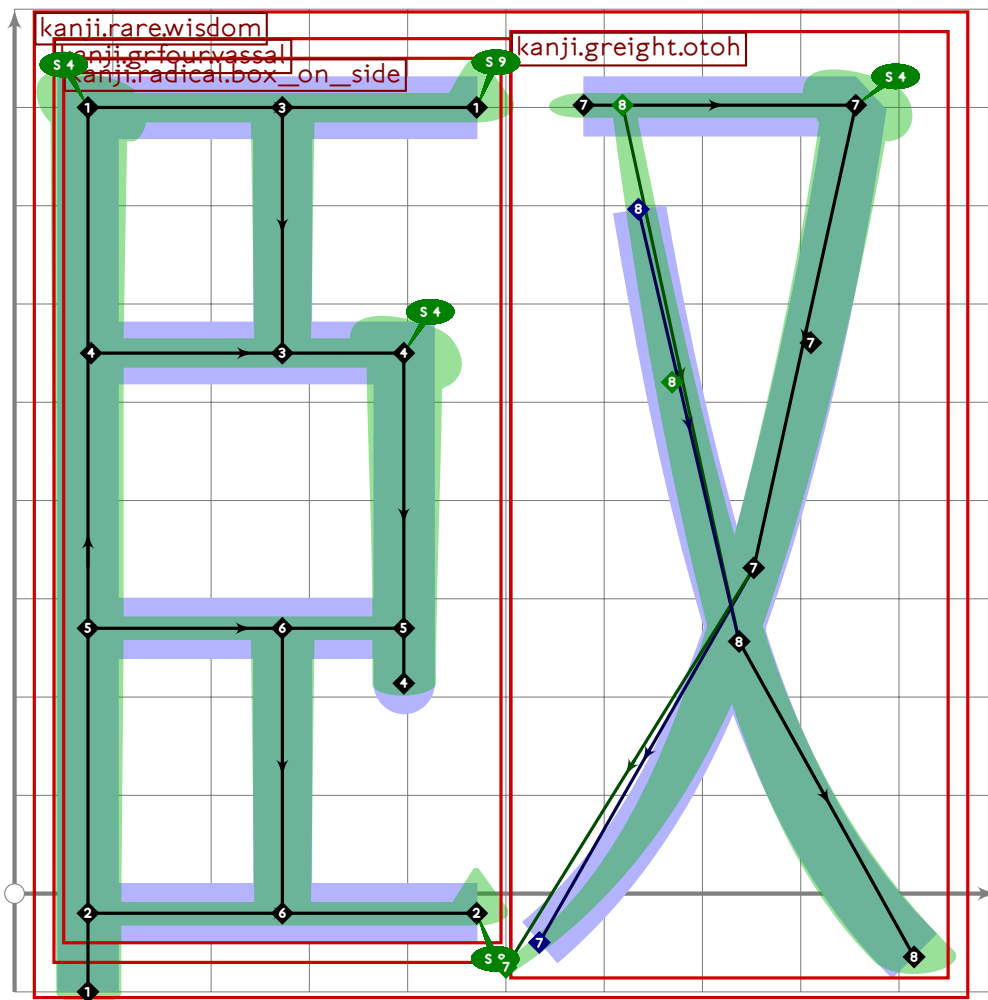


```

889
890 vardef kanji.rare.walled_road =
891   push_pbox__toexpand("kanji.rare.walled_road");
892   push_stroke((200,740)-(770,740)..tension 1.2..(630,650)..(490,590),
893     (1.6,1.6)-(1.6,1.6)-(1.4,1.4)-(1.1,1.1));
894   set_botip(0,1,0);
895   set_boserif(0,1,4);
896   push_stroke((320,660)..tension 1.2..(490,590)..(520,560),
897     (1.1,1.1)-(1.5,1.5)-(1.8,1.8));
898   build_kanji.sscale(yscaled 0.63 shifted (0,-140))(kanji.bottomrad.job);
899   expand_pbox;
900 enddef;

```

RARE

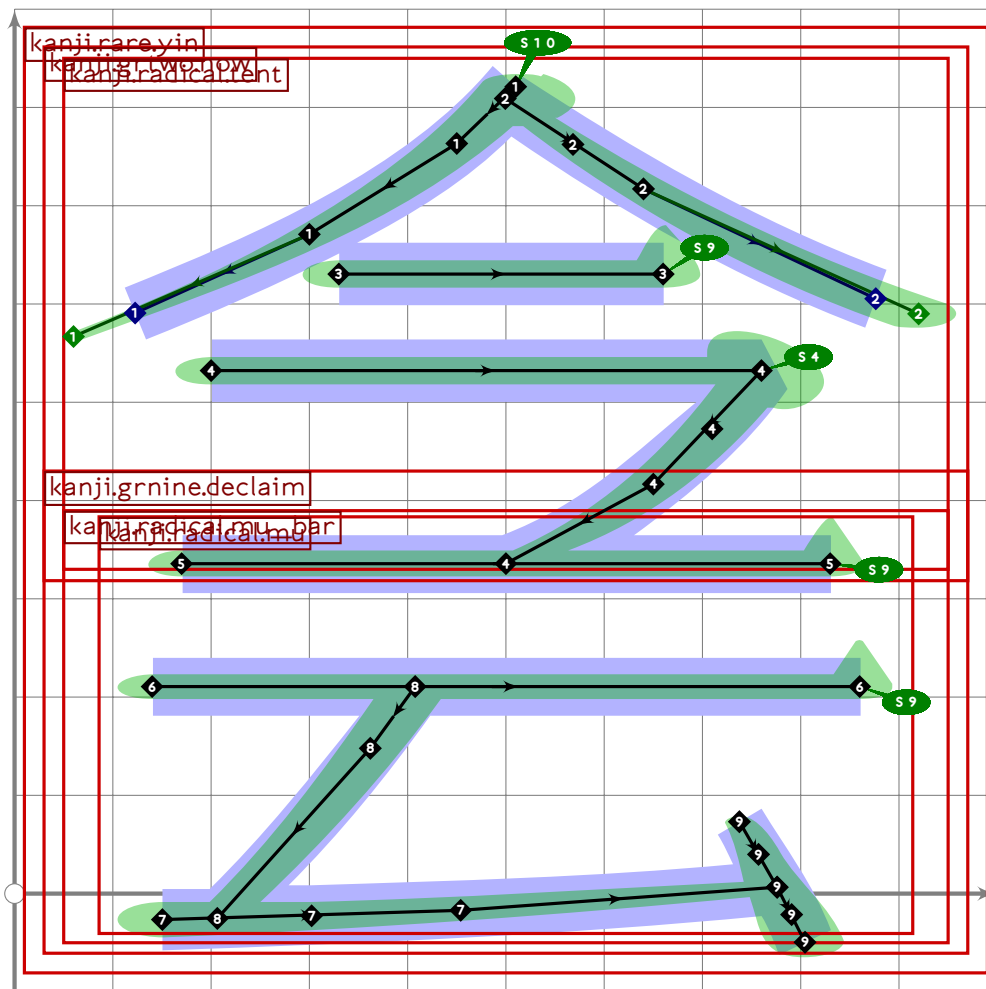


```

901
902 vardef kanji.rarewisdom =
903   push_pbox_toexpand("kanji.rarewisdom");
904   build_kanji.level(build_kanji.lr(500;10)
905     (kanji.grfourvassal)
906     (build_kanji.sscale(yscaled 1.07 shifted (0;-5))(kanji.greight.otoh)));
907   expand_pbox;
908 enddef;

```

U+4F8C  
tsuku.uni4F8C

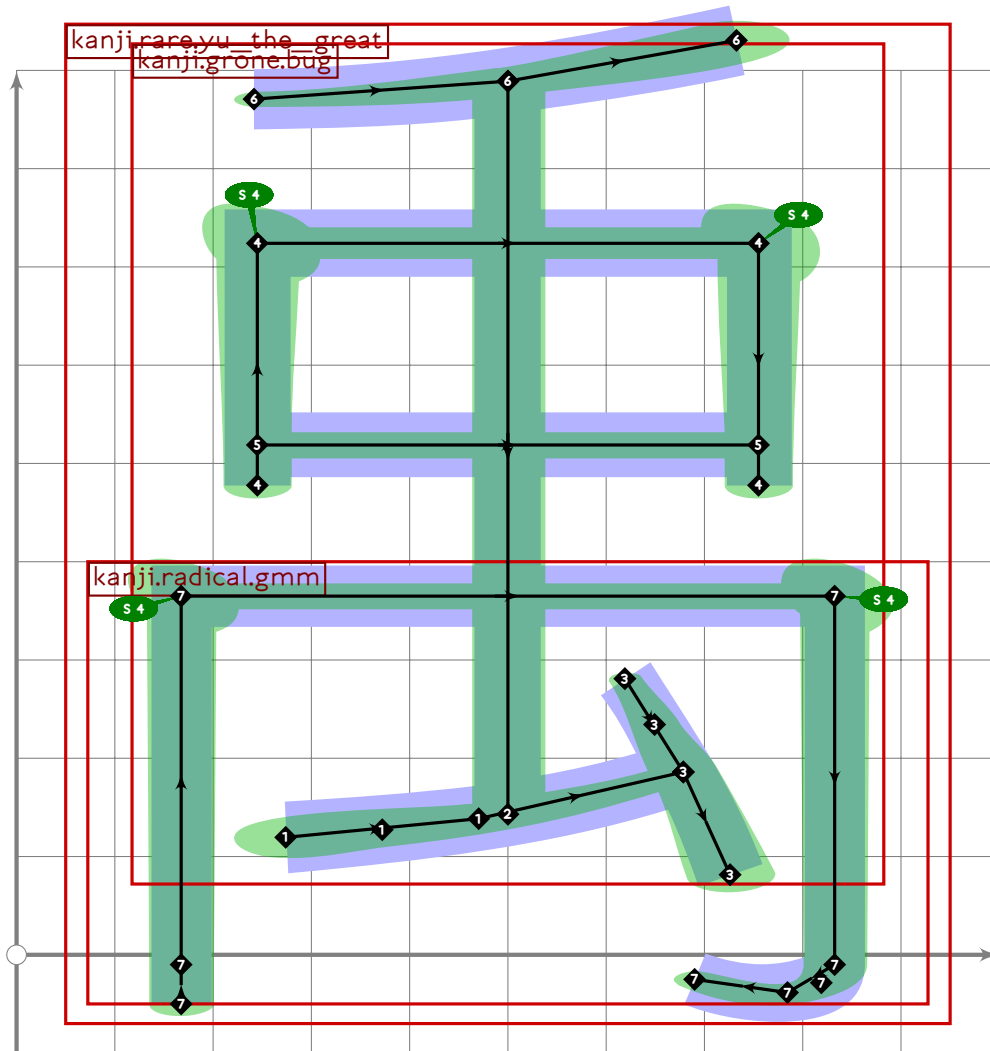


```

909
910 vardef kanji.rare.yin =
911   push_pbox_toexpand("kanji.rare.yin");
912   build_kanji.tb(380,100)
913     (kanji.grtwo.now)
914     (kanji.grnine.declaim);
915   expand_pbox;
916 enddef;

```

RARE



```

917
918 vardef kanji.rare.yu_the_great =
919   push_pbox_toexpand("kanji.rare.yu_the_great");
920   build_kanji.sscale(xyscaled (0.85,0.95) shifted (0,100))
921     (build_kanji.add_beret(kanji.grone.bug));
922   replace_strokep(-5)(oldp shifted (-500,0) xscaled 0.7 shifted (500,0));
923   replace_strokep(-3)(oldp shifted (-500,0) xscaled 0.7 shifted (500,0));
924   replace_strokep(-2)(oldp shifted (0,-500) yscaled 0.8 shifted (0,580));
925   replace_strokep(-1)(oldp shifted (0,-500) yscaled 0.8 shifted (0,580));
926   build_kanji.sscale(xyscaled (0.95,0.50) shifted (0,-220))
927     (kanji.radical.gmm);
928   expand_pbox;
929 enddef;

```