

作りましょう 0.7

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 0.7

Parametric Font Family
Proofs and pretty-printed
source code

Matthew Skala

mskala@ansuz.sooke.bc.ca

2013年3月7日

March 7, 2013

Proofs and pretty-printed source code for Tsukurimashou
Copyright © 2011, 2012 Matthew Skala

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, version 3.

As a special exception, if you create a document which uses this font, and embed this font or unaltered portions of this font into the document, this font does not by itself cause the resulting document to be covered by the GNU General Public License. This exception does not however invalidate any other reasons why the document might be covered by the GNU General Public License. If you modify this font, you may extend this exception to your version of the font, but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Contents

I Infrastructure	13
preintro.mp	15
Infrastructure	15
Font Parameter Defaults	16
tsuku-bk.mp	18
tsuku-kg.mp	19
tsuku-mg.mp	20
tsuku-mi.mp	21
tsuku-ps.mp	22
tsuku-bq.mp	23
tsuku-dq.mp	24
tsuku-el.mp	25
tsuku-eq.mp	26
tsuku-lw.mp	27
intro.mp	28
fntbase.mp	46
General Library Functions	46
Prefix And Suffix Handling	53
A Module That Finds An Envelope Of A Path Drawn With A Pen	55
Postscript Font Generation	67
obstack.mp	89
Object Stack Data	89
Object Stack Methods	90
frac-intro.mp	95
latin-intro.mp	97
accent.mp	101
bcircle.mp	112
buildkanji.mp	115
dakuten.mp	131
enclosed.mp	132
genjimon.mp	134
hiragana.mp	146
Hiragana Vowels	146
Hiragana Kakikukeko/Gagigugego	151
Hiragana Sashisuseso/Zajizuzezo	155
Hiragana Tachitsuteto/Dajizudedo	161

Hiragana Naninuneno	166
Hiragana Hahifuheho/Babibubebo/Papipupepo	171
Hiragana Mamimumemo	176
Hiragana Yayuyo	182
Hiragana Rarirurero	184
Hiragana Wawiwewo/N/Iteration	190
iching.mp	198
katakana.mp	200
Katakana Vowels	200
Katakana Kakikukeko/Gagigugego	204
Katakana Sashisuseso/Zajizuzezo	209
Katakana Tachitsuteto/Dajizudedo	214
Katakana Naninuneno	219
Katakana Hahifuheho/Babibubebo/Papipupepo	224
Katakana Mamimumemo	230
Katakana Yayuyo	234
Katakana Rarirurero	237
Katakana Wawiwewo/N/Iteration	243
latin.mp	249
numerals.mp	338
ogonek.mp	349
punct.mp	361
serif.mp	403
 II Shared kyouiku kanji	 409
gradeone.mp	411
gradetwo.mp	478
gradethree.mp	551
gradefour.mp	590
gradefive.mp	619
gradesix.mp	631
 III Other shared kanji	 641
bottomrad.mp	643
leftrad.mp	646
radical.mp	654
rightrad.mp	689
toprad.mp	693
gradeeight.mp	698

gradenine.mp	732
rare.mp	759

IV U+0000 to U+2FFF	795
tsuku-00.mp	797
Ascii	797
Latin-1 Extra Characters	891
Accented Latin	912
tsuku-01.mp	970
Latin Extended A Uppercase	970
Latin Extended A Lowercase	1025
Latin Extended A Other	1083
tsuku-02.mp	1085
Latin Extended B	1085
Spacing Modifier Letters	1086
tsuku-03.mp	1095
Combining Diacritical Marks	1095
tsuku-20.mp	1110
General Punctuation	1110
tsuku-21.mp	1127
Symbols Required By Mes-1	1127
tsuku-24.mp	1133
Circled Numerals	1133
Circled Latin And Zero	1153
Inverted Circled Numerals	1206
Doubly Circled Numerals	1216
One More Inverted Circled Numeral	1226
tsuku-25.mp	1228
Geometric Shapes	1228
tsuku-26.mp	1230
I Ching	1230
tsuku-27.mp	1247
Inverted Circled Numerals	1247
tsuku-2e.mp	1258
Cjk Radicals Supplement	1258
tsuku-2f.mp	1295
Kangxi Radicals	1295
Ideographic Description Characters	1415

V	U+3000 to U+4DFF	1429
	tsuku-30.mp	1431
	Ideographic Symbols And Punctuation	1431
	Hiragana	1451
	Katakana	1496
	tsuku-31.mp	1543
	Phonetic Extensions For Ainu	1543
	tsuku-32.mp	1560
	Circled Numerals	1560
	Circled Katakana	1590
	tsuku-34.mp	1638
	tsuku-4d.mp	1639
	I Ching	1639
VI	U+4E00 to U+61FF	1705
	tsuku-4e.mp	1707
	tsuku-4f.mp	1744
	tsuku-50.mp	1798
	tsuku-51.mp	1808
	tsuku-52.mp	1820
	tsuku-53.mp	1850
	tsuku-54.mp	1873
	tsuku-55.mp	1885
	tsuku-56.mp	1891
	tsuku-57.mp	1898
	tsuku-58.mp	1905
	tsuku-59.mp	1911
	tsuku-5a.mp	1924
	tsuku-5b.mp	1926
	tsuku-5c.mp	1957
	tsuku-5d.mp	1981
	tsuku-5e.mp	1989
	tsuku-5f.mp	2024
	tsuku-60.mp	2069
	tsuku-61.mp	2118
VII	U+6200 to U+75FF	2125
	tsuku-62.mp	2127
	tsuku-63.mp	2143

tsuku-65.mp	2149
tsuku-66.mp	2165
tsuku-67.mp	2184
tsuku-68.mp	2199
tsuku-69.mp	2206
tsuku-6a.mp	2212
tsuku-6b.mp	2216
tsuku-6c.mp	2225
tsuku-6d.mp	2275
tsuku-6e.mp	2288
tsuku-6f.mp	2299
tsuku-70.mp	2304
tsuku-71.mp	2309
tsuku-72.mp	2311
tsuku-73.mp	2320
tsuku-74.mp	2321
tsuku-75.mp	2325

VIII U+7600 to U+89FF	2337
tsuku-76.mp	2339
tsuku-77.mp	2346
tsuku-78.mp	2356
tsuku-79.mp	2358
tsuku-7a.mp	2369
tsuku-7b.mp	2376
tsuku-7c.mp	2389
tsuku-7d.mp	2392
tsuku-7f.mp	2408
tsuku-80.mp	2413
tsuku-81.mp	2421
tsuku-82.mp	2426
tsuku-83.mp	2457
tsuku-84.mp	2469
tsuku-85.mp	2474
tsuku-86.mp	2476
tsuku-88.mp	2477
tsuku-89.mp	2482

IX U+8A00 to U+9FFF	2487
tsuku-8a.mp	2489
tsuku-8b.mp	2544
tsuku-8c.mp	2547
tsuku-8d.mp	2555
tsuku-8e.mp	2559
tsuku-8f.mp	2564
tsuku-90.mp	2576
tsuku-91.mp	2595
tsuku-92.mp	2606
tsuku-93.mp	2610
tsuku-95.mp	2613
tsuku-96.mp	2630
tsuku-97.mp	2652
tsuku-98.mp	2656
tsuku-99.mp	2667
tsuku-9a.mp	2671
tsuku-9b.mp	2675
tsuku-9c.mp	2676
tsuku-9e.mp	2678
tsuku-9f.mp	2681
 X U+A000 to U+10FFFF	 2683
tsuku-f7.mp	2685
Latin Small Caps	2685
tsuku-ff.mp	2712
Full-Width Forms	2712
Half-Width Punctuation	2738
Half-Width Katakana	2741
tsuku-1f1.mp	2805
Squared Latin	2805
Inverse Circled Latin	2831
Inverse Squared Latin	2857
tsuku-200.mp	2884
tsuku-21c.mp	2885
tsuku-f17.mp	2886
Combining Dots For I Ching	2886
Miscellaneous	2895
Tomoe Ornaments	2901

Heavy Metal Umlaut	2909
Genjimon	2926
tsuku-ff0.mp	2980
Fraction Numerators	2980
tsuku-ff1.mp	2987
Fraction Denominators	2987
 XI Jieubsida core	 2989
hangul.mp	2991
Jamo Combining Operations	2993
jamo-basic.mp	3001
Filler Jamo	3001
Sios/Cieuc/Chieuch Family	3001
Kiyeok	3004
Nieun	3005
Tikeut	3007
Rieul	3009
Mieum	3010
Pieup	3011
Sios	3012
Ieung	3012
Cieuc	3013
Chieuch	3014
Khieukh	3015
Thieuth	3016
Phieuph	3017
Hieuh	3019
Mixed Tails	3020
Vowels	3021
jamo-extra.mp	3030
Pansios	3033
Yesieung	3033
Yeorinhieuh	3034
Chitueum And Ceongchieum Variants	3036
Kapyeoun Variants	3037
hgllextb.mp	3038
Hangul Extension B	3038
Hangul Jungseong (Vowel) Jamo Extension B	3038
Hangul Jongseong (Tail) Jamo Extension B	3061

jieub-bt.mp	3111
jieub-do.mp	3112
jieub-sm.mp	3113
hglpage.mp	3114
jieub-11.mp	3116
Hangul Choseong (Lead) Jamo	3116
Hangul Jungseong (Vowel) Jamo	3211
Hangul Jongseong (Tail) Jamo	3282
jieub-31.mp	3371
Hangul Compatibility Jamo	3371
jieub-a9.mp	3465
Hangul Choseong (Lead) Jamo Extended A	3465
jieub-ac.mp	3495
 XII Jieubsida alternates	 3549
jieub-ff2.mp	3551
Hangul Jungseong (Vowel) Jamo	3551
Hangul Jungseong (Vowel) Jamo Extension B	3622
jieub-ff3.mp	3646
Hangul Choseong (Lead) Jamo	3646
jieub-ff4.mp	3771
Hangul Choseong (Lead) Jamo	3771
jieub-ff5.mp	3896
Hangul Choseong (Lead) Jamo	3896
jieub-ff6.mp	4021
Hangul Choseong (Lead) Jamo	4021
jieub-ff7.mp	4146
Hangul Choseong (Lead) Jamo	4146
Hangul Choseong (Lead) Jamo Extended A	4241
 XIII TsuIta	 4271
tsuita-common.mp	4273
tsuita-at.mp	4284
tsuita-so.mp	4285
Additional Proofs	4287
 XIV Blackletter Lolita	 4341
bll.mp	4343

bll-co.mp	4348
pentacross.mp	4349
Utilities For Pentagrams And Crosses	4349
bll-f5c.mp	4351
Pentagrams	4351

Volume III

Other shared kanji

bottomrad.mp

BOTT

leftrad.mp

LEFT

radical.mp

RADI

righttrad.mp

RIGH

toprad.mp

TOPR

gradeeight.mp

EIGH

gradenine.mp

NINE

rare.mp

RARE

bottomrad.mp

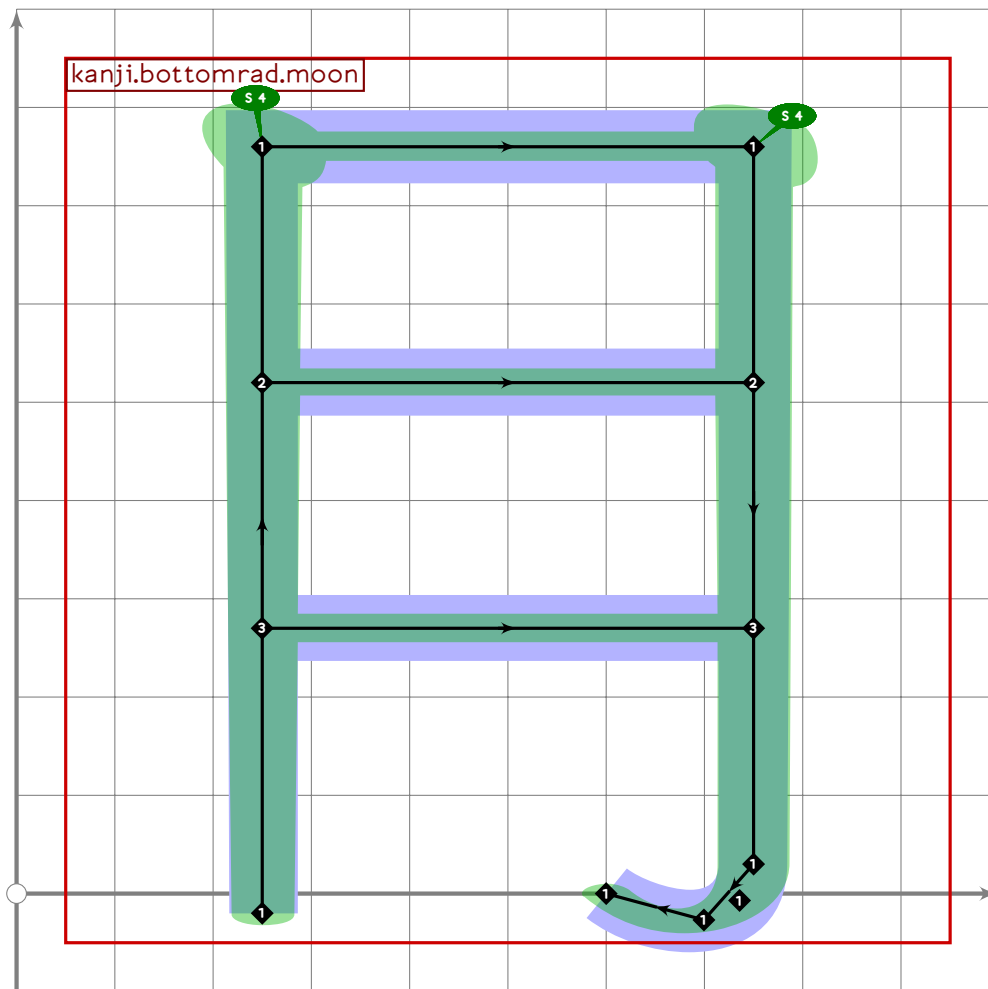
BOTT

```
1 %
2 % Radicals for bottom (often special forms of other radicals)
3 % Copyright (C) 2011, 2012, 2013 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)-(1.4,1.4));
42   push_stroke((510,80)..tension 1.2..(point 1 of get_stroke(0)).(130,-40),
43     (1,1)-(1.4,1.4)-(1.8,1.8));
44   push_stroke((540,810)..tension 1.2..(700,240)..(890,0),
45     (1,1)-(1.4,1.4)-(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)-(1.4,1.4)-(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)-(1.8,1.8));
56   push_stroke((350,700)..tension 1.2..(390,300)..(400,-50),
57     (1.1,1.1)-(1.4,1.4)-(1.9,1.9));
58   push_stroke((540,750)..tension 1.2..(610,320)..(630,-40),
59     (1.1,1.1)-(1.4,1.4)-(1.9,1.9));
60   push_stroke((740,800)..tension 1.2..(850,360)..(890,-20),
61     (1.1,1.1)-(1.4,1.4)-(1.9,1.9));
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.long_kimono =
82   push_pbox_toexpand("kanji.bottomrad.long_kimono");
83   build_kanji.box((210,760),(790,540));
84   push_stroke((440,540)..tension 1.2..(330,300)..(110,80),
85     (1.6,1.6)–(1.4,1.4)–(1,1));
86   push_stroke((500,540)–(500,20),(1.6,1.6)–(1.5,1.5));
87   push_stroke((500,380)..tension 1.2..(710,220)..(800,100),
88     (0.9,0.9)–(1.5,1.5)–(1.9,1.9));
89   push_stroke(
90     (810,410)..tension 1.2..(750,340)..(point 0.8 of get_strokep(0)),
91     (1.7,1.7)–(1.2,1.2)–(0.9,0.9));
92   expand_pbox;
93 enddef;

```

```

94
95 vardef kanji.bottomrad.moon =
96   push_pbox__toexpand("kanji.bottomrad.moon");
97   push_stroke((250,-20)..{up}(250,760)-(750,760),
98     (1.4,1.4)-(1.6,1.6)-(1.6,1.6));
99   build_kanji.add_jtail(0);
100   set_botip(0,1,1);
101   set_botip(0,2,1);
102   set_boserif(0,1,4);
103   set_boserif(0,2,4);
104   push_stroke((250,520)-(750,520),
105     (1.5,1.5)-(1.5,1.5));
106   push_stroke((250,270)-(750,270),
107     (1.5,1.5)-(1.5,1.5));
108   expand_pbox;
109 enddef;

```

LEFT

LEFT



LEFT

```

44    (1.5,1.5)–(1.6,1.6)–(1.4,1.4)–(1.2,1.2));
45    set_botip(0,1,0);
46    set_boserif(0,1,4);
47    push_stroke(
48        (point 1.6 of get_stroke(-1))..(400,340)..(point 1.8 of get_stroke(0)),
49        (1.2,1.2)–(1.4,1.4)–(1.8,1.8));
50    replace_stroke(0)(subpath (0,1,7) of oldp);
51    expand_pbox;
52 enddef;
53
54 vardef kanji.leftrad.big =
55     push_pbox_toexpand("kanji.grone.big");
56     push_stroke((90,500)–(910,500),
57         (1.6,1.6)–(1.6,1.6));
58     set_boserif(0,1,9);
59     push_stroke((510,780){down}..(370,200)..{curl 0.5}(50,-20),
60         (1.6,1.6)–(1.4,1.4)–(1.1,1.1));
61     push_stroke(((60,-60)+point 0.6 of get_stroke(0))..tension 1.1..
62         (750,190)..(860,0),
63         (0,9,1)–(1.3,1.3)–(1.8,1.8));
64     expand_pbox;
65 enddef;
66
67 vardef kanji.leftrad.boat =
68     push_pbox_toexpand("kanji.leftrad.boat");
69     push_stroke((560,850)..tension 1.2..(500,750)..(450,700),
70         (1.6,1.6)–(1.4,1.4)–(1.2,1.2));
71     set_boserif(0,0,10);
72     push_stroke(
73         (150,0)..(260,200)..{dir 89.5}(300,700)–(730,700),
74         (1.5,1.5)–(1.6,1.6)–(1.7,1.7)–(1.7,1.7));
75     build_kanji.add_jtail(0);
76     set_botip(0,2,1);
77     set_botip(0,3,0);
78     set_boserif(0,2,4);
79     set_boserif(0,3,4);
80     push_stroke((410,610)..tension 1.2..(520,540)..(560,480),
81         (1.1,1.1)–(1.4,1.4)–(1.7,1.7));
82     set_bosize(0,90);
83     push_stroke((110,350)..tension 1.2..(500,380)..(890,440),
84         (1.6,1.6)–(1.5,1.5)–(1.1,1.1));
85     push_stroke((500,300)–(500,100),
86         (1.6,1.6)–(1.4,1.4));
87     set_boserif(0,0,10);
88     set_bosize(0,90);
89     expand_pbox;
90 enddef;
91

```

```

92 vardef kanji.leftrad.day =
93   push_pbox_toexpand("kanji.leftrad.day");
94   tsu_xform(identity shifted (0,-600) yscaled 0.62 shifted (0,600))
95   (kanji.grone.day);
96   expand_pbox;
97 enddef;
98
99 vardef kanji.leftrad.earth =
100  push_pbox_toexpand("kanji.leftrad.earth");
101  build_kanji.sscale(yscaled 0.9)
102    (build_kanji.lift_skirt(370,150+30*mincho)(kanji.grone.earth));
103  expand_pbox;
104 enddef;
105
106 vardef kanji.leftrad.eat =
107  push_pbox_toexpand("kanji.leftrad.eat");
108  kanji.grtwo.eat;
109  pop_stroke;
110  replace_strokep(-6)(subpath(0,1.75) of oldp);
111  replace_strokep(-1)
112    ((130;20)..tension 1.2..(point 0 of get_strokep(-4))..(720,80));
113  replace_strokep(0)((650,170)..tension 1.3..(720,80)..(770;20));
114  replace_strokeq(0)((1,1)-(1.5,1.5)-(1.8,1.8));
115  expand_pbox;
116 enddef;
117
118 vardef kanji.leftrad.fire =
119  push_pbox_toexpand("kanji.leftrad.fire");
120  kanji.grone.person;
121  pop_stroke;
122  push_stroke((510,270)..tension 1.2..(750,180)..(900,60),
123    (0,0,9)-(1.3,1.3)-(1.8,1.8));
124  push_stroke((360,600)..(270,480)..(140,360),
125    (0,0,9)-(1.3,1.3)-(1.8,1.8));
126  push_stroke((860,640)..(790,550)..(680,440),
127    (1.6,1.6)-(1.4,1.4)-(1.2,1.2));
128  expand_pbox;
129 enddef;
130
131 vardef kanji.leftrad.foot =
132  push_pbox_toexpand("kanji.leftrad.foot");
133  build_kanji.box((210,730),(790,460));
134  push_stroke((500,460)-(500,40),(1.6,1.6)-(1.5,1.5));
135  push_stroke((500,250)-(850,250),(1.5,1.5)-(1.6,1.6));
136  set_boserif(0,1,9);
137  push_stroke((220,310)-(220,20),(1.6,1.6)-(1.5,1.5));
138  set_boserif(0,0,10);
139  push_stroke((100,0)..tension 1.2..(500,40)..(900,100),

```

```

140    (1.7,1.7)–(1.5,1.5)–(1,1));
141    expand_pbox;
142 enddef;
143
144 vardef kanji.leftrad.gold =
145    push_pbox_toexpand("kanji.leftrad.gold");
146    build_kanji.lift_skirt(250,120)(kanji.grone.gold);
147    replace_strokep(-6)(subpath (0,1.7) of oldp);
148    expand_pbox;
149 enddef;
150
151 vardef kanji.leftrad.hand =
152    push_pbox_toexpand("kanji.leftrad.hand");
153    build_kanji.sscale(xscaled 1.5)
154    (push_stroke((500,810),(1.6,1.6));
155     build_kanji.add_jtail(0);
156     set_boserif(0,0,10));
157    push_stroke((100,580)–(900,580),(1.6,1.6)–(1.6,1.6));
158    set_boserif(0,1,9);
159    push_stroke((120,280)..tension 1.2..(500,330)..(910,420),
160    (1.8,1.8)–(1.5,1.5)–(1.1,1.1));
161    expand_pbox;
162 enddef;
163
164 vardef kanji.leftrad.heap_big =
165    push_pbox_toexpand("kanji.leftrad.heap_big");
166    build_kanji.sscale(scaled 0.88)
167    (kanji.grthree.heap_big;
168     replace_strokep(0)(get_strokep(-6));
169     replace_strokep(0)
170     (get_strokep(-1) shifted ((point 1 of oldp)–(point 0 of oldp))
171     shifted (-500,0) xscaled 1.1 shifted (500,0));
172     replace_strokeq(0)(reverse get_strokeq(-1));
173     set_boserif(0,1,whatever));
174    expand_pbox;
175 enddef;
176
177 vardef kanji.leftrad.heart =
178    push_pbox_toexpand("kanji.leftrad.heart");
179    kanji.radical.vline;
180    push_stroke((320,630)..tension 1.2..(210,470)..(60,380),
181    (1,1)–(1.4,1.4)–(1.7,1.7));
182    push_stroke((660,660)..tension 1.2..(840,530)..(890,470),
183    (1,1)–(1.5,1.5)–(1.8,1.8));
184    expand_pbox;
185 enddef;
186
187 vardef kanji.leftrad.husband =

```

```

188 push_pbox_toexpand("kanji.leftrad.husband");
189 kanji.grfour.husband;
190 pop_stroke;
191 push_stroke(((get_strokep(-1) intersectionpoint get_strokep(0))+ (0,-40))..
192   (720,170)..(870,30),
193   (1,1,1)-(1,4,1,4)-(1,7,1,7));
194 expand_pbox;
195 enddef;
196
197 vardef kanji.leftrad.ice =
198   push_pbox_toexpand("kanji.leftrad.ice");
199   push_stroke((450,790)..tension 1.2..(600,730)..(750,650),
200     (1,1)-(1,3,1,3)-(1,9,1,9));
201   push_stroke(
202     interpath(mincho,
203       (880,350)..(810,270)..(750,210)..(600,90)..(450,0),
204       (880,480)..tension 1.2..(630,300)..{dir 180}(360,240){dir 350}..
205       (500,130)..{curl 0}(550,-20)),
206     interpath(mincho,
207       (1,4,1,4)-(1,4,1,4)-(1,5,1,5)-(1,6,1,6)-(1,7,1,7),
208       (0,8,0,8)-(1,2,1,2)-(2,1,2,1)-(1,2,1,2)-(1,9,1,9)));
209   expand_pbox;
210 enddef;
211
212 vardef kanji.leftrad.king =
213   push_pbox_toexpand("kanji.leftrad.king");
214   build_kanji.sscale(yscaled 0.9)
215     (build_kanji.lift_skirt(370,150+30*mincho)(kanji.grone.king));
216   expand_pbox;
217 enddef;
218
219 vardef kanji.leftrad.long_hair =
220   push_pbox_toexpand("kanji.leftrad.long_hair");
221   build_kanji.level(
222     kanji.grtwo.long;
223     pop_stroke;pop_stroke;pop_stroke;
224     replace_strokep(-3)((300,320)-(300,770)-(800,770));
225     build_kanji.sscale(xyscaled (0.9,0.38) shifted (0,-240))
226     (kanji.radical.mu));
227   expand_pbox;
228 enddef;
229
230 vardef kanji.leftrad.mouth =
231   push_pbox_toexpand("kanji.leftrad.mouth");
232   build_kanji.box((200,700),(800,230));
233   replace_strokep(-1)((subpath (0,2) of oldp)-((0,40)+point 3 of oldp));
234   expand_pbox;
235 enddef;

```

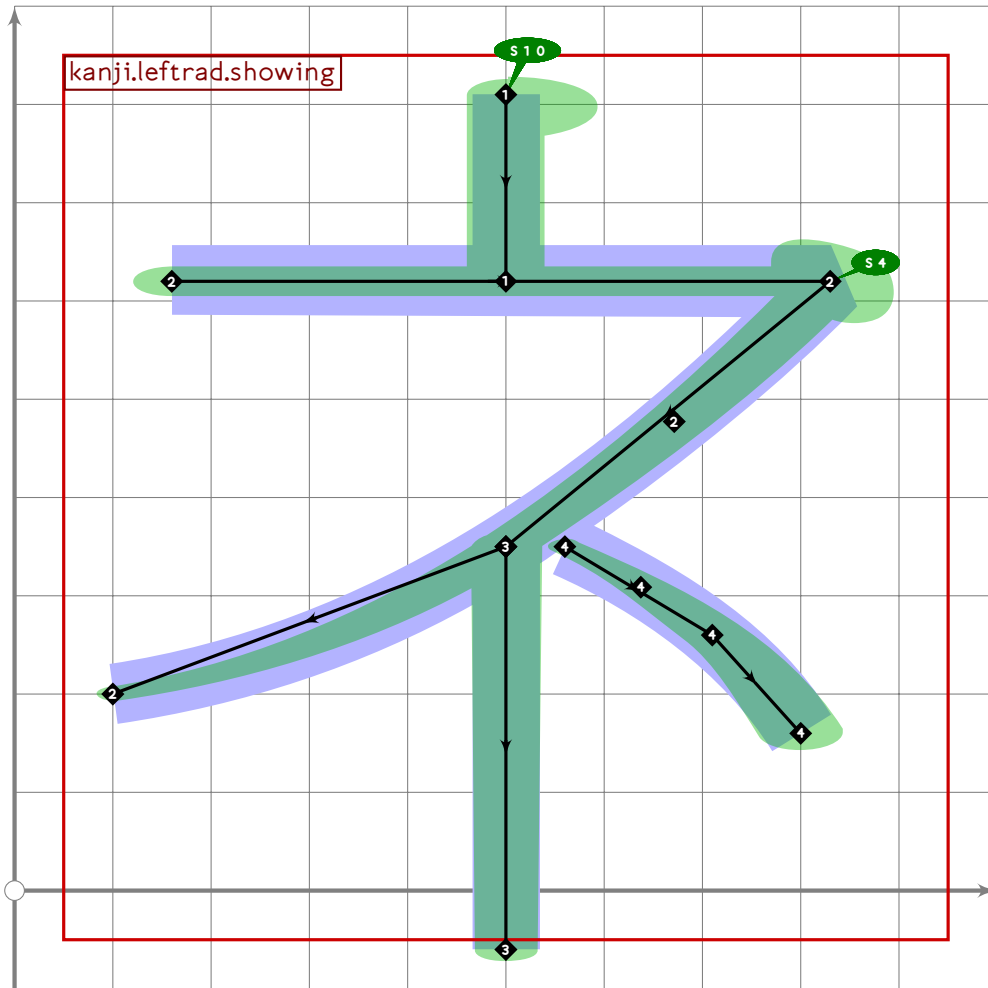
```

236
237 vardef kanji.leftrad.person =
238   push_pbox_toexpand("kanji.leftrad.person");
239   push_stroke((900,800)..(500,520)..(0,330),
240     (1.6,1.6)–(1.4,1.4)–(0.8,0.8));
241   set_bosize(0,115);
242   set_boserif(0,0,10);
243   push_stroke(
244     (point 0.7 of get_strokep(0))..(xpart point 0.7 of get_strokep(0),-40),
245     (1.6,1.6)–(1.4,1.4));
246   set_bosize(0,115);
247   expand_pbox;
248 enddef;
249
250 vardef kanji.leftrad.sentence =
251   push_pbox_toexpand("kanji.leftrad.sentence");
252   build_kanji.level(build_kanji.tb(580,30)
253     (kanji.radical.kettle_lid)
254     (kanji.radical.cut_the_grass;
255       replace_strokep(-1)(oldp shifted (0,-400) yscaled 0.7 shifted (0,400))));
256   expand_pbox;
257 enddef;
258
259 vardef kanji.leftrad.seven =
260   push_pbox_toexpand("kanji.leftrad.seven");
261   build_kanji.sscale(shifted (0,-300) yscaled 0.7 shifted (0,300))
262     (kanji.grone.seven);
263   set_boserif(-1,3,whatever);
264   expand_pbox;
265 enddef;

```

LEFT

LEFT



```

266
267 vardef kanji.leftrad.showing =
268   push_pbox_toexpand("kanji.leftrad.showing");
269   push_stroke((500,810)-(500,620),(1.6,1.6)-(1.57,1.57));
270   set_boserif(0,0,10);
271   push_stroke((160,620)-(830,620)..tension 1.2..
272     (500,350)..(100,200),
273     (1.6,1.6)-(1.6,1.6)-(1.4,1.4)-(1,1));
274   set_botip(0,1,0);
275   set_boserif(0,1,4);
276   push_stroke((500,350)-(500,-60),(1.5,1.5)-(1.4,1.4));
277   push_stroke((560,350)..tension 1.2..(710,260)..(800,160),
278     (1,1)-(1.4,1.4)-(1.7,1.7));
279   expand_pbox;
280 enddef;
281
282 vardef kanji.leftrad.two_branch_tree =
283   push_pbox_toexpand("kanji.leftrad.two_branch_tree");
284   tsu_xform(identity shifted (0,-50))
285     (build_kanji.add_beret(kanji.leftrad.wood));
286   expand_pbox;

```



```

287 enddef;
288
289 vardef kanji.leftrad.water =
290   push_pbox_toexpand("kanji.leftrad.water");
291   kanji.leftrad.ice;
292   push_stroke((230,590)..tension 1.2..(390,530)..(540,450),
293     (1,1)–(1.3,1.3)–(1.9,1.9));
294   expand_pbox;
295 enddef;
296
297 vardef kanji.leftrad.woman =
298   push_pbox_toexpand("kanji.leftrad.woman");
299   perl_structure:=perl_structure&"eids.softhead.u5973";
300   push_stroke((100,580)–(800,580){curl 0}..(550,170)..{curl 0.3}(80,-40),
301     (1.6,1.6)–(1.6,1.6)–(1.4,1.4)–(0.94,0.94));
302   set_botip(0,1,0);
303   set_boserif(0,1,4);
304   push_stroke((450,830)..(310,510)..(140,220),
305     (1.6,1.6)–(1.6,1.6)–(1.6,1.6));
306   set_boserif(0,0,10);
307   push_stroke((point 1.75 of get_strokep(0))..(530,200)..(840,60),
308     (0.85,0.85)–(1.5,1.5)–(1.8,1.8)–(1.6,1.6));
309   replace_strokep(0)(insert_nodes(oldp)(1.5));
310   expand_pbox;
311 enddef;
312
313 vardef kanji.leftrad.wood =
314   push_pbox_toexpand("kanji.leftrad.wood");
315   perl_structure:=perl_structure&"eids.softhead.u6728";
316   push_stroke((500,780)–(500,0),
317     (1.6,1.6)–(1.6,1.6));
318   set_boserif(0,0,10);
319   push_stroke((100,580)–(830,580),
320     (1.6,1.6)–(1.6,1.6));
321   set_boserif(0,1,9);
322   push_stroke((500,580)..(250,200)..(80,70),
323     (1.6,1.6)..(1.3,1.3)..(0.9,0.9));
324   push_stroke((500,470)..(680,320)..(800,210),
325     (1.1,1.1)..(1.5,1.5)..(1.7,1.7));
326   expand_pbox;
327 enddef;

```

LEFT

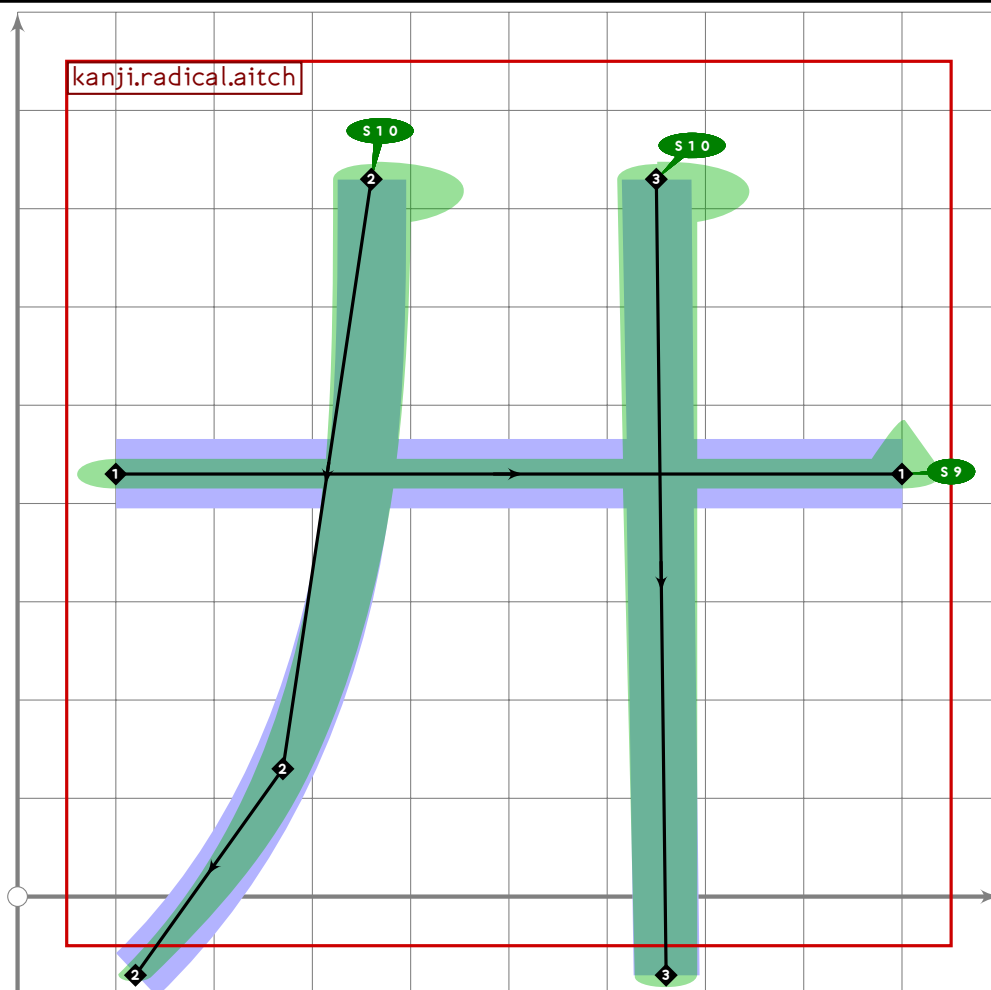
radical.mp

```

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

```

RADI

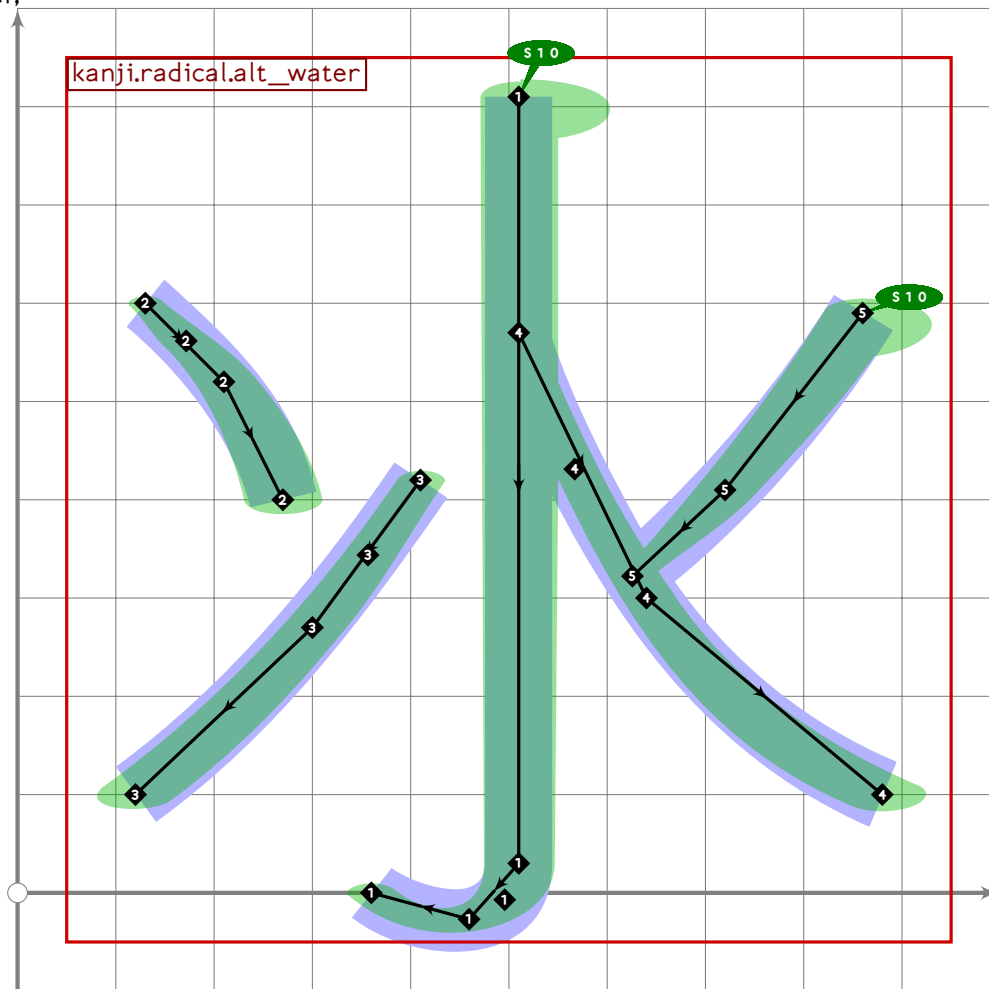


```

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(0,19);
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);

```

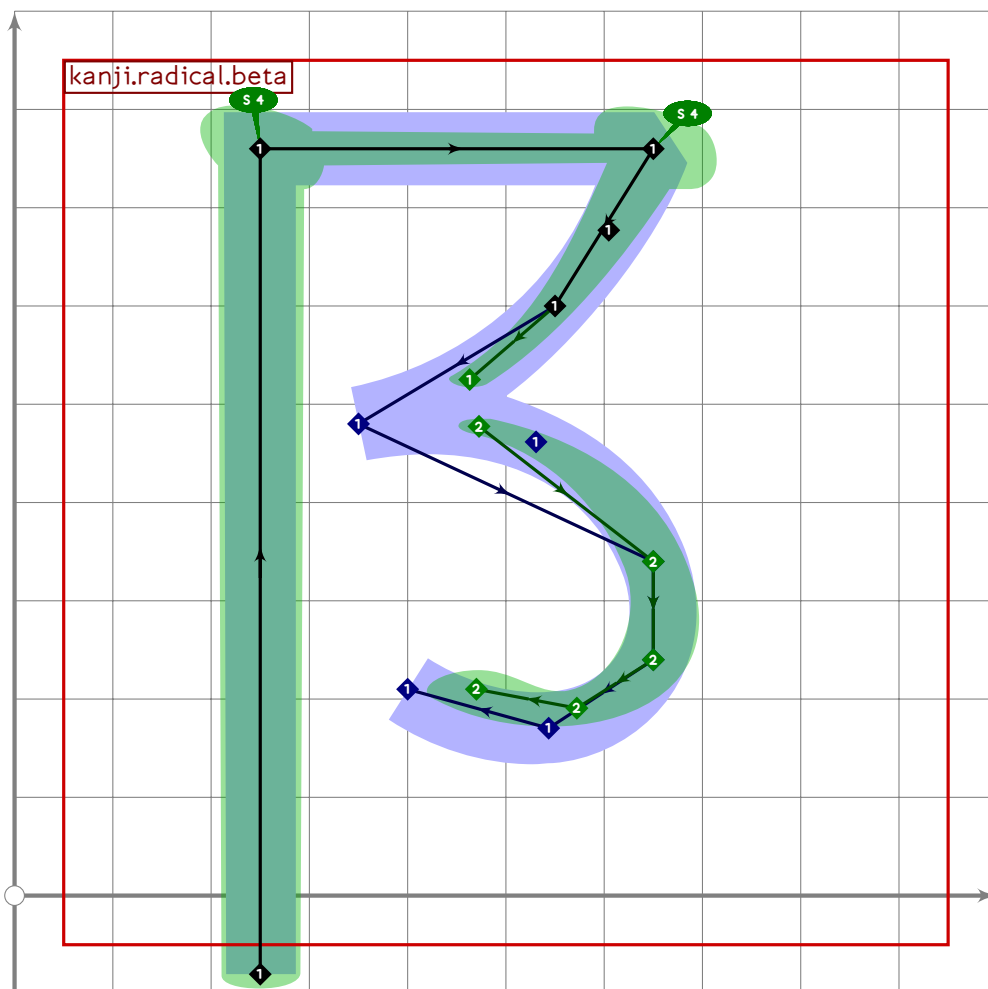
```
44 expand_pbox;
45 enddef;
```



RADI

```
46
47 vardef kanji.radical.alt_water =
48   push_pbox_toexpand("kanji.radical.alt_water");
49   push_stroke((510,810),(1,6,1,6));
50   build_kanji.add_jtail(0);
51   set_boserif(0,0,10);
52   push_stroke((130,600)..tension 1.2..(210,520)..(270,400),
53     (1,1)–(1,4,1,4)–(1,6,1,6));
54   push_stroke((410,420)..tension 1.2..(300,270)..(120,100),
55     (1,2,1,2)–(1,4,1,4)–(1,6,1,6));
56   push_stroke((510,570)..tension 1.2..(640,300)..(880,100),
57     (1,1)–(1,3,1,3)–(1,7,1,7));
58   push_stroke((860,590)..(720,410)..(point 0.9 of get_stroke(0)),
59     (1,6,1,6)–(1,4,1,4)–(1,1));
60   set_boserif(0,0,10);
61   expand_pbox;
62 enddef;
```

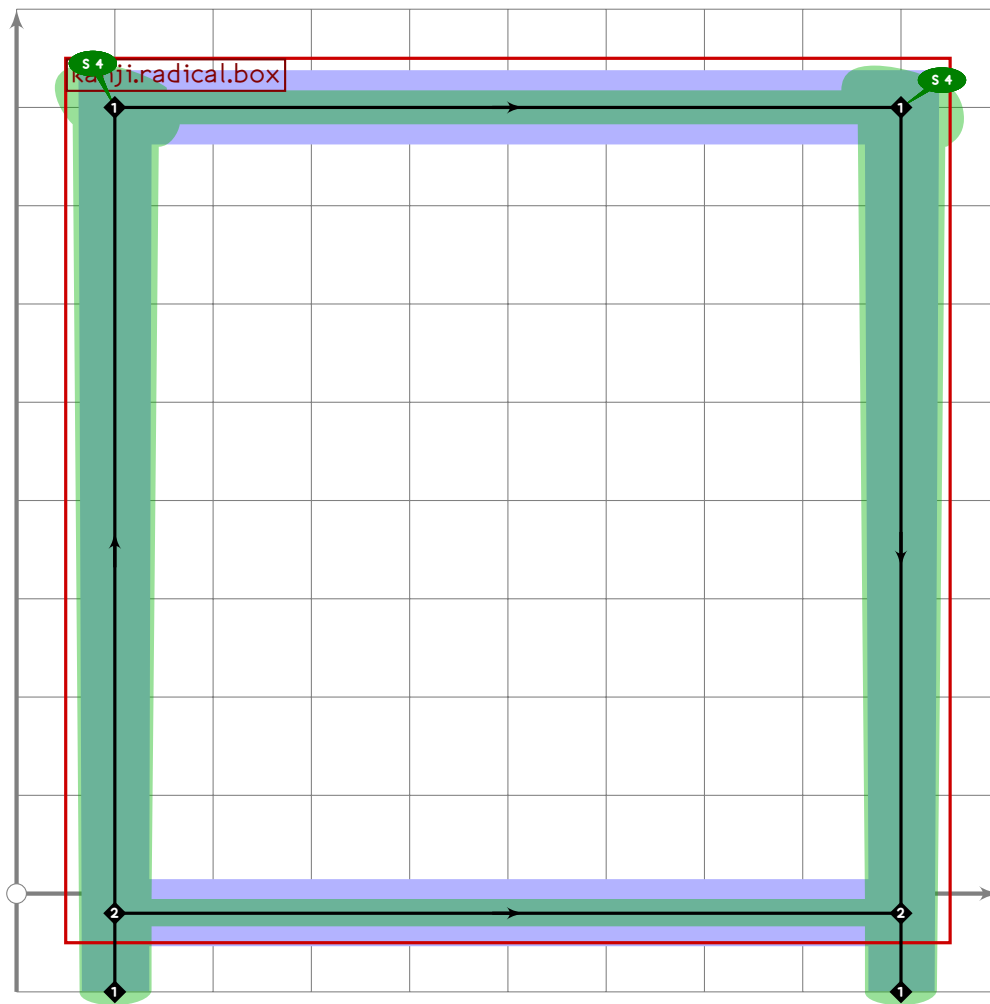
RADI



```

63
64 vardef kanji.radical.beta =
65   push_pbox__toexpand("kanji.radical.beta");
66   push_stroke((250,-80)-(250,760)-(650,760)..tension 1.2..
67     (550,600)..{curl 1}(350,480){curl 0.5}..
68     (650,340)..(650,240)..{curl 0.3}(400+70*mincho,210),
69     (1.6,1.6)-(1.7,1.7)-(1.6,1.6)-
70     (1.1,1.3)-(0.55,1.4)-
71     (1.4,1.4)-(1.6,1.6)-(1.8,1.8)-(1.9,1.9));
72   set_botip(0,1,1);
73   set_botip(0,2,0);
74   set_botip(0,4,1);
75   set_boserif(0,1,4);
76   set_boserif(0,2,4);
77   replace_strokep(0)(insert_nodes(oldp)(6.5));
78   expand_pbox;
79 enddef;

```

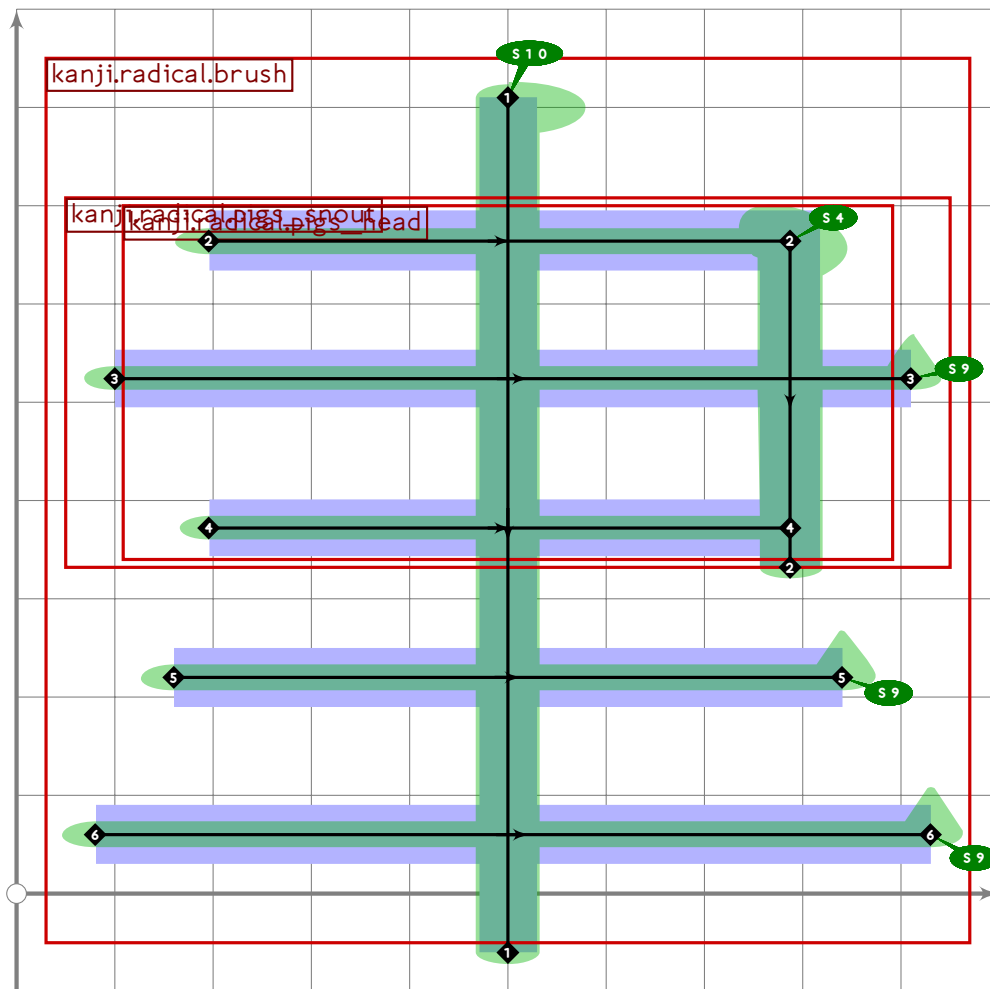


RADI

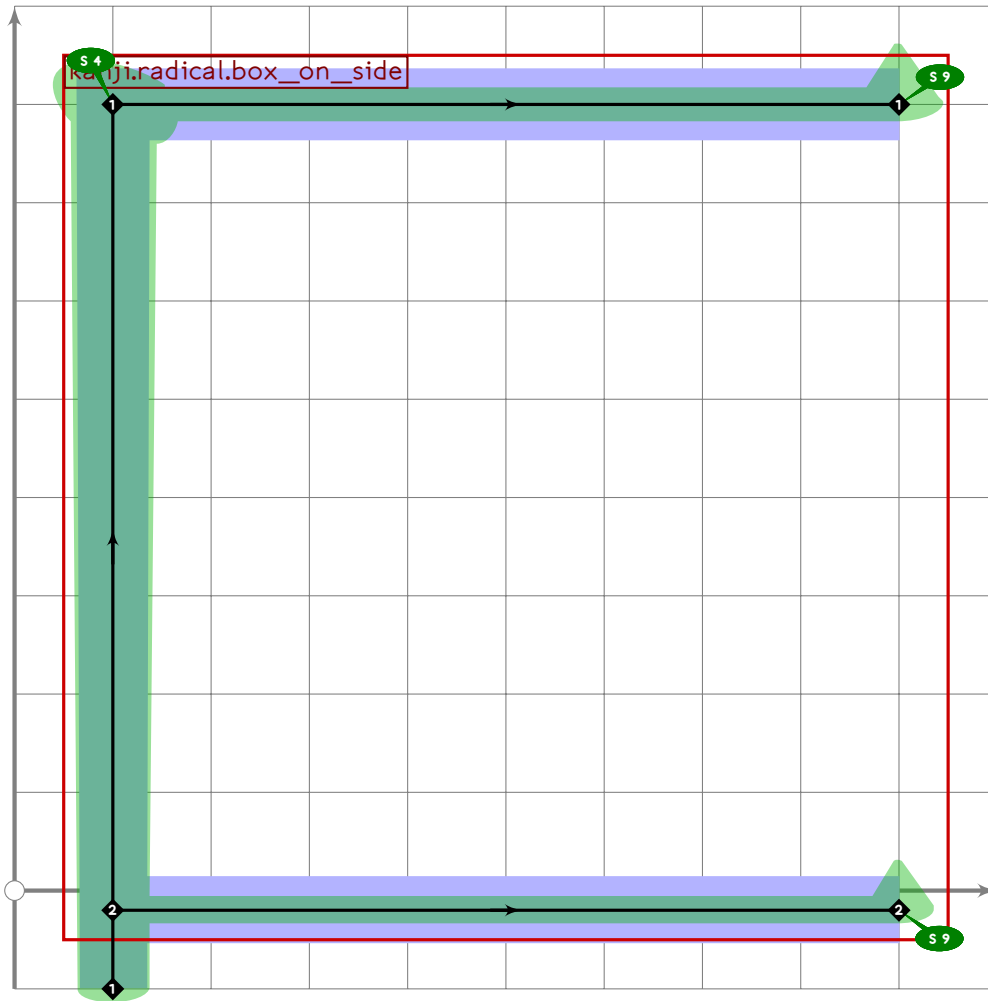
```

80
81 vardef kanji.radical.box =
82   perl_structure:=perl_structure&"eids.u2FF4.u56D7.1_";
83   push_pbox_toexpand("kanji.radical.box");
84   build_kanji.box((100,800),(900,-20));
85   expand_pbox;
86 enddef;

```



658



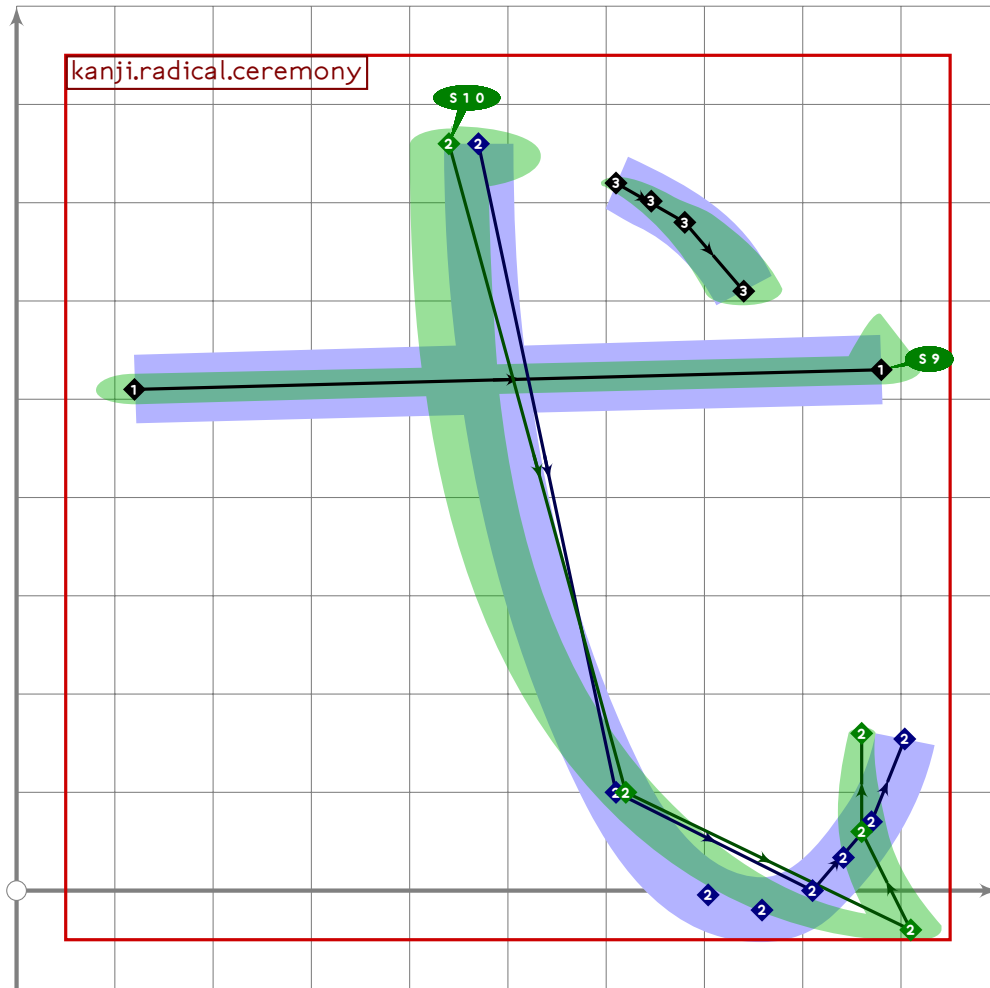
RADI

```

103
104 vardef kanji.radical.box_on_side =
105   push_pbox_toexpand("kanji.radical.box_on_side");
106   build_kanji.box((100,800),(900,-20));
107   replace_strokep(-1)(subpath (0,2) of oldp);
108   replace_strokeq(-1)(subpath (0,2) of oldq);
109   set_boserif(-1,2,9);
110   set_botip(-1,2,whatever);
111   set_boserif(0,1,9);
112   expand_pbox;
113 enddef;

```

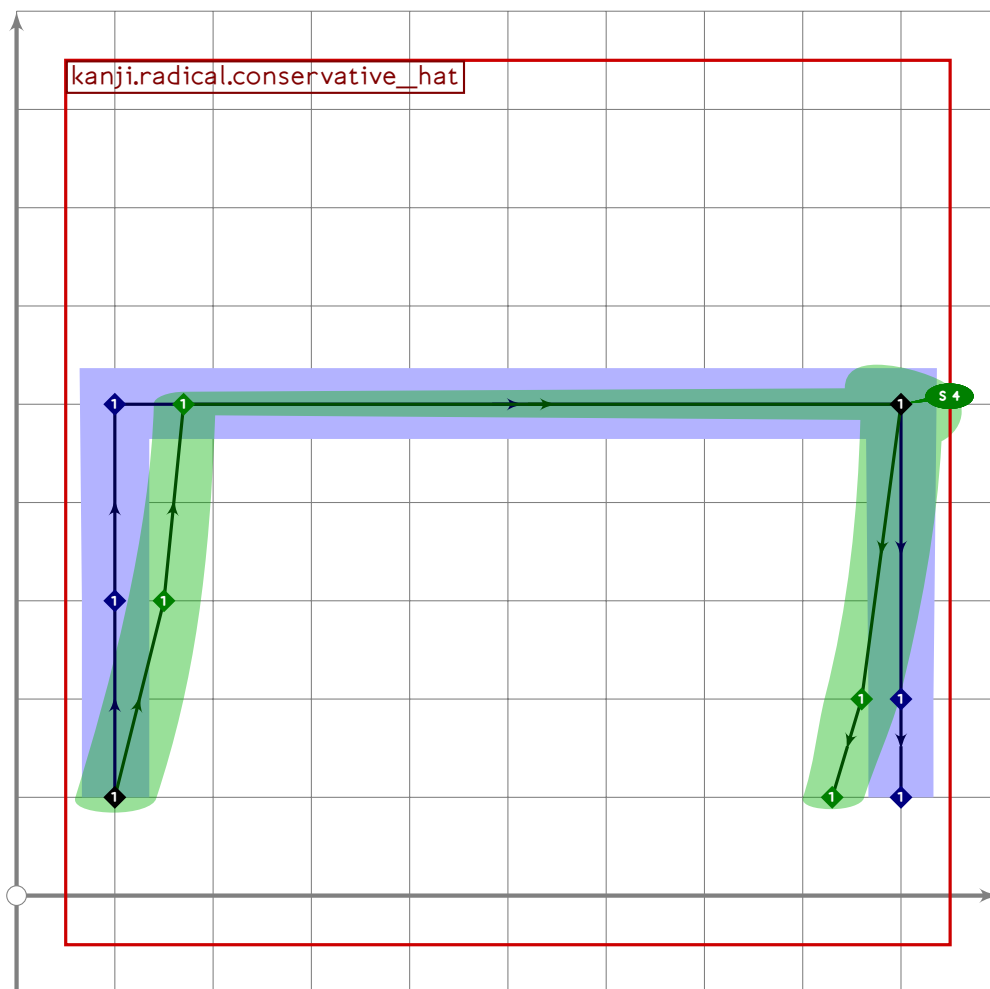
RADI



```

114
115 vardef kanji.radical.ceremony =
116   push_pbox_toexpand("kanji.radical.ceremony");
117   push_stroke((120,510)–(880,530),(1,6,1,6)–(1,6,1,6));
118   set_boserif(0,1,9);
119   push_stroke(interpather(mincho,
120     (470,760){down}..(610,100)..(810,0)..tension 1.5..
121     (870,70)..{curl 0.3}(910,200),
122     (440,760){down}..(620,100)..{right}(910,-40){curl 1}..
123     (860,60)..(860,160)),
124     (1,6,1,6)–(1,4,1,4)–(1,4,1,4)–(1,2,1,2)–(0,9,0,9));
125   set_boserif(0,0,10);
126   push_stroke((610,720)..tension 1.2..(680,680)..(740,610),
127     (1,1)..(1,5,1,5)–(1,7,1,7));
128   set_bosize(0,9,0);
129   expand_pbox;
130 enddef;

```

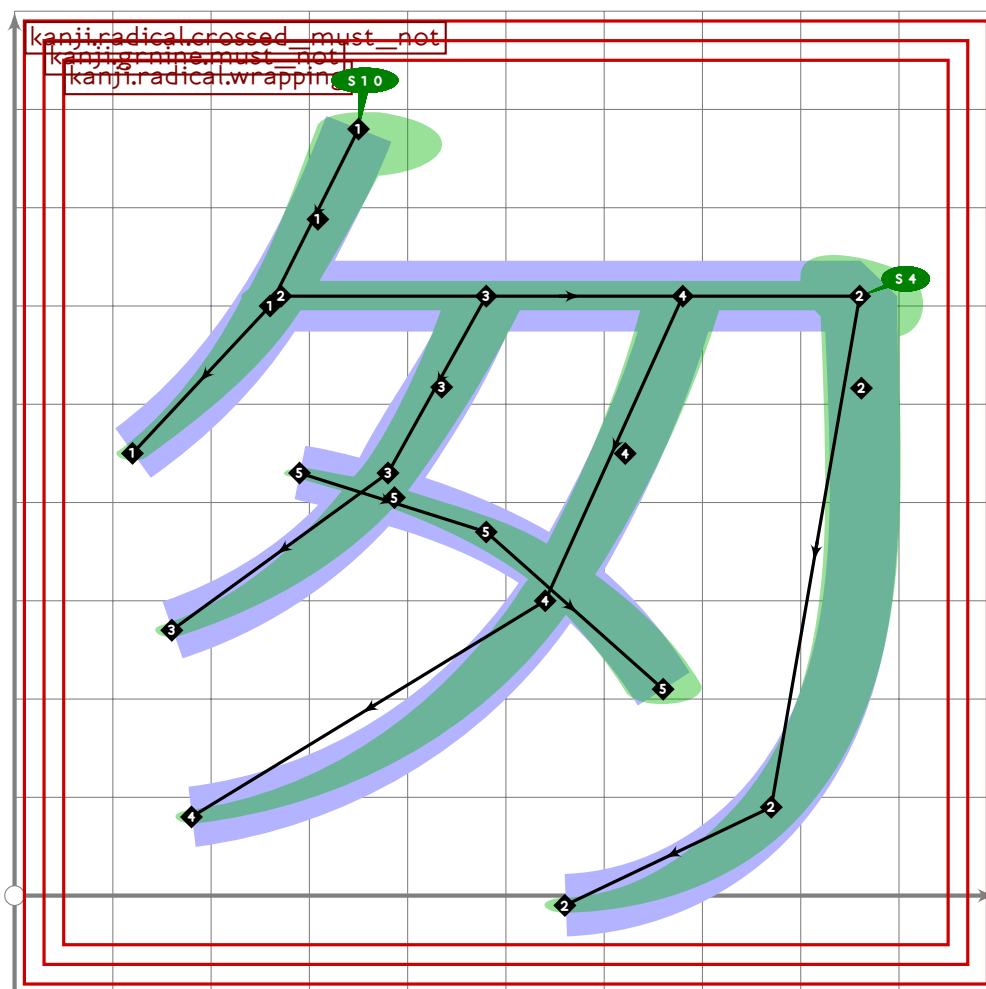
RADI

```

131
132 vardef kanji.radical.conservative_hat =
133   push_pbox__toexpand("kanji.radical.conservative_hat");
134   push_stroke((100,100)..(100+50*mincho,300)..(100+70*mincho,500)-
135     (900,500)..(900-40*mincho,200)..(900-70*mincho,100),
136     (1.7,1.7)-(1.6,1.6)-(1.4,1.4)-(1.7,1.7)-(1.6,1.6)-(1.4,1.4));
137   set_bosize(0,95);
138   set_botip(0,2,1);
139   set_botip(0,3,1);
140   set_boserif(0,3,4);
141   expand_pbox;
142 enddef;

```

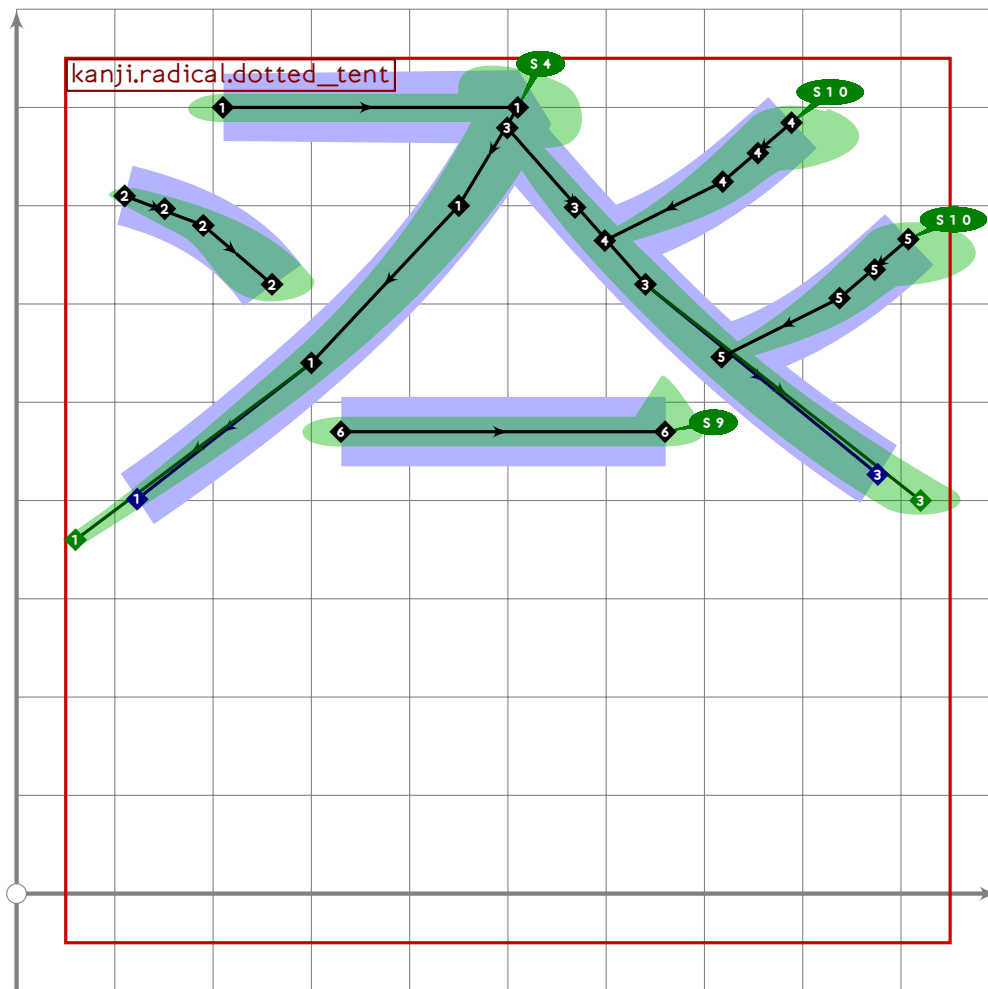
RADI



```

143
144 vardef kanji.radical.crossed_must_not =
145   push_pbox_toexpand("kanji.radical.crossed_must_not");
146   kanji.grnine.must_not;
147   push_stroke((290,430)..tension 1.2..(480,370)..(660,210),
148     (1,1)-(14,14)-(17,17));
149   set_bosize(0,90);
150   expand_pbox;
151 enddef;
152
153 vardef kanji.radical.cut_the_grass =
154   push_pbox_toexpand("kanji.radical.cut_the_grass");
155   push_stroke((150,750)..(500,500)..(850,50),
156     (1,3)-(15,15)-(17,17));
157   push_stroke((700,800)..(500,330)..(70,-30),
158     (1,6)-(15,15)-(1,1));
159   set_boserif(0,0,10);
160   expand_pbox;
161 enddef;

```



RADI

```

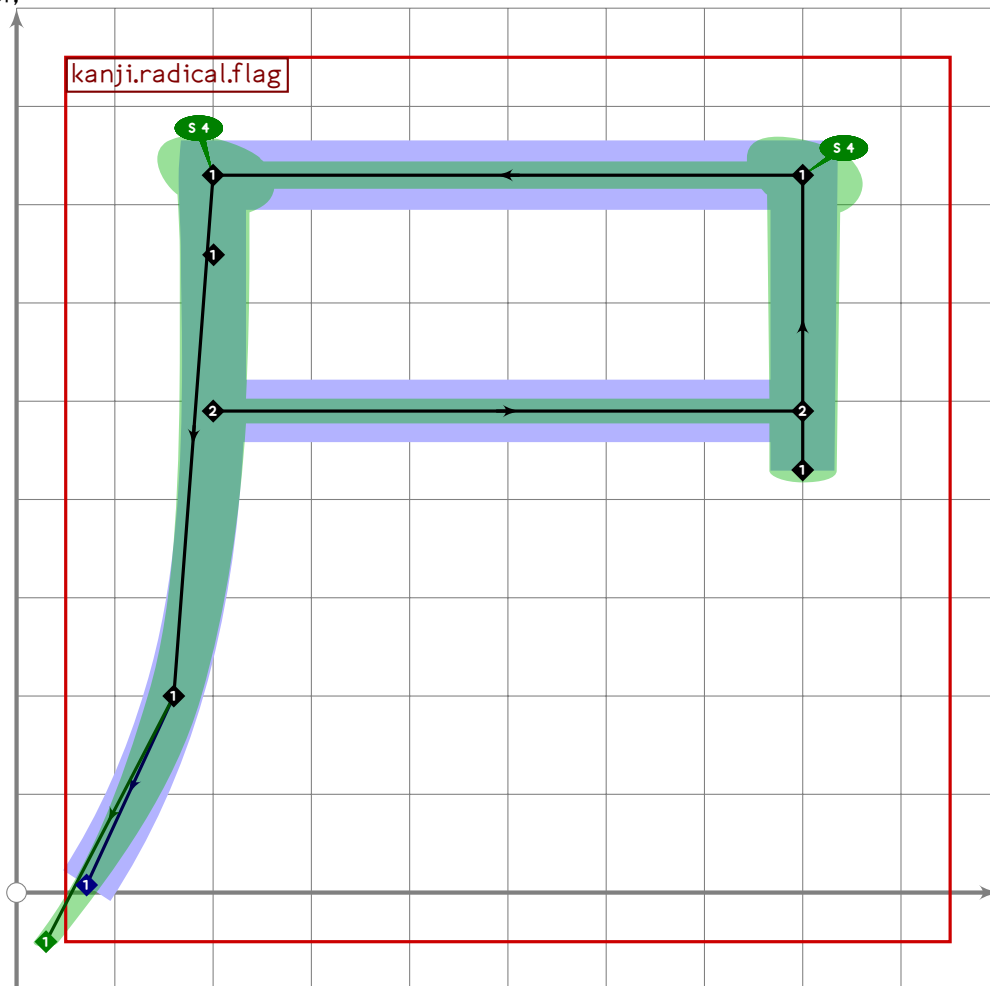
162
163 vardef kanji.radical.dotted_tent =
164   perl_structure:=perl_structure&"eids.u2FF1.u7676.1_";
165   push_pbox_toexpand("kanji.radical.dotted_tent");
166   push_stroke((210,800)-(510,800)..(450,700)..(300,540)..(60,360),
167     (1.5,1.5)-(1.6,1.6)-(1.5,1.5)-(1.3,1.3)-(0.85,0.9));
168   set_boserif(0,14);
169   set_botip(0,1,0);
170   push_stroke((110,710)..tension 1.2..(190,680)..(260,620),
171     (1,1)-(1.4,1.4)-(1.7,1.7));
172   push_stroke(
173     (point 1.2 of get_stroke(-1)..tension 1.2..(640,620)..(920,400),
174     (1,1)-(1.3,1.3)-(2.25,0.95));
175   push_stroke(((190,120)..tension 1.2..(120,60)..(0,0))
176     shifted (point 0.7 of get_stroke(0)),
177     (1.7,1.7)-(1.5,1.5)-(1,1));
178   set_boserif(0,0,10);
179   push_stroke(((190,120)..tension 1.2..(120,60)..(0,0))
180     shifted (point 1.3 of get_stroke(-1)),
181     (1.7,1.7)-(1.5,1.5)-(1,1));
182   set_boserif(0,0,10);

```

U+5C38
tsuku.uni5C38

```
183 push_stroke((330,470)-(660,470),(1.6,1.6)-(1.6,1.6));
184 set_boserif(0,1,9);
185 expand_pbox;
186 endif;
187
188 vardef kanji.radical.eight =
189   push_pbox_toexpand("kanji.radical.eight");
190   push_stroke((610,760)..tension 1.3..(760,240)..(880,-10),
191     (1,1)-(14,14)-(18,18));
192   set_bosize(0,110);
193   push_stroke((350,740)..(280,360)..(160,80)..(40,-30),
194     (1.6,1.6)-(14,14)-(1.3,1.3)-(0.88,0.88));
195   set_bosize(0,110);
196   set_boserif(0,0,10);
197   expand_pbox;
198 endif;
```

RADI

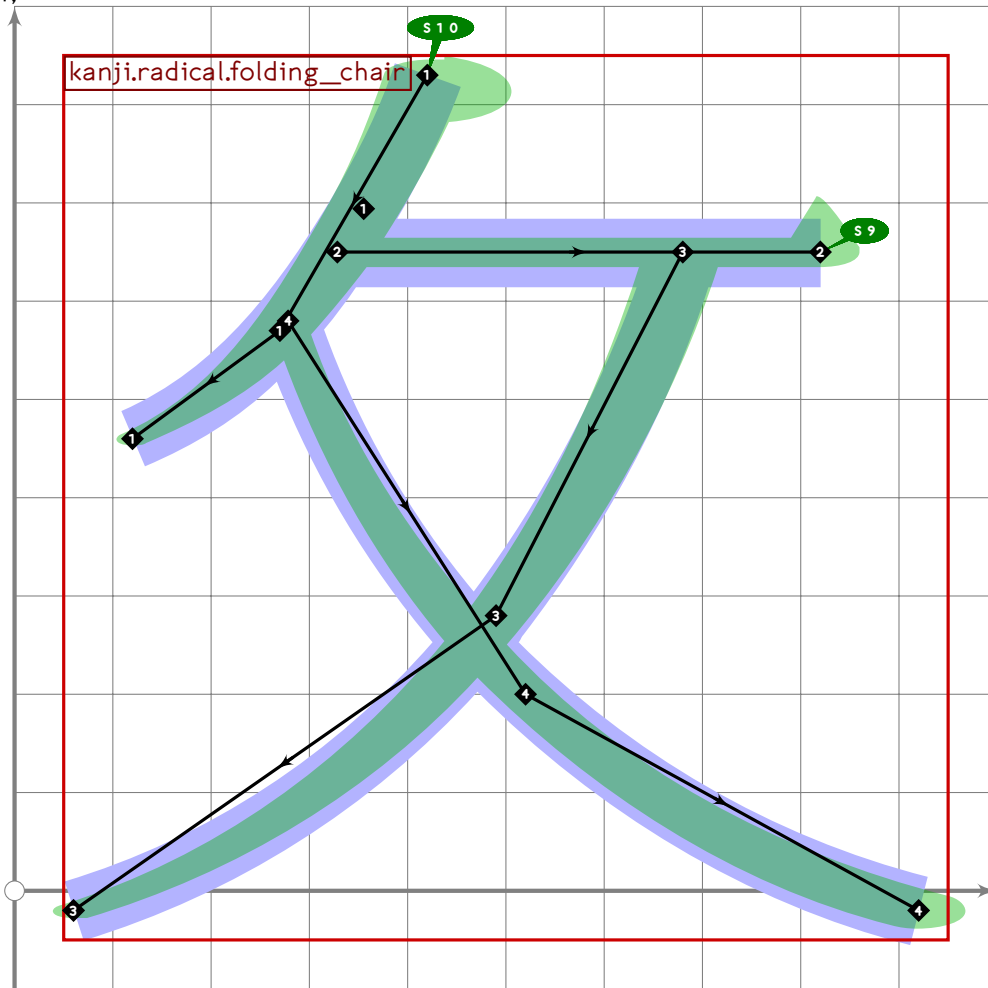


```
199
200 vardef kanji.radical.flag =
201   perl_structure:=perl_structure&"eids.u2FF8.u5C38.1_";
202   push_pbox_toexpand("kanji.radical.flag");
203   push_stroke((800,430)-(800,730)-(200,730){down}..(160,200)..(30,-50),
```

```

204 (1.5,1.5)-(1.6,1.6)-(1.6,1.6)-(1.3,1.3)-(0.9,0.9));
205 set_botip(0,1,1);
206 set_botip(0,2,1);
207 set_boserif(0,1,4);
208 set_boserif(0,2,4);
209 set_bosize(0,93);
210 push_stroke((((0,490)-(1000,490))
211 intersectionpoint reverse get_strokep(0))-(800,490),
212 (1.5,1.5)-(1.5,1.5));
213 set_bosize(0,93);
214 expand_pbox;
215 enddef;

```



```

216
217 vardef kanji.radical.folding_chair =
218   push_pbox_toexpand("kanji.radical.folding_chair");
219   push_stroke((420,830)..tension 1.2..(270,570)..(120,460),
220     (1.7,1.7)-(1.4,1.4)-(1,1));
221   set_boserif(0,0,10);
222   push_stroke(
223     (get_strokep(0) intersectionpoint ((0,650)-(1000,650)))-(820,650),
224     (1.5,1.5)-(1.6,1.6));

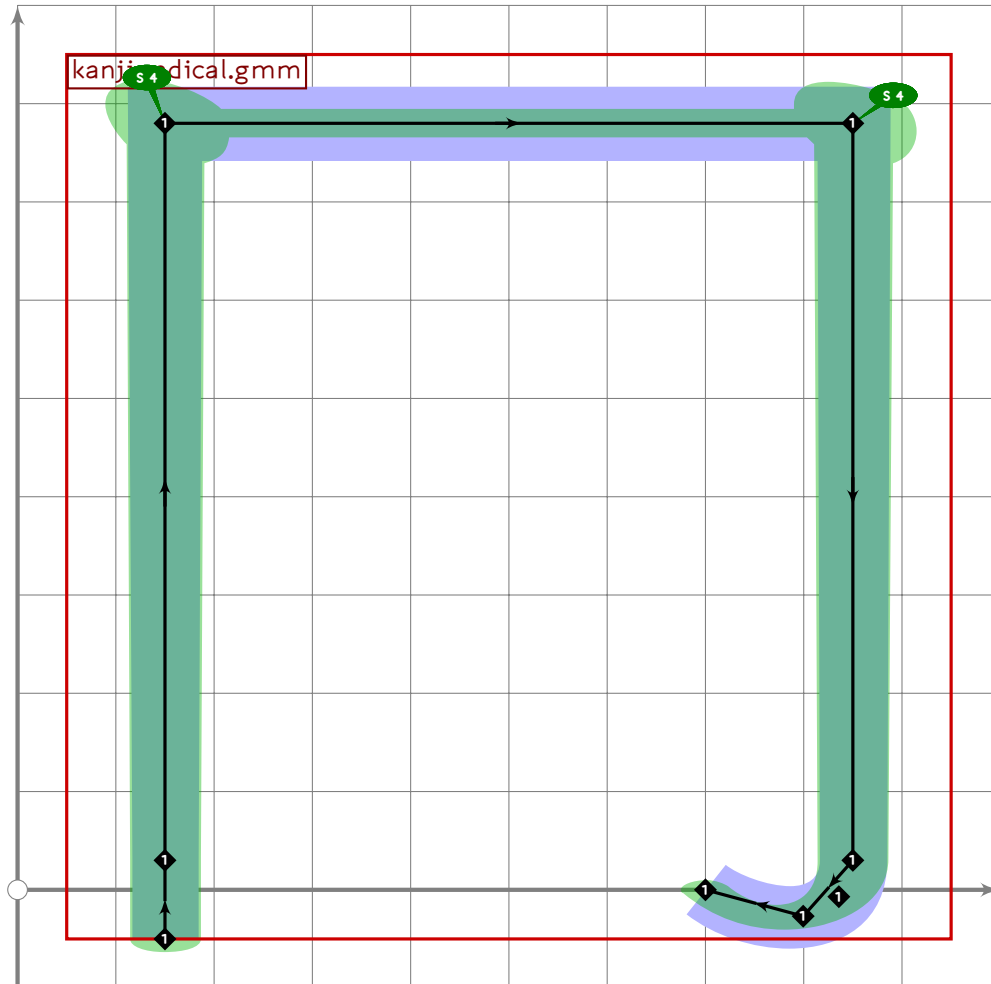
```

RADI

U+5182
tsuku.uni5182

```
225 set_boserif(0,19);
226 push_stroke((680,650)..tension 1.1..(490,280)..(60,-20),
227   (1.6,1.6)–(1.4,1.4)–(1.1,1.1));
228 push_stroke((point 0.95 of get_stroke(-2))..(520,200)..(920,-20),
229   (1,1)–(1.3,1.3)–(1.8,1.8));
230 expand_pbox;
231 enddef;
232
```

RADI

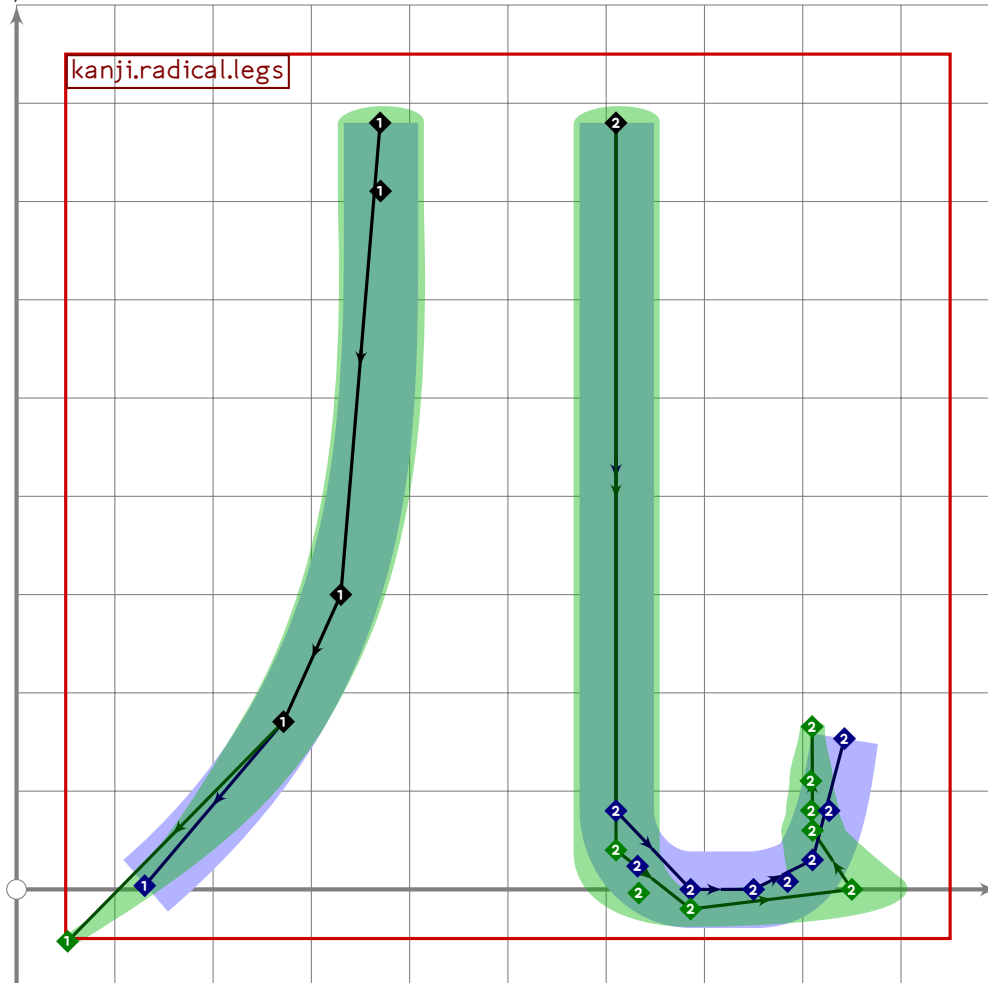


```
233 % "George Michael's Moustache" radical, according to Schultzz
234 vardef kanji.radical.gmm =
235   push_pbox_toexpand("kanji.radical.gmm");
236   push_stroke((150,-50)–(150,30)–(150,780)–(850,780),
237     (1.5,1.5)–(1.5,1.5)–(1.6,1.6)–(1.6,1.6));
238   build_kanji.add_jtail(0);
239   set_botip(0,2,1);
240   set_botip(0,3,1);
241   set_boserif(0,2,4);
242   set_boserif(0,3,4);
243   expand_pbox;
244 enddef;
245
```

```

246 vardef kanji.radical.kettle_lid =
247   push_pbox_toexpand("kanji.radical.kettle_lid");
248   push_stroke((500,700)..(500,160),(1.6,1.6)-(1.5,1.5));
249   set_bosize(0,125);
250   set_boserif(0,0,10);
251   push_stroke((100,160)-(900,160),(1.7,1.7)-(1.7,1.7));
252   set_bosize(0,125);
253   set_boserif(0,1,9);
254   expand_pbox;
255 enddef;

```



```

256
257 vardef kanji.radical.legs =
258   push_pbox_toexpand("kanji.radical.legs");
259   push_stroke((370,780){down}..(330,300)..(40,-60),
260     (1.6,1.6)-(1.6,1.6)-(1.6,1.6)-(0.8,0.7));
261   replace_strokep(0)(insert_nodes(oldp)(1.3));
262   set_bosize(0,110);
263   push_stroke((610,780),
264     (1.6,1.6));
265   build_kanji.add_ltail(0);
266   set_bosize(0,110);

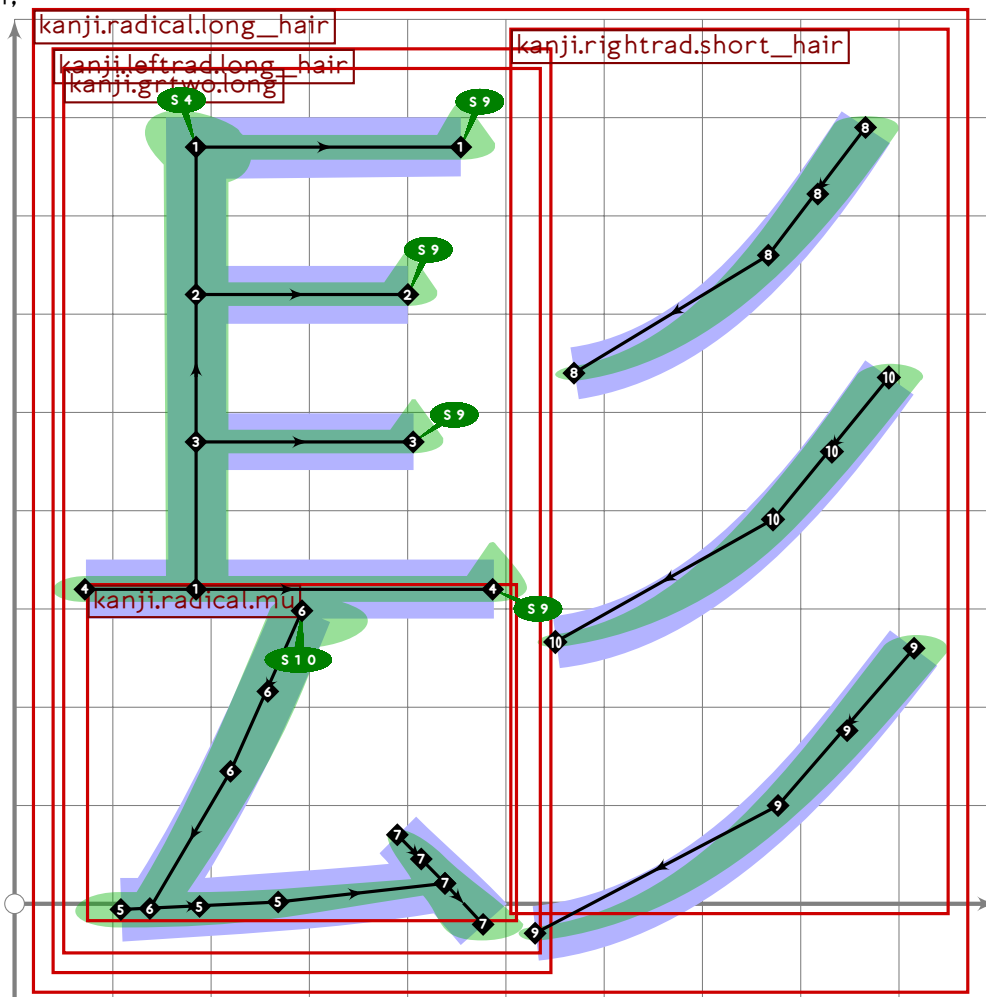
```

RADI

U+9ADF
tsuku.uni9ADF

RADI

```
267 expand_pbox;
268 enddef;
269
270 vardef kanji.radical.life_minus =
271   push_pbox_toexpand("kanji.radical.life_minus");
272   push_stroke((500,780)-(500,0),(1.6,1.6)-(1.6,1.6));
273   set_boserif(0,0,10);
274   push_stroke((280,700)..(220,360)..(140,120),
275     (1.6,1.6)-(1.2,1.2)-(0.8,0.8));
276   set_boserif(0,0,10);
277   push_stroke((point 0.9 of get_stroke(0))-
278     (820,ypart point 0.9 of get_stroke(0)),
279     (1.6,1.6)-(1.6,1.6));
280   set_boserif(0,1,9);
281   push_stroke((120,0)-(880,0),(1.6,1.6)-(1.6,1.6));
282   set_boserif(0,1,9);
283   expand_pbox;
284 enddef;
```



```
285
286 vardef kanji.radical.long_hair =
287   push_pbox_toexpand("kanji.radical.long_hair");
```



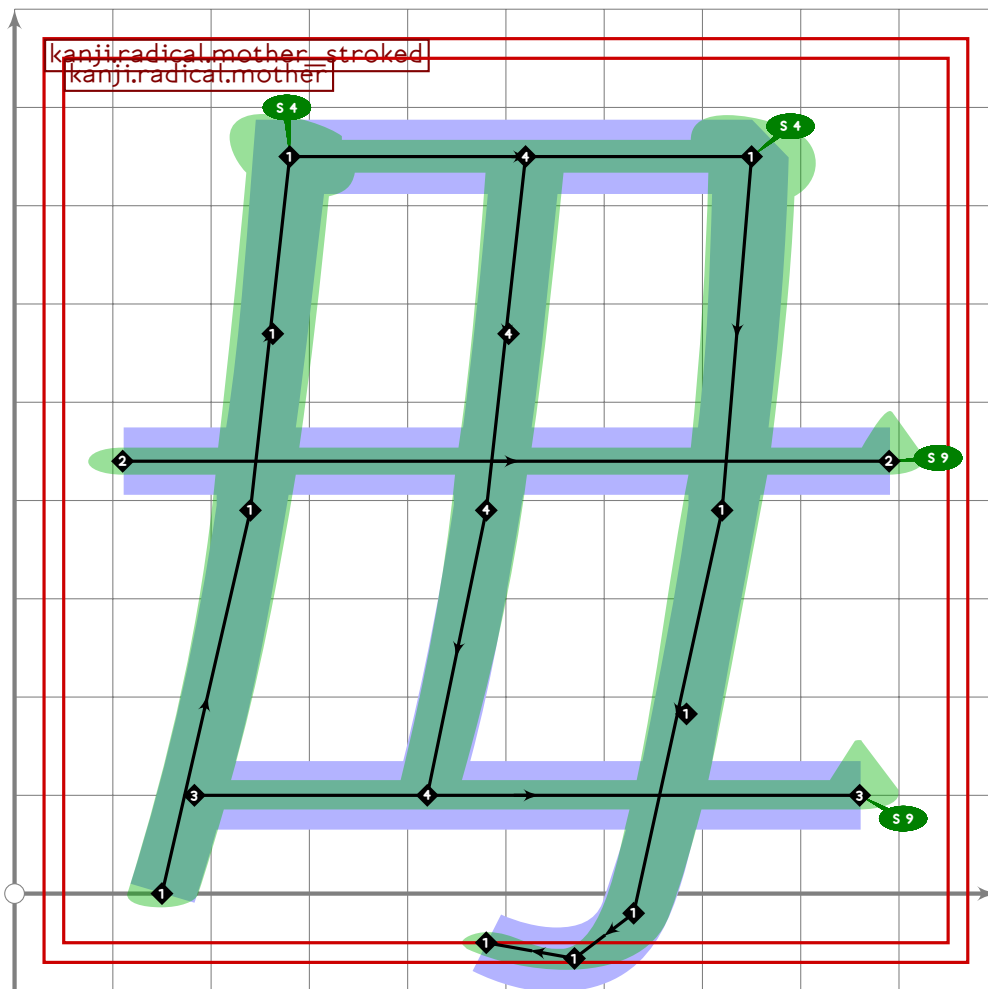
```

288 build_kanji.level(build_kanji.lr(520,30)
289   (kanji.leftrad.long_hair)
290   (tsu_xform(identity shifted (0,40))
291     (kanji.rightrad.short_hair)));
292 expand_pbox;
293 enddef;
294
295 vardef kanji.radical.long_kimono =
296   push_pbox_toexpand("kanji.radical.long_kimono");
297   build_kanji.level(build_kanji.tb(600,-50)
298     (kanji.grone.earth)
299     (kanji.bottomrad.long_kimono));
300   expand_pbox;
301 enddef;
302
303 vardef kanji.radical.mother =
304   push_pbox_toexpand("kanji.radical.mother");
305   push_stroke(
306     (150,0)..(240,390)..tension 1.2..(280,750)-
307     (750,750)..(720,390)..tension 1.2..(630,-20){dir 250}{curl 0.2}(480,-50),
308     (1.5,1.5)-(1.6,1.6)-(1.7,1.7)-(1.7,1.7)-(1.6,1.6)-(1.5,1.5));
309   replace_strokep(0)(insert_nodes(oldp)((length oldp)-0.5));
310   replace_strokeq(0)(oldq-(1.4,1.4)-(1.2,1.2));
311   set_botip(0,2,1);
312   set_botip(0,3,0);
313   set_boserif(0,2,4);
314   set_boserif(0,3,4);
315   push_stroke((110,440)-(890,440),(1.5,1.5)-(1.5,1.5));
316   set_boserif(0,1,9);
317   push_stroke((183,100)-(860,100),(1.6,1.6)-(1.6,1.6));
318   set_boserif(0,1,9);
319   expand_pbox;
320 enddef;

```

U+6BCB
tsuku.uni6BCB

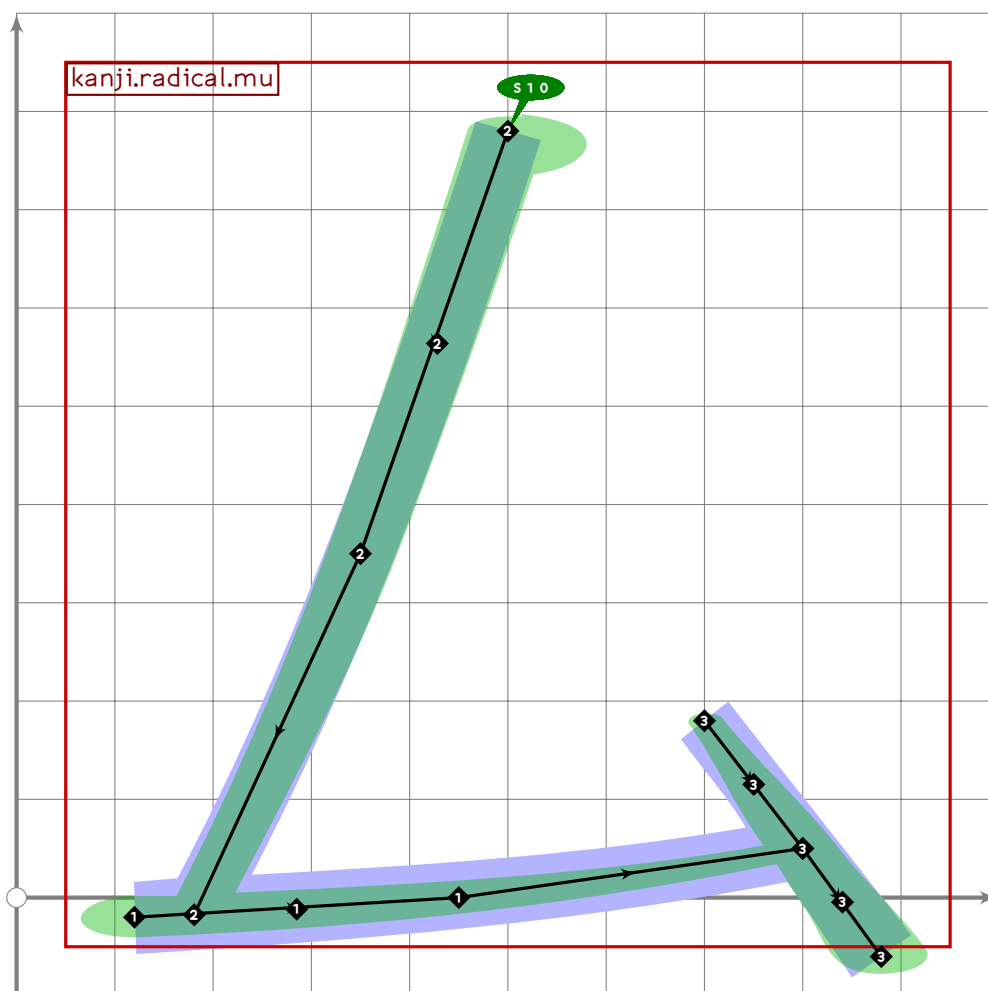
RADI



```

321
322 vardef kanji.radical.mother_stroked =
323   push_pbox_toexpand("kanji.radical.mother_stroked");
324   kanji.radical.mother;
325   push_stroke((520,750)..tension 1.2..(480,390)..(420,100),
326     (1.6,1.6)–(1.5,1.5)–(1.4,1.4));
327   expand_pbox;
328 enddef;

```



RADI

```

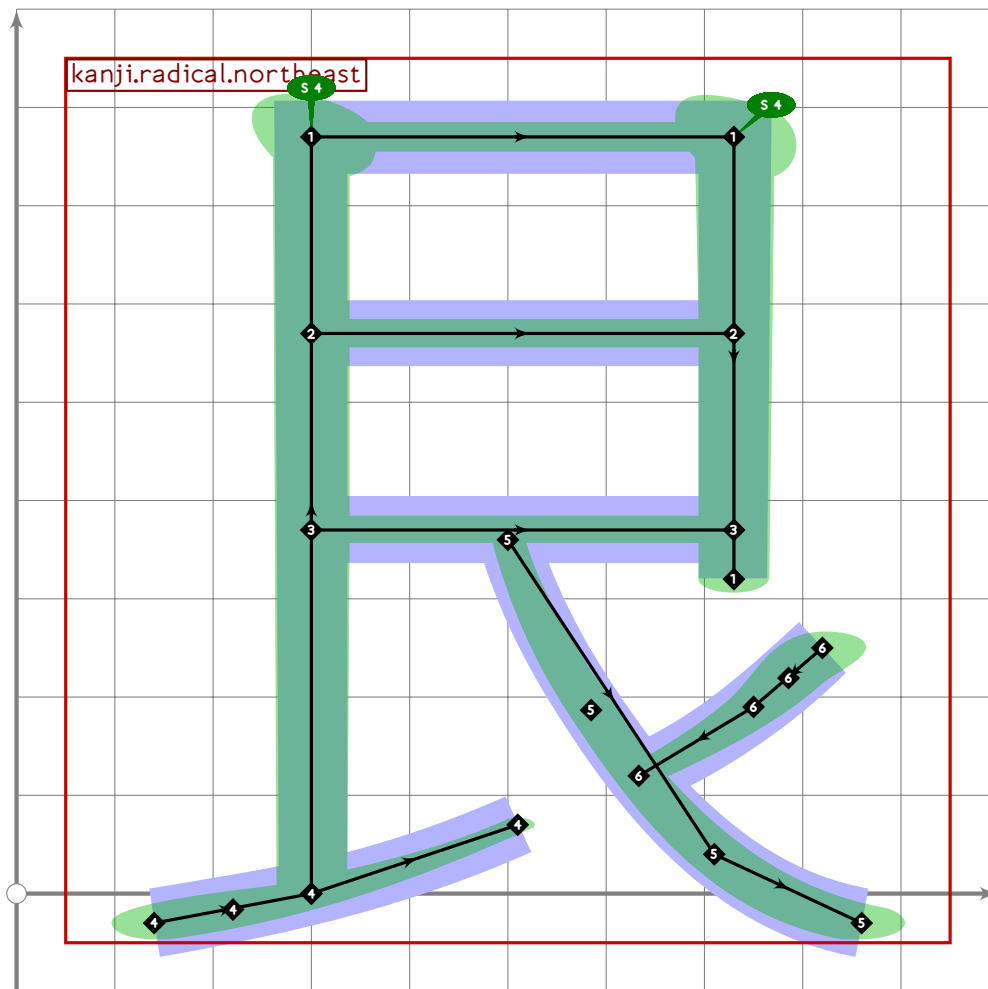
329
330 vardef kanji.radical.mu =
331   push_pbox_toexpand("kanji.radical.mu");
332   push_stroke((120,-20)..tension 1.2..(450,0)..(800,50),
333     (2,2)-(1.7,1.7)-(1.2,1.2));
334   push_stroke(
335     (500,780)..tension 1.2..(350,350)..(point 0.2 of get_strokep(0)),
336     (1.6,1.6)-(1.5,1.5)-(1.3,1.3));
337   set_boserif(0,0,10);
338   push_stroke((700,180)..tension 1.3..(800,50)..(880,-60),
339     (1,1)-(1.5,1.5)-(1.8,1.8));
340   expand_pbox;
341   enddef;
342
343 vardef kanji.radical.mu_bar =
344   push_pbox_toexpand("kanji.radical.mu_bar");
345   push_stroke((140,780)-(860,780),(1.6,1.6)-(1.6,1.6));
346   set_boserif(0,1,9);
347   build_kanji.scale(xyscaled (0.92,1.5) shifted (0,250))
348     (kanji.radical.mu);
349   replace_strokep(-1)(subpath

```

```

350    (xpart (oldp intersectiontimes get_strokep(-3)),infinity) of oldp);
351    set_boserif(-1,0,whatever);
352    replace_strokep(0)(oldp rotatedaround (point 1 of oldp,-15));
353    expand_pbox;
354 enddef;
355
356 vardef kanji.radical.narrow_flag =
357   perl_structure:=perl_structure&"eids.u2FF8.u5C38.1_";
358   push_pbox_toexpand("kanji.radical.narrow_flag");
359   push_stroke(((800,560)-(800,730)-(200,730){down}..(160,200)..(30,-50),
360     (1.5,1.5)-(1.6,1.6)-(1.6,1.6)-(1.3,1.3)-(0.9,0.9));
361   set_botip(0,1,1);
362   set_botip(0,2,1);
363   set_boserif(0,1,4);
364   set_boserif(0,2,4);
365   set_bosize(0,93);
366   push_stroke((((0,610)-(1000,610))
367     intersectionpoint reverse get_strokep(0))-(800,610),
368     (1.5,1.5)-(1.5,1.5));
369   set_bosize(0,93);
370   expand_pbox;
371 enddef;

```



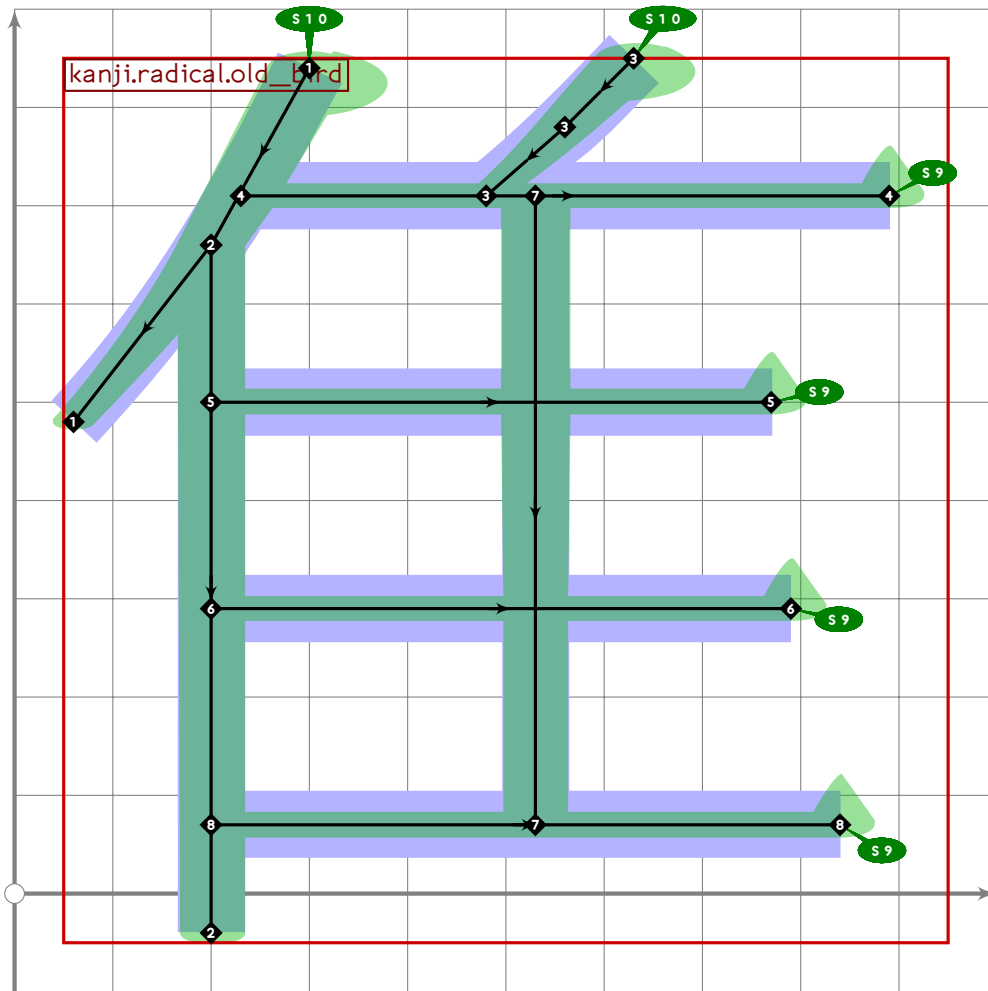
RADI

```

372
373 vardef kanji.radical.northeast =
374   push_pbox_toexpand("kanji.radical.northeast");
375   push_stroke((300,0)–(300,770)–(730,770)–(730,320),
376     (1.5,1.5)–(1.6,1.6)–(1.6,1.6)–(1.5,1.5));
377   set_boserif(0,1,4);
378   set_boserif(0,2,4);
379   set_botip(0,1,1);
380   set_botip(0,2,1);
381   push_stroke((300,570)–(730,570),(1.5,1.5)–(1.5,1.5));
382   push_stroke((300,370)–(730,370),(1.5,1.5)–(1.5,1.5));
383   push_stroke((140,-30)..tension 1.2..(300,0)..(510,70),
384     (1.7,1.7)–(1.5,1.5)–(1,1));
385   push_stroke((500,360)..tension 1.2..(710,40)..(860,-30),
386     (1,1)–(1.4,1.4)–(1.7,1.7));
387   push_stroke((820,250)..tension 1.2..(750,190)..
388     (point 0.7 of get_stroke(0)),
389     (1.7,1.7)–(1.4,1.4)–(1.2,1.2));
390   expand_pbox;
391 enddef;

```

RADI



```

392
393 vardef kanji.radical.old_bird =
394   push_pbox_toexpand("kanji.radical.old_bird");
395   push_stroke((300,840){curl 0.1}..(200,660)..(60,480),
396     (1.7,1.7)–(1.5,1.5)–(1.1,1.1));
397   set_boserif(0,0,10);
398   push_stroke((200,660)–(200,-40),
399     (1.49,1.49)–(1.4,1.4));
400   push_stroke((630,850){curl 0.1}..(560,780)..(480,710),
401     (1.6,1.6)–(1.4,1.4)–(1.1,1.1));
402   set_boserif(0,0,10);
403   push_stroke(
404     (((0,710)–(1000,710)) intersectionpoint get_stroke(-2))–(890,710),
405     (1.4,1.4)–(1.5,1.5));
406   set_boserif(0,1,9);
407   push_stroke((200,500)–(770,500),
408     (1.4,1.4)–(1.5,1.5));
409   set_boserif(0,1,9);
410   push_stroke((200,290)–(790,290),
411     (1.4,1.4)–(1.5,1.5));
412   set_boserif(0,1,9);

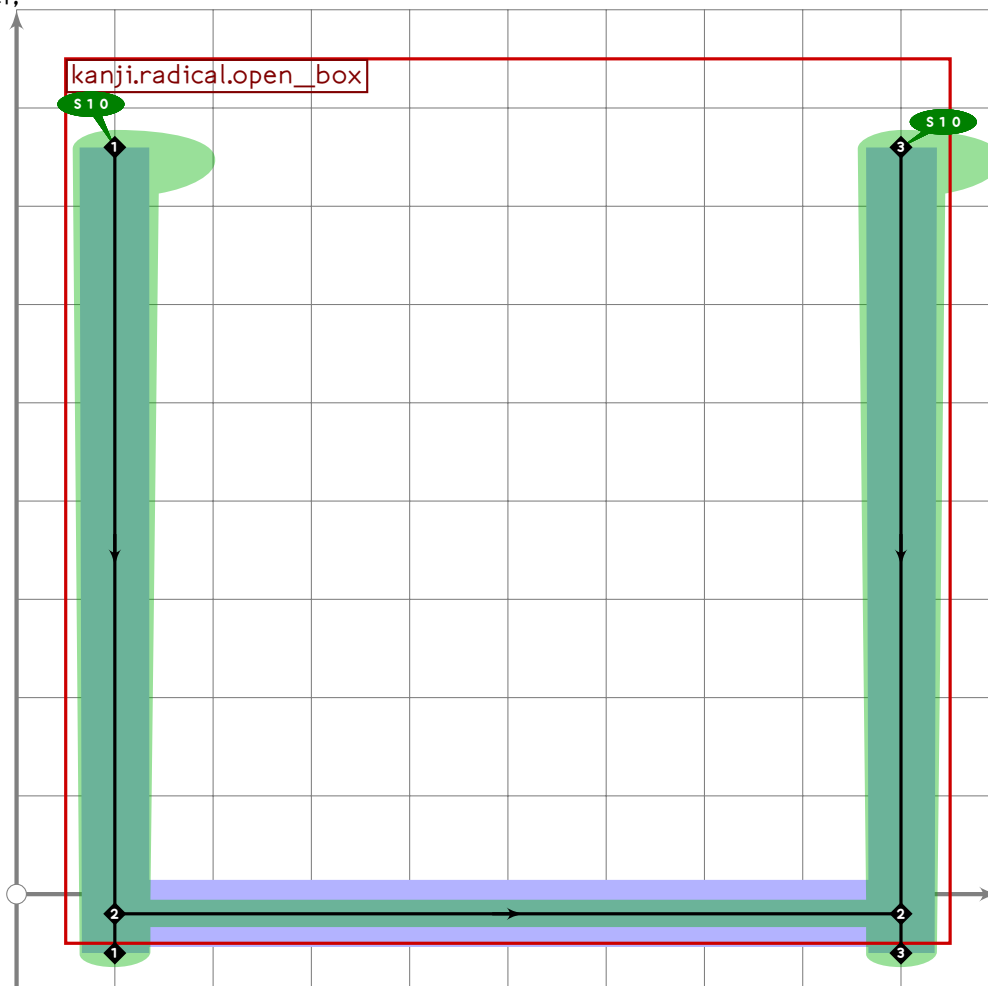
```

```

413 push_stroke((530,710)-(530,70),(1.5,1.5)-(1.4,1.4));
414 push_stroke((200,70)-(840,70),
415   (1.4,1.4)-(1.5,1.5));
416 set_boserif(0,1.9);
417 expand_pbox;
418 enddef;
419
420 % pass in some code that goes in the bottom
421 vardef kanji.radical.old_man(text curves) =
422   push_pbox_toexpand("kanji.radical.old_man");
423   build_kanji.level(
424     build_kanji.tb(480,-110)
425     (kanji.grone.earth;
426      replace_stroke(-1)(oldp shifted (-500,0) xscaled 0.75 shifted (480,0)))
427     (curves);
428   push_stroke((880,780)..tension 1.2..(600,530)..(50,260),
429     (1.6,1.6)-(1.5,1.5)-(1,1)));
430   expand_pbox;
431 enddef;

```

RADI



```

432
433 vardef kanji.radical.open_box =

```

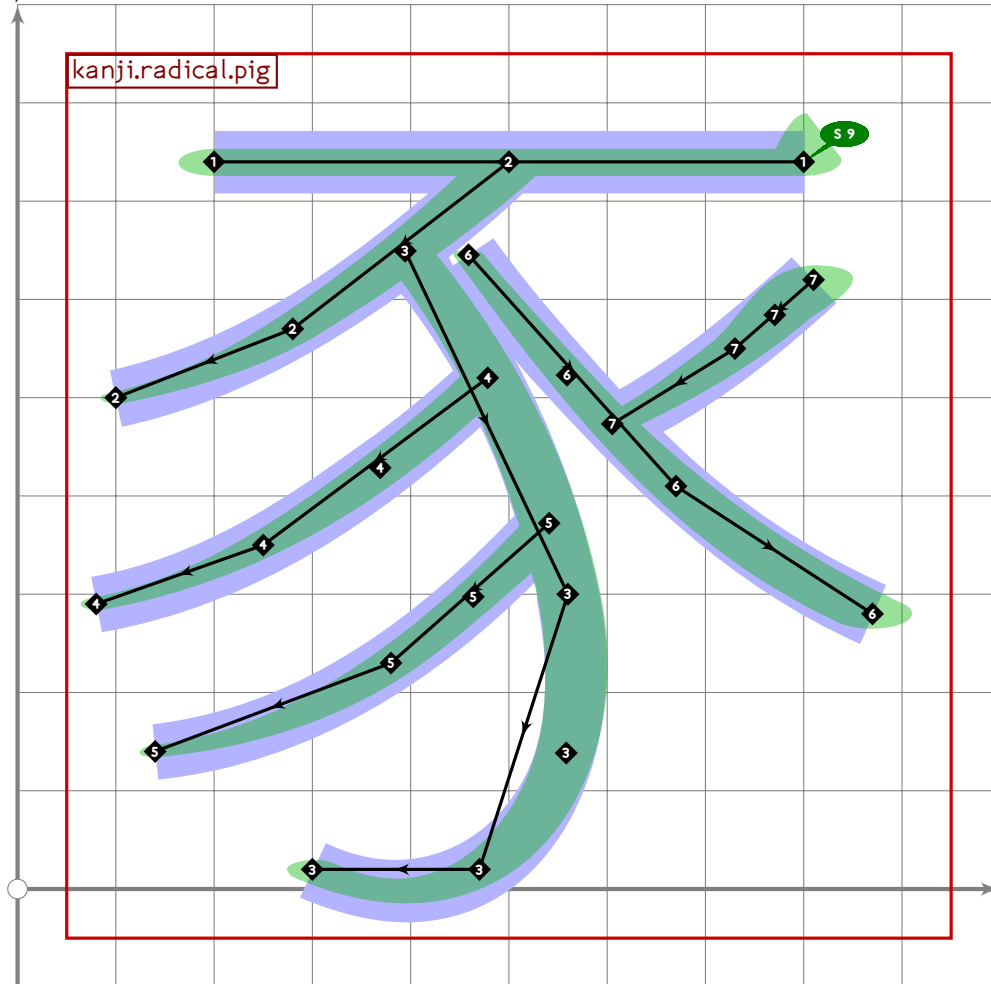
U+8C55
tsuku.uni8C55

```

434 push_pbox_toexpand("kanji.radical.open_box");
435 push_stroke((100,760)-(100,-60),(1.7,1.7)-(1.5,1.5));
436 set_boserif(0,0,10);
437 push_stroke((100,-20)-(900,-20),(1.5,1.5)-(1.5,1.5));
438 push_stroke((900,760)-(900,-60),(1.7,1.7)-(1.5,1.5));
439 set_boserif(0,0,10);
440 expand_pbox;
441 enddef;

```

RADI



```

442
443 vardef kanji.radical.pig =
444   push_pbox_toexpand("kanji.radical.pig");
445   push_stroke((200,740)-(800,740),(1.6,1.6)-(1.6,1.6));
446   set_boserif(0,1,9);
447   push_stroke((500,740)..tension 1.2..(280,570)..(100,500),
448     (1.6,1.6)-(1.4,1.4)-(1.0,1.0));
449   push_stroke(
450     (point 0.5 of get_stroke(0))..tension 1.1..(560,300)..
451     (470,20)..{curl 0.6}(300,20),
452     (1.3,1.3)-(1.5,1.5)-(1.4,1.4)-(1.3,1.3));
453   push_stroke(
454     (point 0.4 of get_stroke(0))..tension 1.2..(250,350)..(80,290),

```



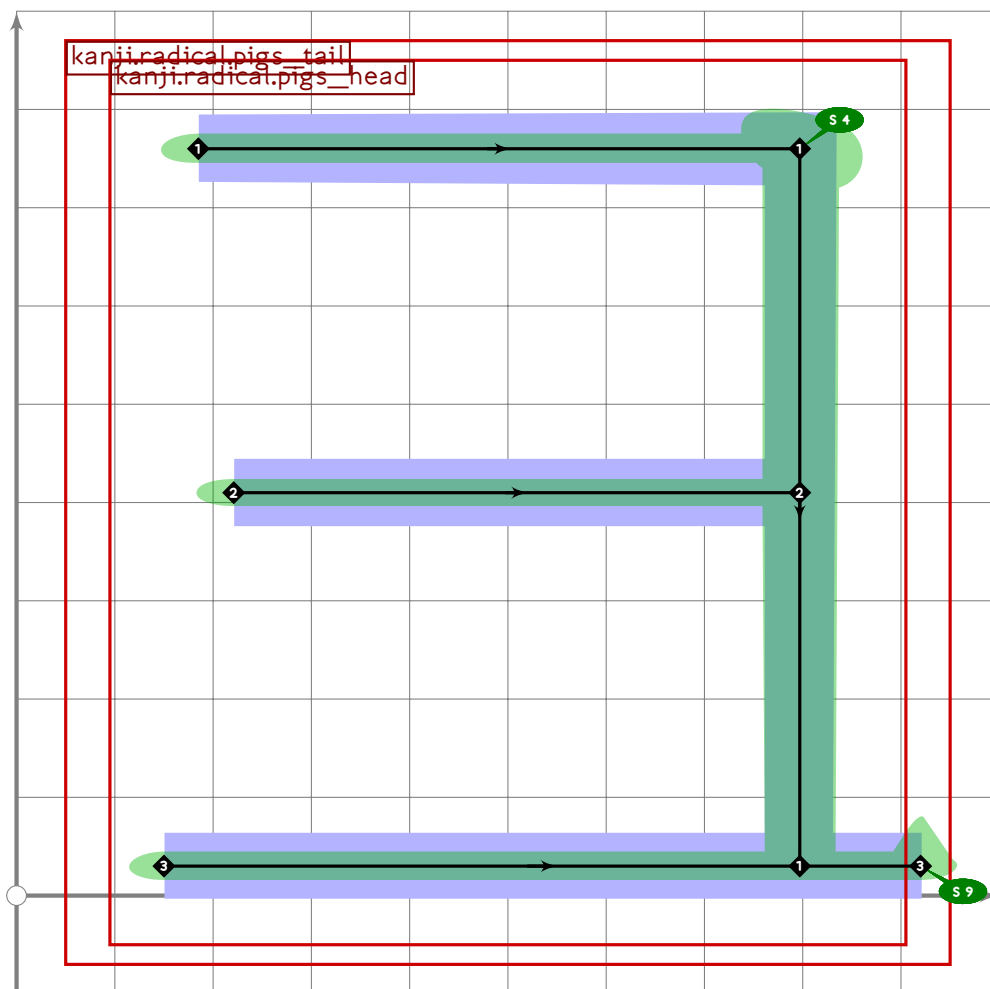
```

455     (1.35,1.35)–(1.4,1.4)–(1.0,1.0));
456 push_stroke(
457     (point 0.8 of get_stroke(-1))..tension 1.2..(380,230)..(140,140),
458     (1.35,1.35)–(1.4,1.4)–(1.0,1.0));
459 push_stroke(
460     ((0,90)+point 0.3 of get_stroke(-2))..tension 1.2..(670,410)..(870,280),
461     (1,1)–(1.4,1.4)–(1.7,1.7));
462 push_stroke(
463     (810,620)..tension 1.2..(730,550)..(point 0.7 of get_stroke(0)),
464     (1.7,1.7)–(1.4,1.4)–(1.2,1.2));
465 for i=-6 upto 0: set_bosize(i,92); endfor;
466 expand_pbox;
467 enddef;
468
469 vardef kanji.radical.pigs_head =
470     push_pbox_toexpand("kanji.radical.pigs_head");
471     push_stroke((150,760)–(830,760)–(830,-70),
472         (1.6,1.6)–(1.6,1.6)–(1.5,1.5));
473     set_botip(0,1,1);
474     set_boserif(0,1,4);
475     push_stroke((190,410)–(830,410),(1.55,1.55)–(1.55,1.55));
476     push_stroke((150,30)–(830,30),(1.5,1.5)–(1.5,1.5));
477     expand_pbox;
478 enddef;
479
480 % name is mine - it has central horizontal line lengthened
481 vardef kanji.radical.pigs_snout =
482     push_pbox_toexpand("kanji.radical.pigs_snout");
483     build_kanji.level(
484         build_kanji.sscale(xscaled 0.87)(kanji.radical.pigs_head);
485         replace_stroke(-1)((100,410)–(910,410));
486         set_boserif(-1,1,9);
487     );
488     expand_pbox;
489 enddef;
490

```

U+5F50
tsuku.uni5F50

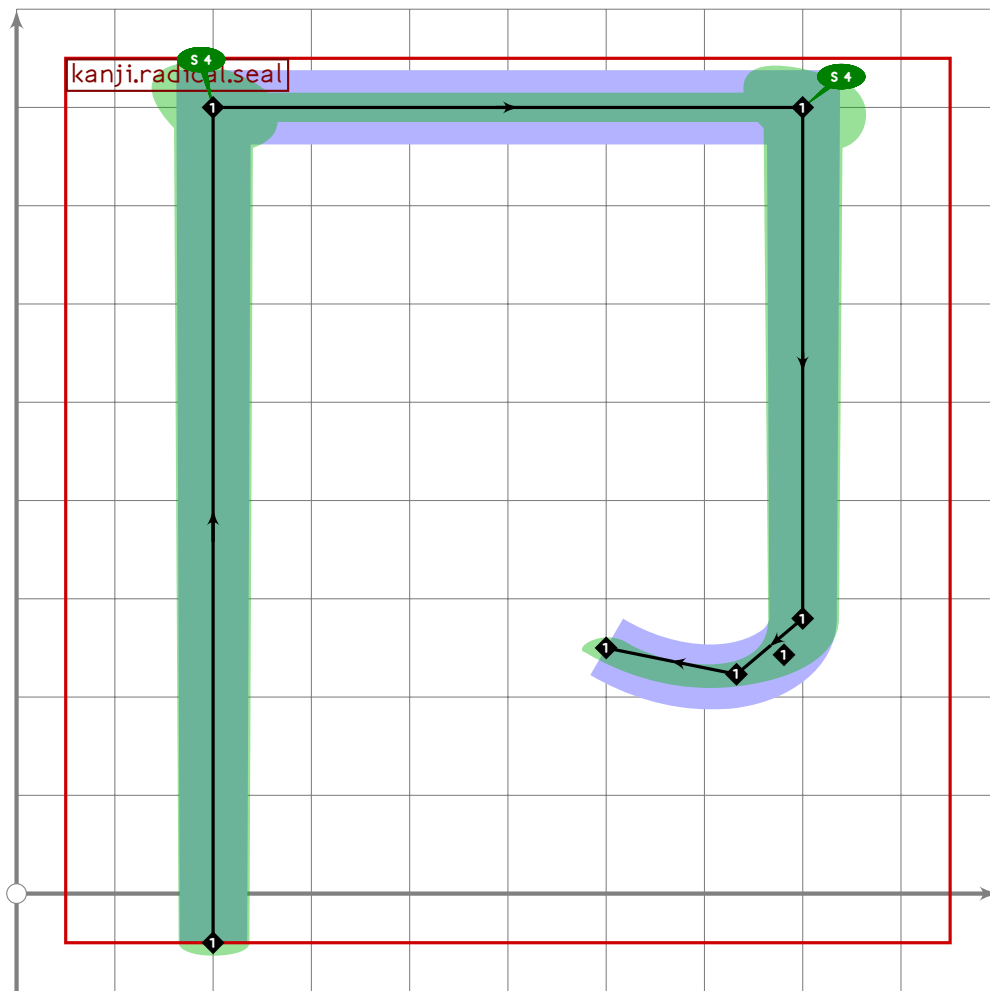
RADI



```

491 % name is mine - it has bottom horizontal line lengthened, vertical clipped
492 vardef kanji.radical.pigs_tail =
493   push_pbox_toexpand("kanji.radical.pigs_tail");
494   build_kanji.sscale(xscaled 0.9)
495     (kanji.radical.pigs_head;
496       replace_strokep(-2)((150,760)-(830,760)-(830,30)));
497   replace_strokep(0)((150,30)-(920,30));
498   set_boserif(0,1,9);
499   expand_pbox;
500 enddef;

```



RADI

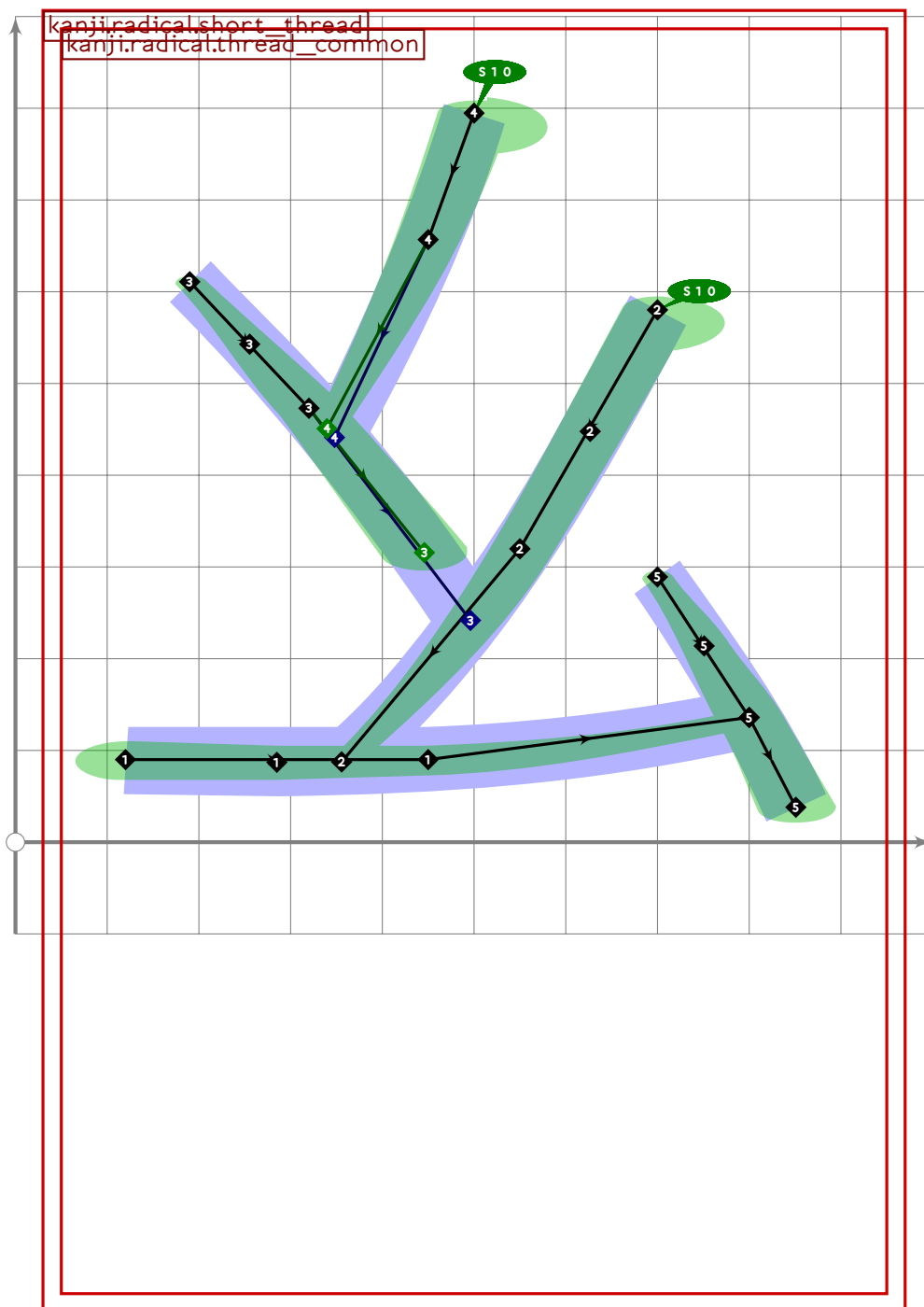
```

501
502 vardef kanji.radical.seal =
503   push_pbox_toexpand("kanji.radical.seal");
504   push_stroke((150,-300)-(150,550)-(600,550),
505     (1.5,1.5)-(1.6,1.6)-(1.6,1.6));
506   build_kanji.add_jtail(0);
507   replace_strokep(0)(oldp shifted (0,250) xscaled 1.3333);
508   set_boserif(0,1,4);
509   set_boserif(0,2,4);
510   set_botip(0,1,1);
511   set_botip(0,2,1);
512   expand_pbox;
513 enddef;

```

U+5E7A
tsuku.uni5E7A

RADI



```

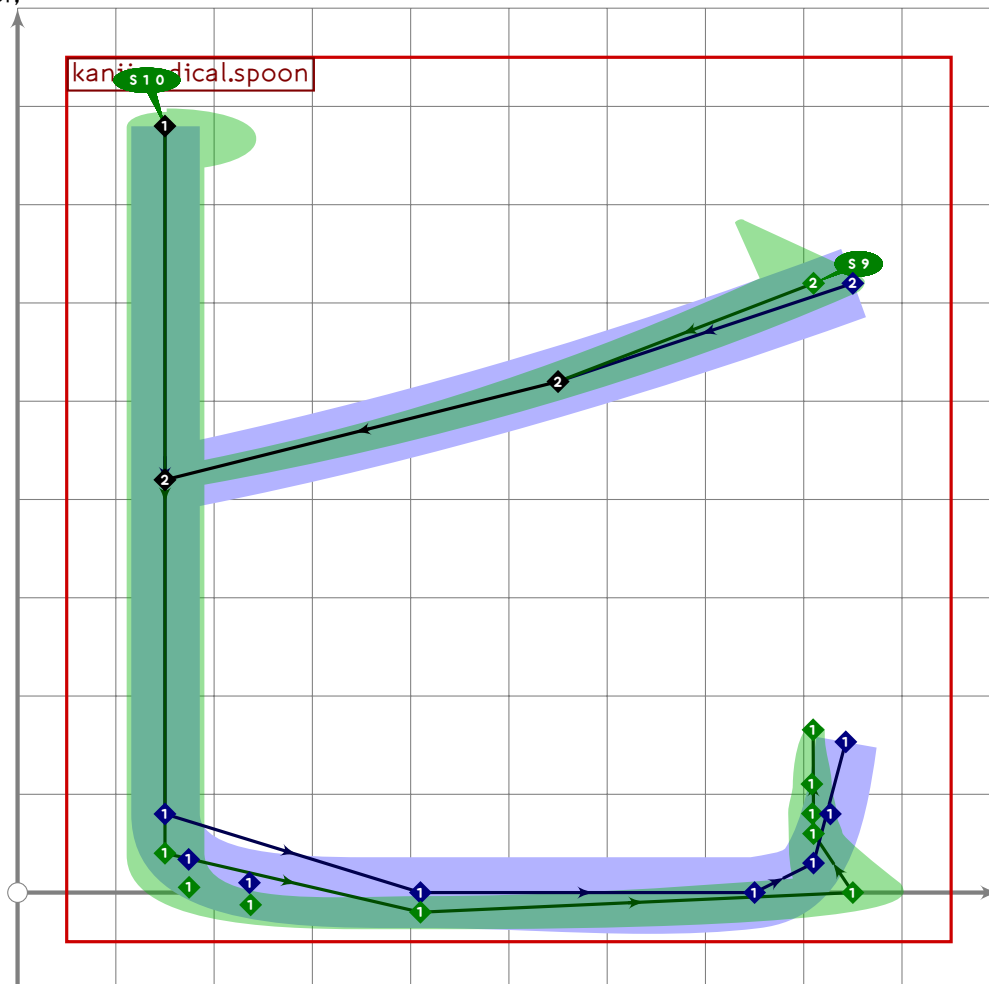
514
515 vardef kanji.radical.short_thread =
516   push_pbox_toexpand("kanji.radical.short_thread");
517   tsu_xform(begingroup
518     save myxf;
519     transform myxf;
520     xpart myxf=yxpart myxf=0;
521     xpart myxf=1;
522     (500,330) transformed myxf=(500,90);
523     (500,800) transformed myxf=(500,810);

```

```

524 myxf
525 endgroup)(kanji.radical.thread_common);
526 replace_strokep(0)(subpath (0,1.6) of oldp);
527 replace_strokeq(0)(subpath (0,1.6) of oldq);
528 for i=-4 upto 0: set_bosize(i,100); endfor;
529 expand_pbox;
530 enddef;
531
532 vardef kanji.radical.silly_hat =
533   push_pbox_toexpand("kanji.radical.silly_hat");
534   push_stroke((500,800)..(500,500),(1.6,1.6)-(1.5,1.5));
535   set_bosize(0,95);
536   set_boserif(0,0,10);
537   kanji.radical.conservative_hat;
538   expand_pbox;
539 enddef;

```



```

540
541 vardef kanji.radical.spoon =
542   push_pbox_toexpand("kanji.radical.spoon");
543   push_stroke((150,780),(1.6,1.6));
544   build_kanji.add_ltail(0);

```

RADI

```

545 set_boserif(0,0,10);
546 push_stroke(
547   (xpart point infinity of get_stroke(0),620)..(550,520)..(150,420),
548   (1,9,1,9)..(1,6,1,6)..(1,3,1,3));
549 set_boserif(0,0,9);
550 expand_pbox;
551 enddef;
552
553 vardef kanji.radical.tent =
554   perl_structure:=perl_structure&"eids.u2FF1.u4EBA.1_";
555   push_pbox_toexpand("kanji.radical.tent");
556   push_stroke((510,800)..(450,700)..(300,540)..(60,360),
557     (1,6,1,6)–(1,5,1,5)–(1,3,1,3)–(0,85,0,9));
558   set_boserif(0,0,10);
559   push_stroke(
560     (point 0.2 of get_stroke(0))..tension 1.2..(640,620)..(920,400),
561     (1,1)–(1,3,1,3)–(2,25,0,95));
562   push_stroke((330,470)–(660,470),(1,6,1,6)–(1,6,1,6));
563   set_boserif(0,1,9);
564   expand_pbox;
565 enddef;
566
567 vardef kanji.radical.thread_common =
568   push_pbox_toexpand("kanji.radical.thread_common");
569   push_stroke((120,330)..tension 1.2..(450,330)..(800,360),
570     (2,2)–(1,7,1,7)–(1,2,1,2));
571   push_stroke((700,650)..tension 1.3..(550,480)..(point 0.7 of get_stroke(0)),
572     (1,6,1,6)–(1,5,1,5)–(1,1));
573   set_boserif(0,0,10);
574   push_stroke(subpath (0,2–0.3*mincho) of
575     ((190,670)..tension 1.3..(320,580)..(point 1.3 of get_stroke(0))),
576     (1,1)–(1,5,1,5)–(1,8,1,8));
577   push_stroke((500,790)..(450,700)..(point 1.15 of get_stroke(0)),
578     (1,6,1,6)–(1,5,1,5)–(1,1));
579   set_boserif(0,0,10);
580   push_stroke((700,460)..tension 1.3..(800,360)..(880,250),
581     (1,1)–(1,5,1,5)–(1,8,1,8));
582   expand_pbox;
583 enddef;
584
585 vardef kanji.radical.topped_aitch =
586   push_pbox_toexpand("kanji.radical.topped_aitch");
587   push_stroke((160,730)–(840,730),(1,6,1,6)–(1,6,1,6));
588   set_boserif(0,1,9);
589   kanji.radical.aitch;
590   set_boserif(-1,0,whatever);
591   set_boserif(0,0,whatever);
592   expand_pbox;

```

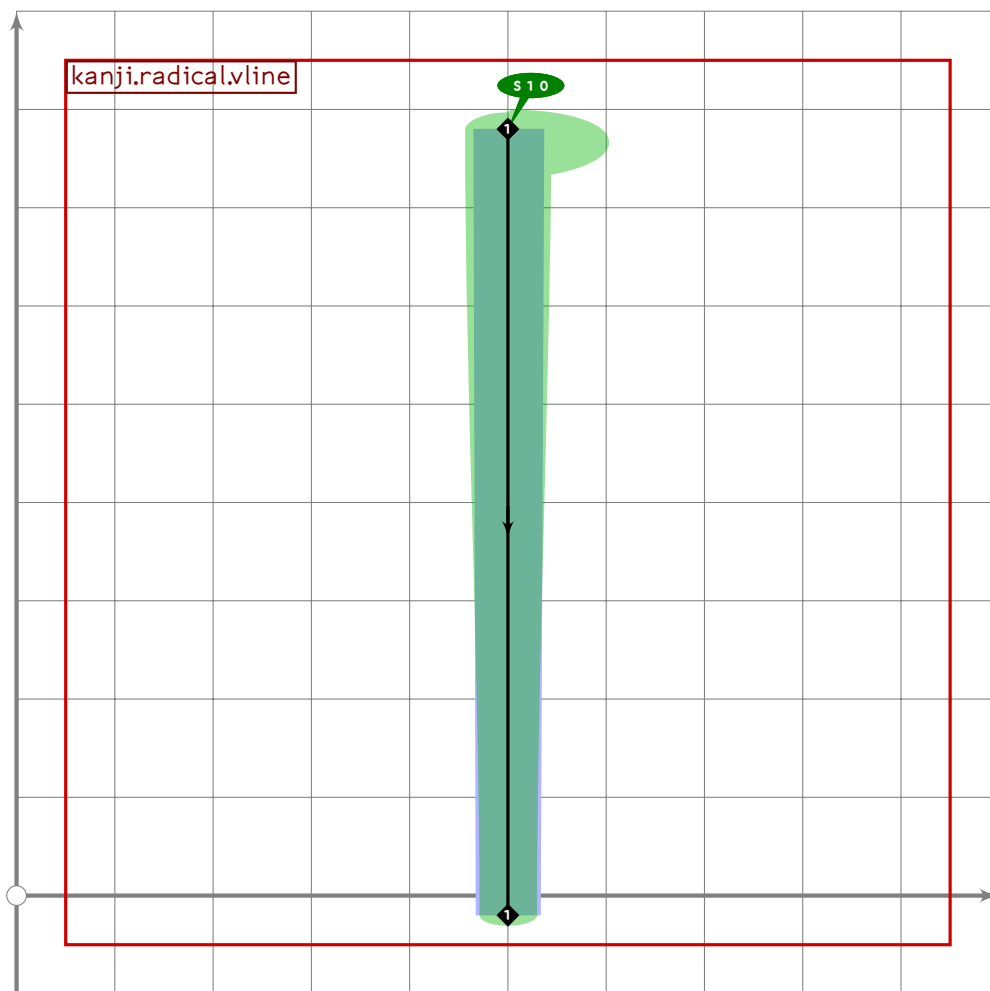
```

593 enddef;
594
595 vardef kanji.radical.travel_inside =
596   push_pbox_toexpand("kanji.radical.travel_inside");
597   push_stroke((720,810)..tension 1.2..(380,610)..(80,510),
598     (1.7,1.7)–(1.5,1.5)–(1,1));
599   push_stroke((320,570)–(320,-60),(1.6,1.6)–(1.5,1.5));
600   push_stroke((point 0.7 of get_stroke(-1))..
601     tension 1.2..(650,240)..(850,0),
602     (1,1)–(1.4,1.4)–(1.7,1.7));
603   push_stroke((770,490)..tension 1.2..(680,420)..
604     (point 0.65 of get_stroke(0)),
605     (1.7,1.7)–(1.4,1.4)–(1.2,1.2));
606   expand_pbox;
607 enddef;
608
609 % insert "Scottish tsunderé" joke here
610 vardef kanji.radical.twin_tailed_sheep =
611   push_pbox_toexpand("kanji.radical.twin_tailed_sheep");
612   kanji.grthree.sheep;
613   replace_stroke(0)
614     ((510,615){down}..(500,260)..(370,70)..{curl 0.5}(50,-60));
615   replace_strokeq(0)((1.6,1.6)–(1.6,1.6)–(1.4,1.4)–(1.1,1.1));
616   push_stroke(((get_stroke(0) intersectionpoint get_stroke(-3))+(50,0))..
617     (650,80)..(900,-50),
618     (1.1,1.1)–(1.4,1.4)–(1.7,1.7));
619   expand_pbox;
620 enddef;

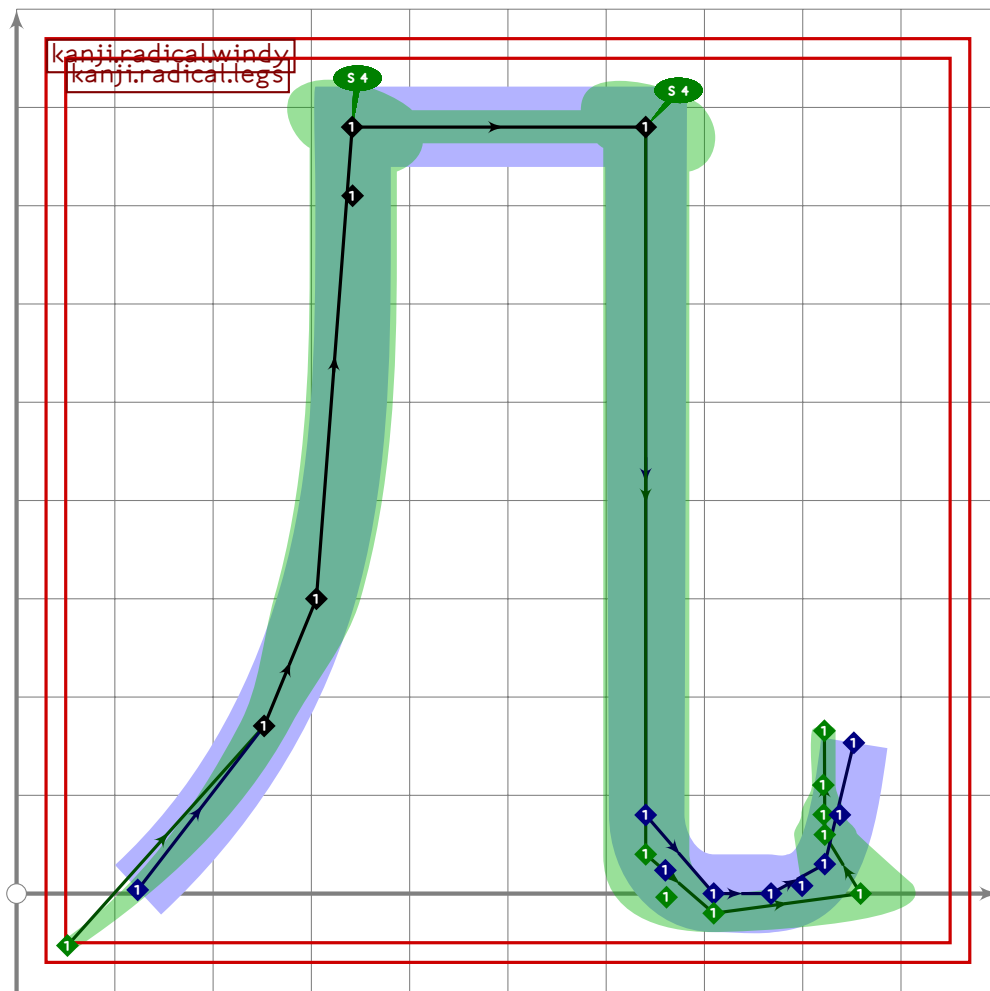
```

U+4E28
tsuku.uni4E28

RADI

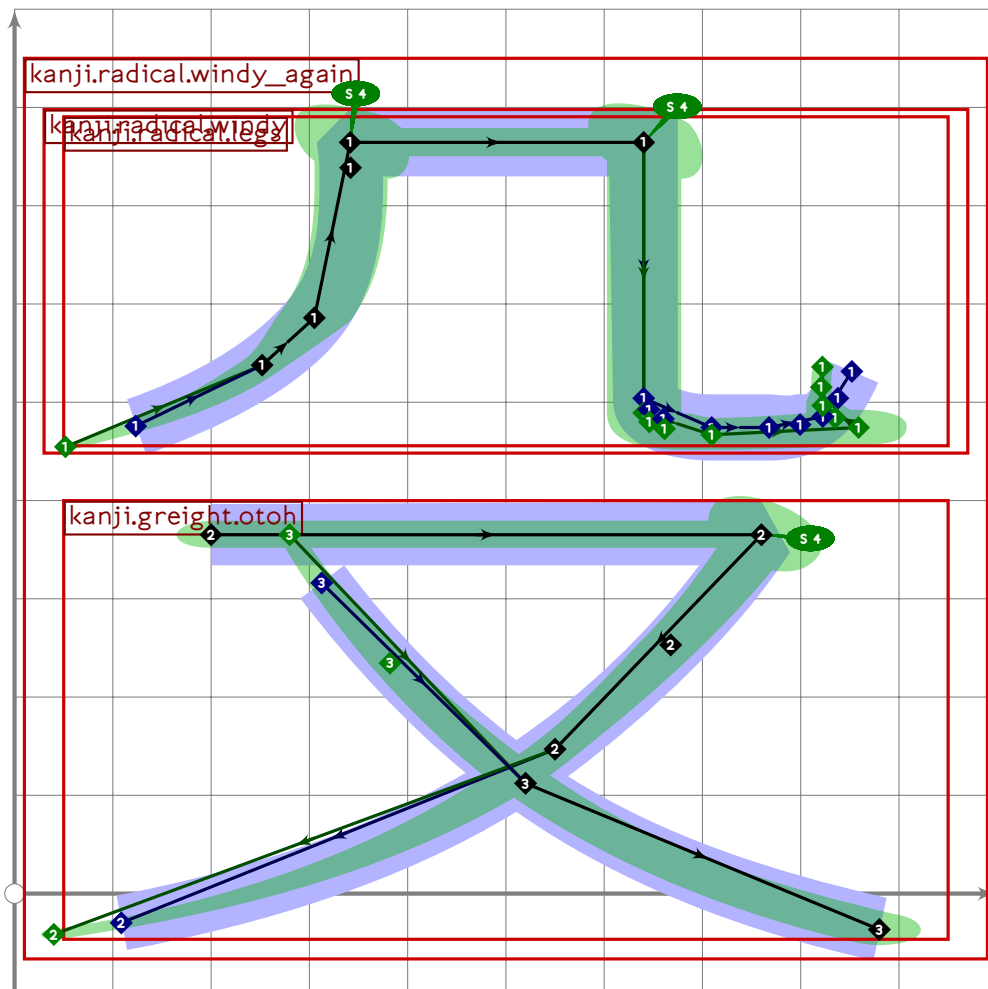


```
621
622 vardef kanji.radical.vline =
623   push_pbox__toexpand("kanji.radical.vline");
624   push_stroke((500,780)-(500,-20),(1,7,1,7)-(1,3,1,3));
625   set_boserif(0,0,10);
626   expand_pbox;
627 enddef;
```

685

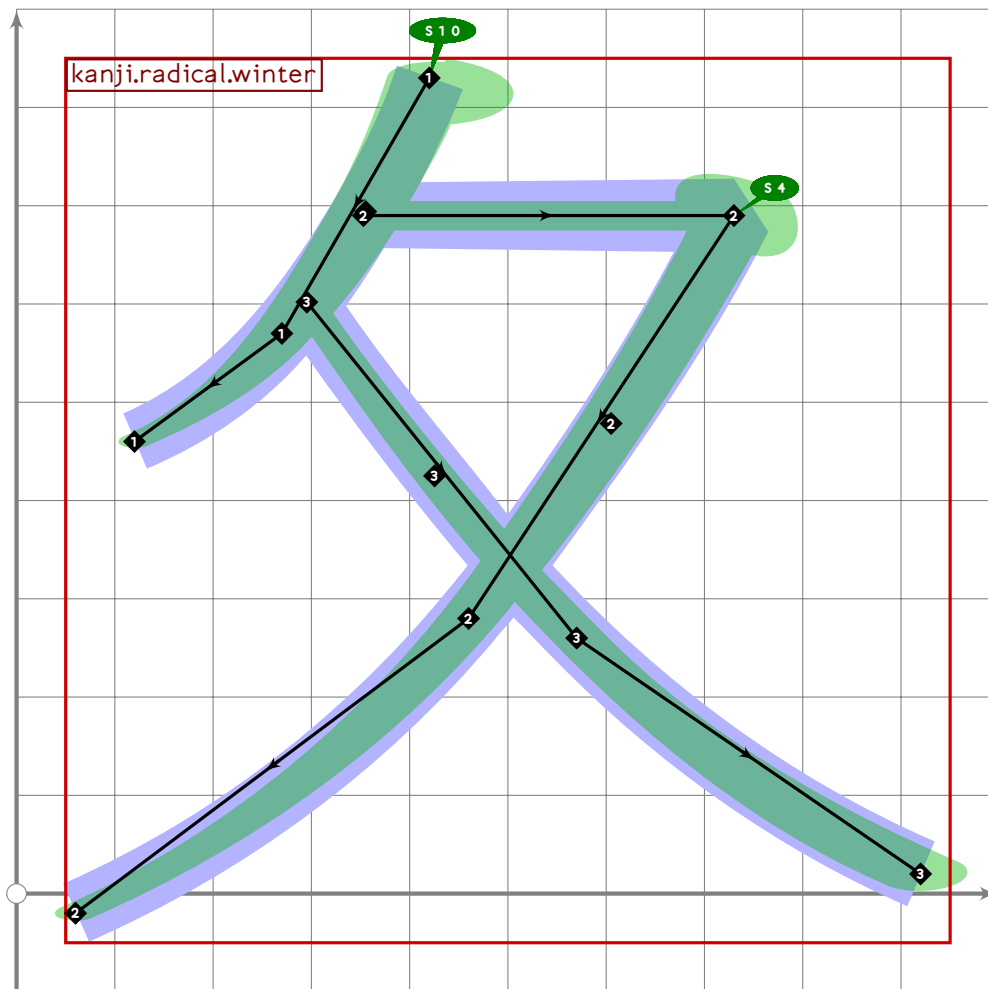
RADI



```

641
642 vardef kanji.radical.windy_again =
643   push_pbox_toexpand("kanji.radical.windy_again");
644   tsu_xform(identity yscaled 0.93)
645     (build_kanji.tb(460,-60)
646       (kanji.radical.windy)
647       (kanji.greight.otoh));
648   expand_pbox;
649 enddef;

```



RADI

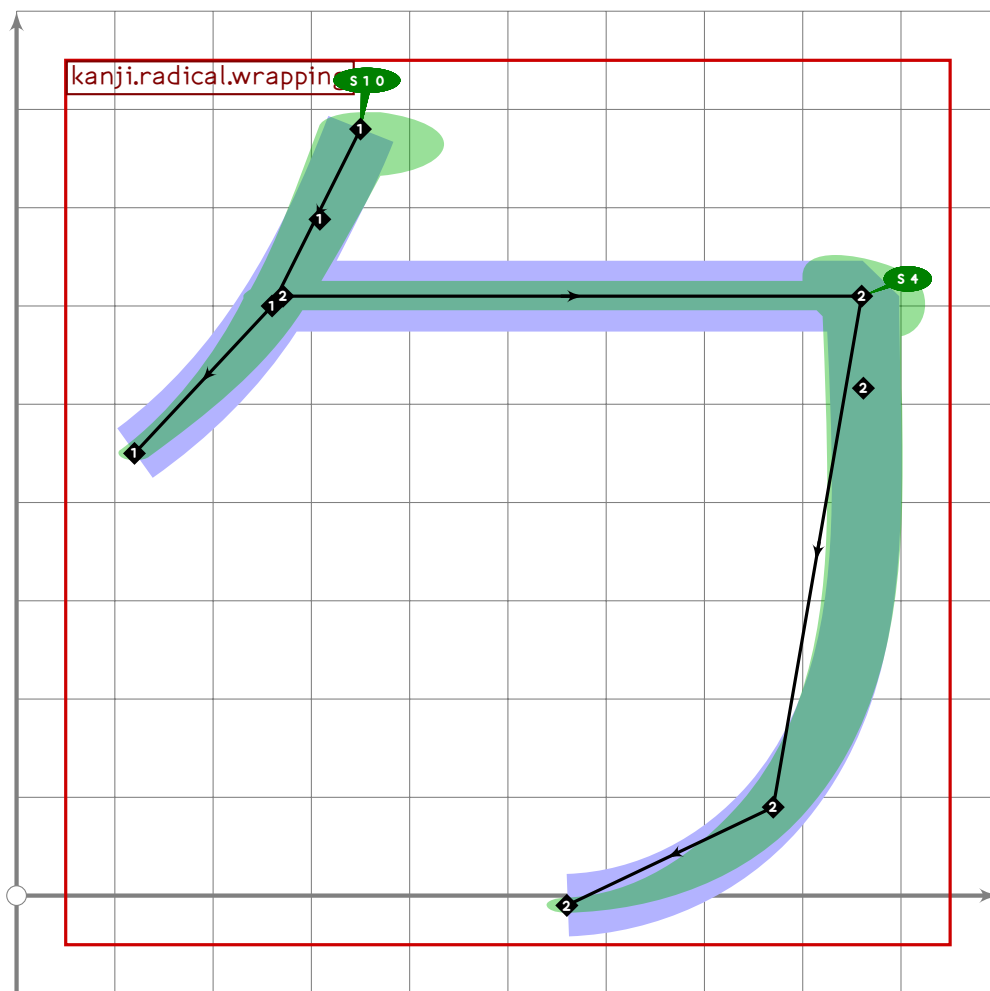
```

650
651 vardef kanji.radical.winter =
652   push_pbox_toexpand("kanji.radical.winter");
653   push_stroke((420,830)..tension 1.2..(270,570)..(120,460),
654     (1.7,1.7)-(1.4,1.4)-(1,1));
655   set_boserif(0,0,10);
656   push_stroke((get_stroke(0) intersectionpoint ((0,690)-(1000,690)))-(
657     (730,690)..tension 1.2..(460,280)..(60,-20),
658     (1.5,1.5)-(1.6,1.6)-(1.4,1.4)-(1.1,1.1));
659   set_boserif(0,1,4);
660   set_botip(0,1,0);
661   push_stroke((point 0.85 of get_stroke(-1))..tension 1.2..
662     (570,260)..(920,20),
663     (1,1)-(1.3,1.3)-(1.8,1.8));
664   expand_pbox;
665 enddef;

```

U+52F9
tsuku.uni52F9

RADI



```

666
667 vardef kanji.radical.wrapping =
668   push_pbox__toexpand("kanji.radical.wrapping");
669   push_stroke((350,780)..tension 1.2..(260,600)..(120,450),
670     (1,7,1,7)-(1,14,1,4)-(1,1,1));
671   set_boserif(0,0,10);
672   push_stroke(
673     ((5,0)+((get_stroke(0) intersectionpoint ((0,610)-(1000,610)))))-
674     (860,610){down}..(770,90)..(560,-10),
675     (1,6,1,6)-(1,6,1,6)-(1,5,1,5)-(1,1,1,1));
676   set_boserif(0,1,4);
677   set_botip(0,1,0);
678   expand_pbox;
679 enddef;

```

rightrad.mp

```
1 %
2 % Right-side radicals
3 % Copyright (C) 2012 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(rightrad);
32
33 _____
34
35 vardef kanji.rightrad.beta =
36   push_pbox_toexpand("kanji.rightrad.beta");
37   kanji.radical.beta;
38   replace_strokep(0)
39     (oldp shifted (-250,-760) xyscaled (1.2,630/550) shifted (300,760));
40   replace_strokep(0)((300,-60)-(subpath (1,infinity) of oldp));
41   expand_pbox;
42 enddef;
43
44 % KanjiVG lists this as U+5F54, but it's a little different visually
45 vardef kanji.rightrad.carve_wood =
46   push_pbox_toexpand("kanji.rightrad.carve_wood");
47   build_kanji.tb(420,60)
48     (kanji.radical.pigs_tail)
49     (kanji.radical.alt_water);
50   expand_pbox;
51 enddef;
52
53 % named for the most common character to contain it
54 vardef kanji.rightrad.clothing =
55   push_pbox_toexpand("kanji.rightrad.clothing");
56   tsu_xform(identity yscaled 0.92)(build_kanji.tb(440,60)
57     (kanji.radical.seal)
58     (tsu_xform(identity shifted (50,0))
59       (kanji.greight.otoh)));
60   replace_strokep(-2)
61     ((xpart point 0 of oldp,-40)-subpath (1,infinity) of oldp);
62   replace_strokep(-1)
63     (oldp shifted (-900,0) xscaled 0.78 shifted (900,0));
64   replace_strokep(-1)
65     (((-170,0)+point 0 of oldp)-subpath (1,infinity) of oldp);
66   expand_pbox;
67 enddef;
68
69 vardef kanji.rightrad.genius =
70   push_pbox_toexpand("kanji.rightrad.genius");
```

RIGH

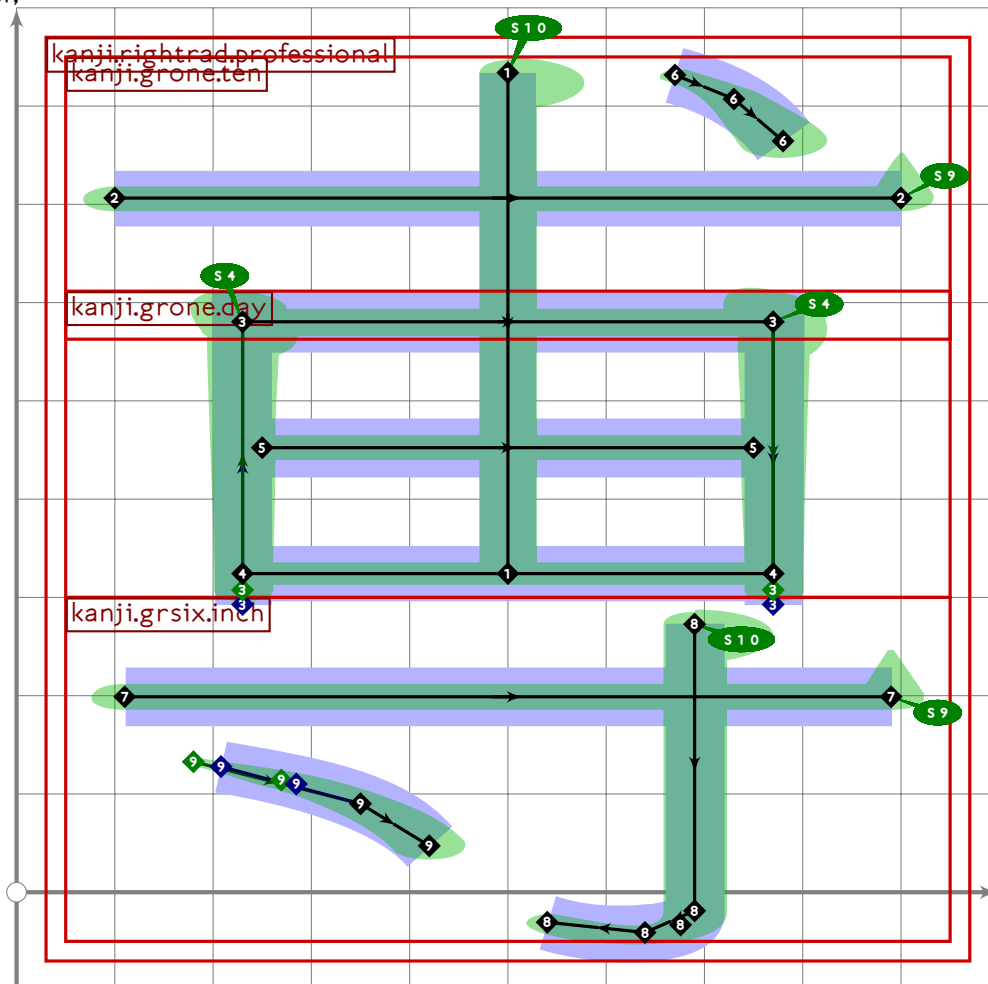
U+5C03
tsuku.uni5C03

```

71  push_stroke((600,800),(1.6,1.6));
72  build_kanji.add_jtail(0);
73  set_boserif(0,0,10);
74  push_stroke((110+30*mincho,580)-(860,580),(1.6,1.6)-(1.6,1.6));
75  set_boserif(0,1,9);
76  push_stroke((520,580)..tension 1.2..(360,260)..(110,90),
77    (1.6,1.6)-(1.4,1.4)-(1,1));
78  expand_pbox;
79 enddef;

```

RIGH

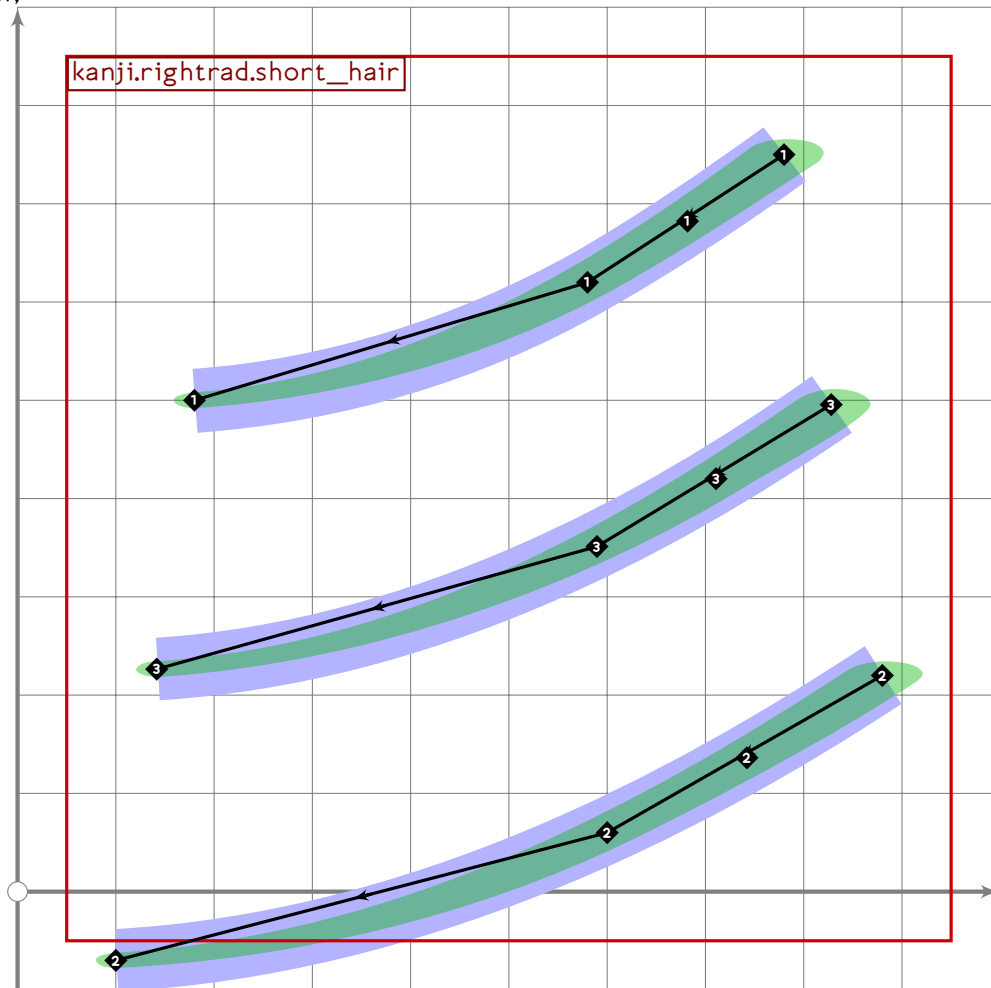


```

80
81 vardef kanji.rightrad.professional =
82   push_pbox_toexpand("kanji.rightrad.professional");
83   build_kanji.tb(300,0)
84     (build_kanji.tb(420,80)
85       (kanji.grone.ten)
86       (kanji.grone.day);
87   replace_stroke(-4)((point 0 of oldp)-(point 0.5 of get_stroke(-1)));
88   push_stroke((670,820)..(730,780)..(780,710),
89     (1,1)-(1.4,1.4)-(1.8,1.8));
90   (kanji.grsix.inch);
91   expand_pbox;

```

92 enddef;



RIGH

93

94 vardef kanji.rightrad.short_hair =

95 push_pbox_toexpand("kanji.rightrad.short_hair");

96 push_stroke((780,750)..tension 1.2..(580,620)..(180,500),

97 (1.6,1.6)–(1.4,1.4)–(1.1,1.1));

98 push_stroke((880,220)..tension 1.2..(600,60)..(100,-70),

99 (1.6,1.6)–(1.4,1.4)–(1.1,1.1));

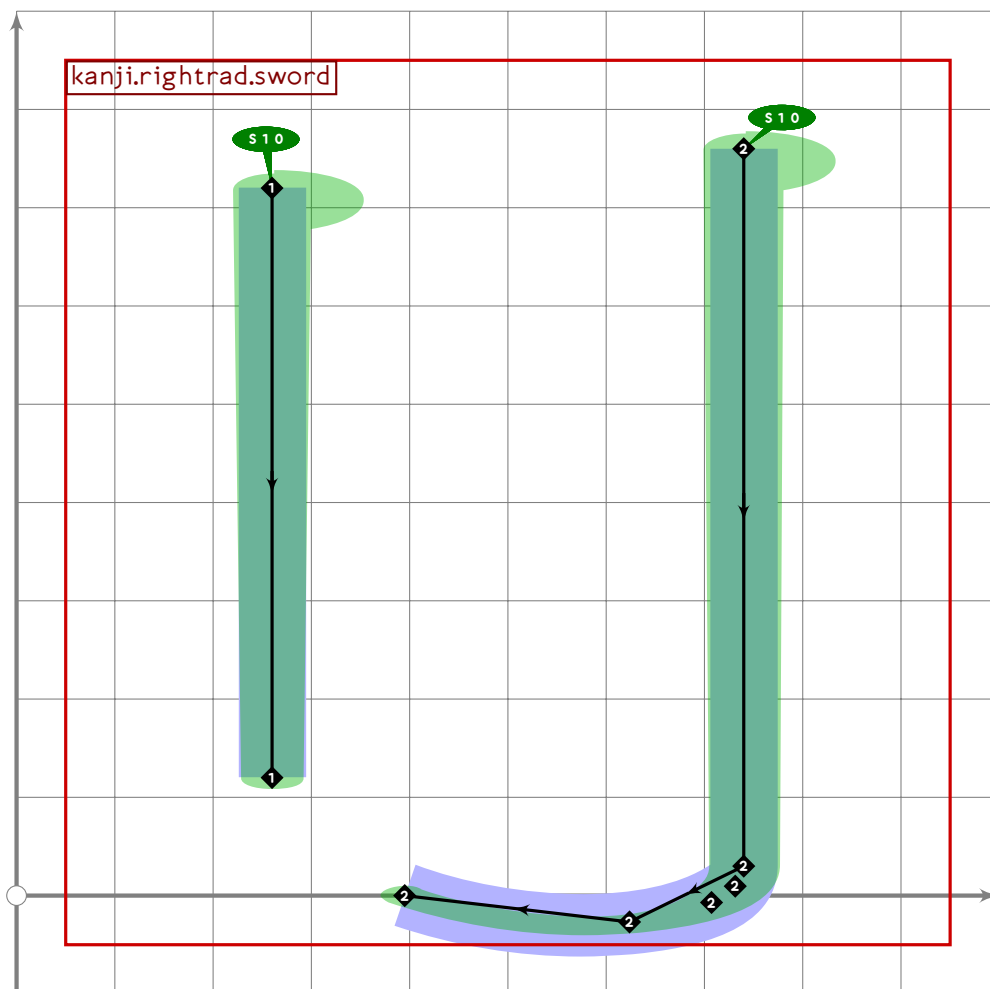
100 push_stroke(interpath(0.52,get_stroke(0),get_stroke(-1)),

101 (1.6,1.6)–(1.4,1.4)–(1.1,1.1));

102 expand_pbox;

103 enddef;

RIGH



```

104
105 vardef kanji.rightrad.sword =
106   push_pbox__toexpand("kanji.rightrad.sword");
107   push_stroke((260,720)-(260,120),(1.6,1.6)-(1.4,1.4));
108   set_boserif(0,0,10);
109   push_stroke((740,760),(1.6,1.6));
110   set_boserif(0,0,10);
111   build_kanji.add_jtail(0);
112   replace_stroke(0)(oldp shifted (-740,0) xscaled 2.3 shifted (740,0));
113   expand_pbox;
114 enddef;

```


toprad.mp

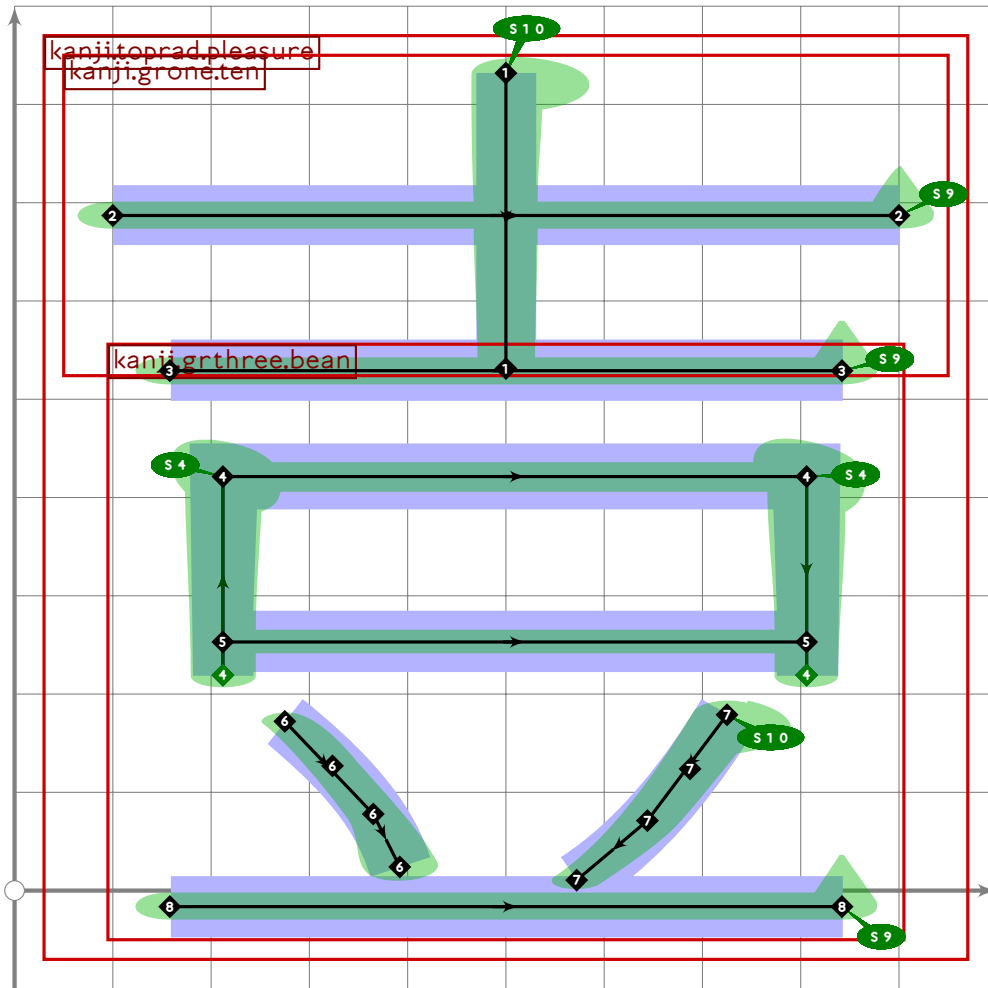
```
1 %
2 % Radicals for top (often special forms of other radicals)
3 % Copyright (C) 2011, 2012, 2013 Matthew Skala
4 %
5-29 [Standard copyright notice]
30
31 inclusion_lock(toprad);
32
33
34
35 vardef kanji.toprad.alt_sparkle_three =
36   push_pbox_toexpand("kanji.toprad.alt_sparkle_three");
37   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(0,1,9);
53   push_stroke((270,590)..tension 1.2..(360,480)..(390,370),
54     (1.1,1.1)–(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(0,1,9);
60   push_stroke((680,590)..tension 1.2..(770,480)..(800,370),
61     (1.1,1.1)–(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(0,1,9);
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.eye =
91    push_pbox_toexpand("kanji.toprad.eye");
92    build_kanji.box((130,800),(870,120));
93    push_stroke((376,800)–(376,120),(1.6,1.6)–(1.5,1.5));
94    push_stroke((624,800)–(624,120),(1.6,1.6)–(1.5,1.5));
95    expand_pbox;
96 enddef;
97
98 vardef kanji.toprad.grass =
99    push_pbox_toexpand("kanji.toprad.grass");
100    push_stroke((350,800)–(350,-30),
101    (1.6,1.6)–(1.4,1.4));
102    set_boserif(0,0,10);
103    push_stroke((650,800)–(650,-30),
104    (1.6,1.6)–(1.4,1.4));
105    set_boserif(0,0,10);
106    push_stroke((100,400)–(900,400),
107    (1.6,1.6)–(1.6,1.6));
108    set_boserif(0,1,9);
109    expand_pbox;
110 enddef;
111
112 vardef kanji.toprad.once_upon_a_time =
113    push_pbox_toexpand("kanji.toprad.once_upon_a_time");
114    perl_structure:=perl_structure&"eids.u2FF1.u8279.u4E00";
115    build_kanji.sscale(xscaled 0.8)(kanji.toprad.grass);
116    tsu_xform(identity shifted (0,-420))(kanji.grone.one);
117    expand_pbox;
118 enddef;

```



```

119
120 vardef kanji.toprad.pleasure =
121   push_pbox_toexpand("kanji.toprad.pleasure");
122   build_kanji.level(build_kanji.tb(540,32)
123     (kanji.grone.ten)
124     (build_kanji.sscale(xscaled 0.9)(kanji.grthree.bean)));
125   expand_pbox;
126 enddef;
127
128 vardef kanji.toprad.rain =
129   push_pbox_toexpand("kanji.toprad.rain");
130   push_stroke((120,720)–(880,720),(1.6,1.6)–(1.6,1.6));
131   set_boserif(0,1,9);
132   push_stroke((500,720)–(500,30),(1.6,1.6)–(1.5,1.5));
133   push_stroke((100,150)..(100+50*mincho,400)..(100+70*mincho,540)–
134     (900,540)..(900–40*mincho,275)..(900–70*mincho,150),
135     (1.7,1.7)–(1.6,1.6)–(1.4,1.4)–
136     (1.7,1.7)–(1.6,1.6)–(1.4,1.4));
137   set_botip(0,2,1);
138   set_botip(0,3,1);
139   set_boserif(0,3,4);

```

TOPR

```

140 push_stroke((230,380)..(400,380),(1.6,1.6)–(1.6,1.6));
141 set_boserif(0,1,9);
142 set_bosize(0,80);
143 push_stroke(get_strokep(0) shifted (350,0),get_strokeq(0));
144 set_boserif(0,1,9);
145 set_bosize(0,80);
146 push_stroke(get_strokep(-1) shifted (0,-220),get_strokeq(-1));
147 set_boserif(0,1,9);
148 set_bosize(0,80);
149 push_stroke(get_strokep(-2) shifted (350,-220),get_strokeq(-2));
150 set_boserif(0,1,9);
151 set_bosize(0,80);
152 expand_pbox;
153 enddef;
154
155 vardef kanji.toprad.ridiculous_hat =
156   push_pbox_toexpand("kanji.toprad.ridiculous_hat");
157   build_kanji.level(build_kanji.tb(620,156)
158     (kanji.toprad.sparkle_three)
159     (build_kanji.tb(600,410)
160       (kanji.radical.conservative_hat)
161       (build_kanji.sscale(xyscaled (0.8,0.64) shifted (0,-120))
162         (kanji.grone.mouth))));
163   expand_pbox;
164 enddef;
165
166 vardef kanji.toprad.sheep =
167   push_pbox_toexpand("kanji.toprad.sheep");
168   kanji.grthree.sheep;
169   replace_strokep(0)
170     ((point 0 of oldp)–(oldp intersectionpoint get_strokep(-3)));
171   expand_pbox;
172 enddef;
173
174 vardef kanji.toprad.sparkle_four =
175   push_pbox_toexpand("kanji.toprad.sparkle_four");
176   push_stroke((150,600)..tension 1.2..(200,440)..(270,160),
177     (1,1)–(1.3,1.3)–(1.9,1.9));
178   push_stroke((390,780)–(390,-20),
179     (1.6,1.6)–(1.5,1.5));
180   set_boserif(0,0,10);
181   push_stroke((610,780)–(610,-20),
182     (1.6,1.6)–(1.5,1.5));
183   set_boserif(0,0,10);
184   push_stroke((840,620)..tension 1.2..(780,370)..(720,170),
185     (1.6,1.6)–(1.5,1.5)–(1.3,1.3));
186   set_boserif(0,0,10);
187   expand_pbox;

```

```

188 enddef;
189
190 vardef kanji.toprad.sparkle_three =
191   push_pbox_toexpand("kanji.toprad.sparkle_three");
192   kanji.toprad.sparkle_two;
193   push_stroke((500,780)-(500,20),
194     (1.6,1.6)-(1.5,1.5));
195   set_boserif(0,0,10);
196   expand_pbox;
197 enddef;
198
199 vardef kanji.toprad.sparkle_two =
200   push_pbox_toexpand("kanji.toprad.sparkle_two");
201   push_stroke((200,600)..tension 1.2..(250,440)..(320,160),
202     (1,1)-(1.3,1.3)-(1.9,1.9));
203   push_stroke((790,620)..tension 1.2..(730,370)..(670,170),
204     (1.6,1.6)-(1.5,1.5)-(1.3,1.3));
205   set_boserif(0,0,10);
206   expand_pbox;
207 enddef;
208
209 vardef kanji.toprad.stand_up =
210   push_pbox_toexpand("kanji.toprad.stand_up");
211   push_stroke((500,810)-(500,510),
212     (1.6,1.6)-(1.5,1.5));
213   set_boserif(0,0,10);
214   push_stroke((120,510)-(880,510),
215     (1.6,1.6)-(1.6,1.6));
216   set_boserif(0,1,9);
217   push_stroke((250,430)..tension 1.2..(320,220)..(380,90),
218     (1.2,1.2)-(1.4,1.4)-(1.7,1.7));
219   push_stroke((750,450)..tension 1.2..(660,220)..(580,60),
220     (1.6,1.6)-(1.5,1.5)-(1.3,1.3));
221   set_boserif(0,0,10);
222   push_stroke((70,0)-(930,0),
223     (1.6,1.6)-(1.6,1.6));
224   set_boserif(0,1,9);
225   expand_pbox;
226 enddef;
227
228 vardef kanji.toprad.summer =
229   push_pbox_toexpand("kanji.toprad.summer");
230   push_stroke((100,855)-(900,855),(1.6,1.6));
231   set_boserif(0,1,9);
232   build_kanji.attach_tick(660)(kanji.grone.ey);
233   expand_pbox;
234 enddef;

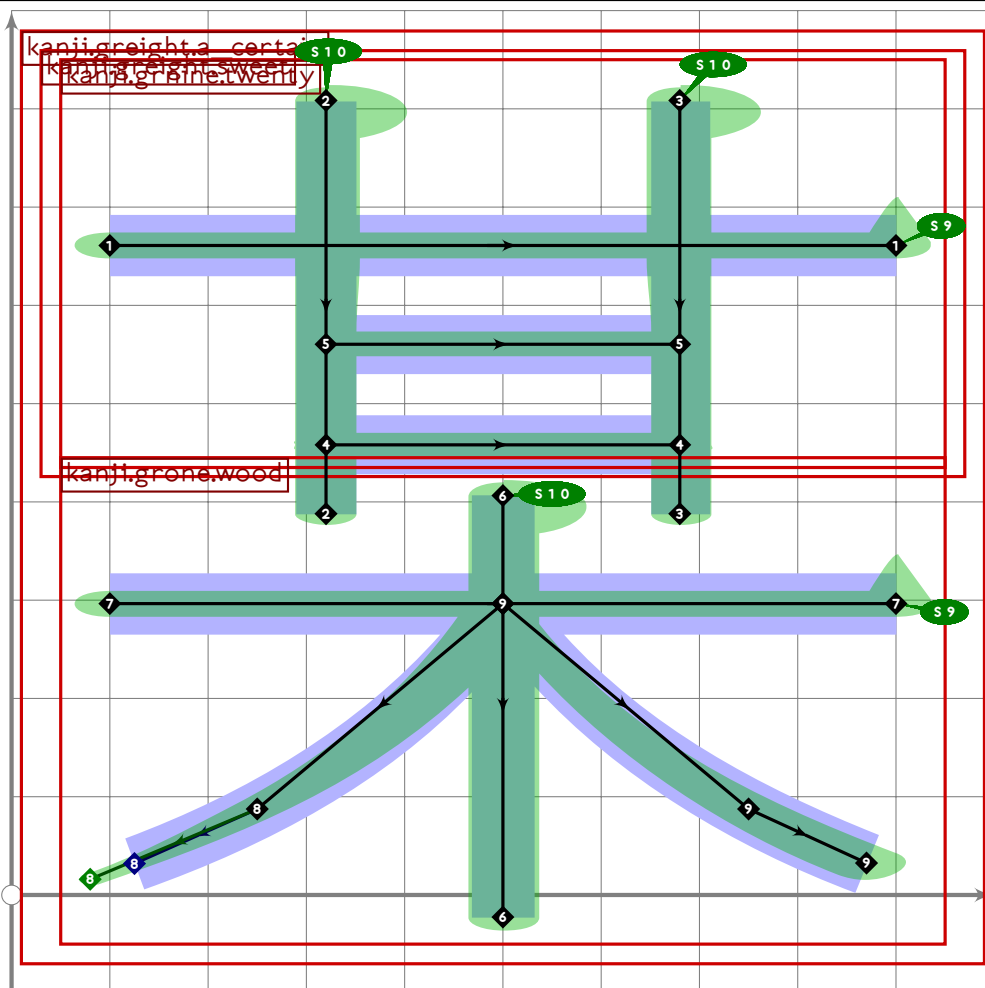
```

gradeeight.mp

```

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

```

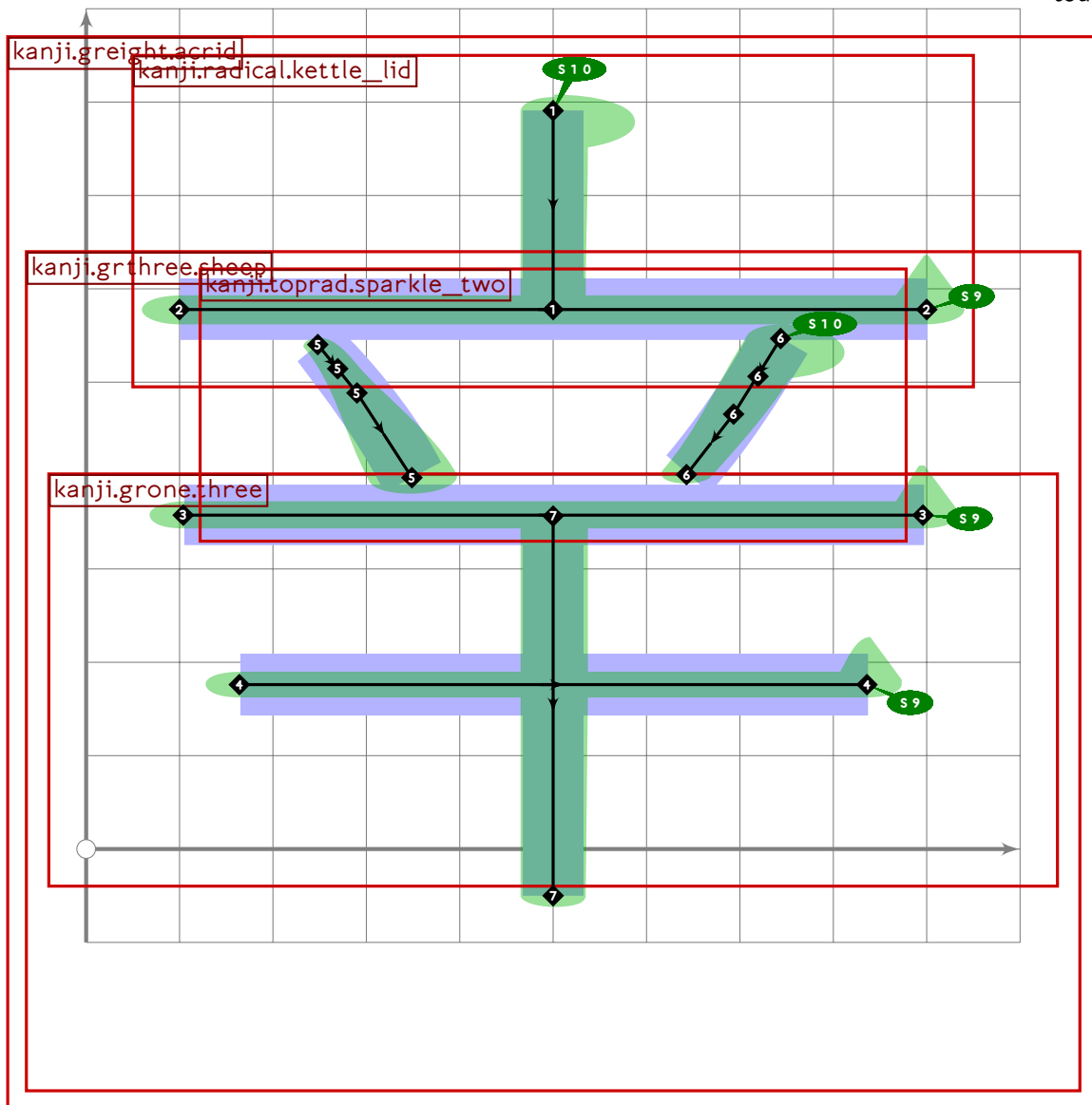


EIGH

```

34
35 vardef kanji.greight.a_certain =
36   push_pbox_toexpand("kanji.greight.a_certain");
37   build_kanji.tb(440,10)
38     (kanji.greight.sweet)
39     (kanji.grone.wood);
40   expand_pbox;
41 enddef;

```

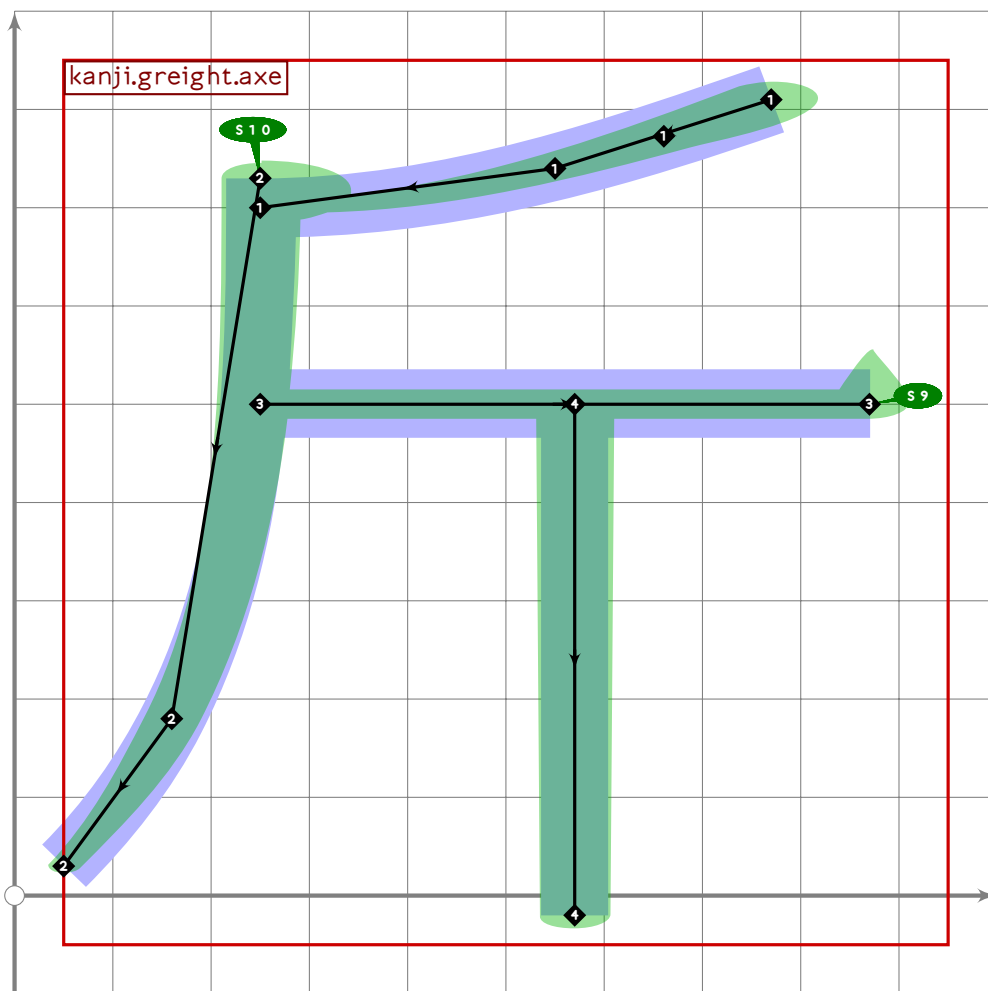


EIGH

```

42
43 vardef kanji.greight.acrid =
44   push_pbox_toexpand("kanji.greight.acrid");
45   build_kanji.level(build_kanji.tb(520,50)
46     (kanji.radical.kettle_lid)
47     (build_kanji.sscale(xyscaled (1.2,1.4) shifted (0,-140))
48       (kanji.grthree.sheep);
49     obstacktype[find_stroke(-3)]:=otnull;
50     replace_strokep(0)((point 0 of oldp)-(500,-50))););
51   expand_pbox;
52 enddef;

```

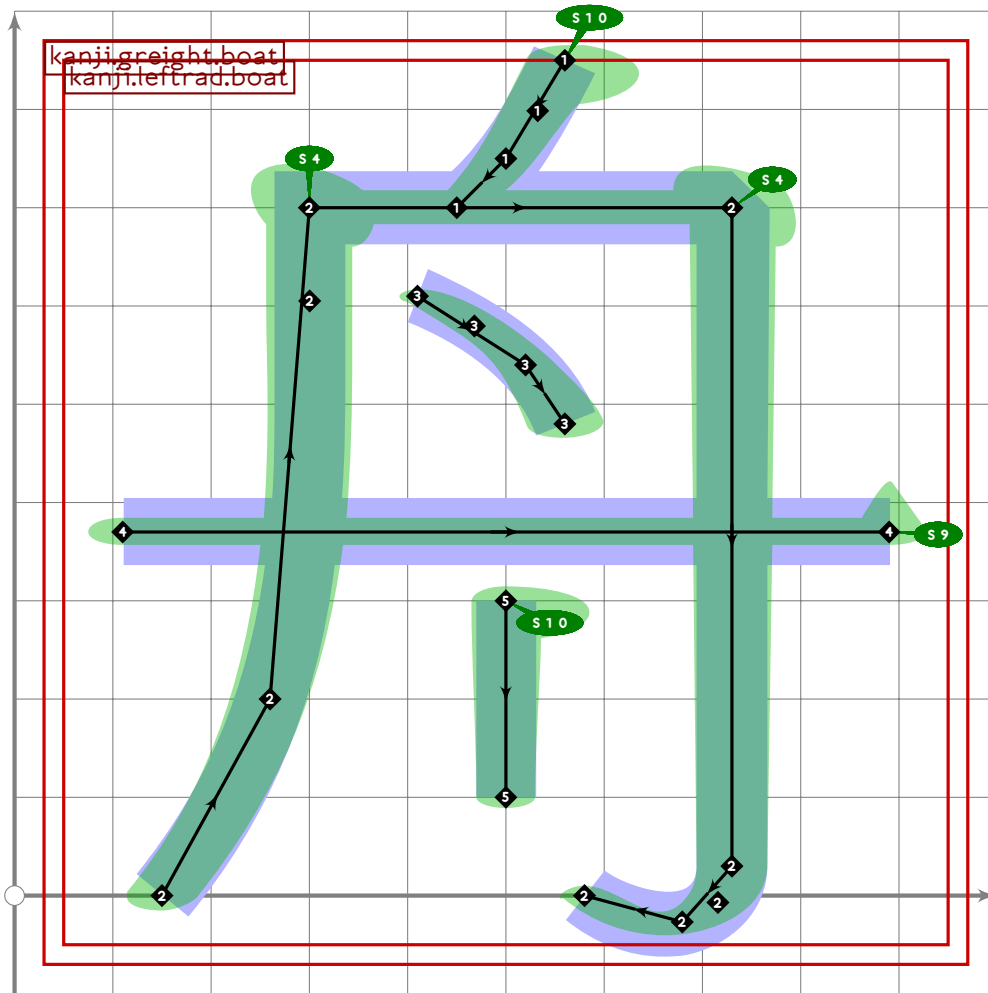


EIGH

```

53
54 vardef kanji.greight.axe =
55   push_pbox__toexpand("kanji.greight.axe");
56   push_stroke((770,810)..tension 1.2..(550,740)..(250,700),
57     (1.8,1.8)–(1.5,1.5)–(1,1));
58   push_stroke((250,730){down}..(160,180)..(50,30),
59     (1.6,1.6)–(1.3,1.3)–(1,1));
60   set_boserif(0,0,10);
61   push_stroke((250,500)–(870,500),(1.6,1.6)–(1.6,1.6));
62   set_boserif(0,1,9);
63   push_stroke((570,500)–(570,-20),(1.6,1.6)–(1.5,1.5));
64   expand_pbox;
65 enddef;

```

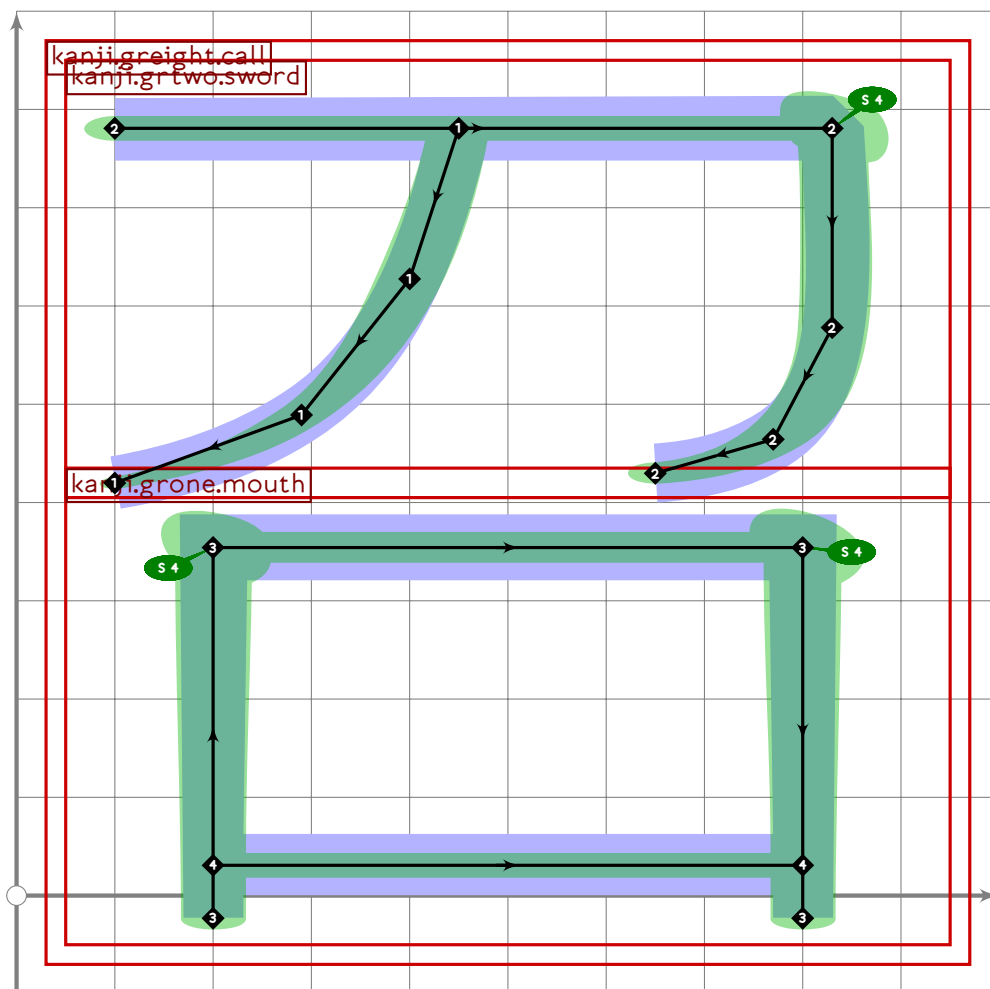
```

66
67 vardef kanji.greight.boat =
68   push_pbox__toexpand("kanji.greight.boat");
69   kanji.leftrad.boat;
70   replace_strokep(-1)((110,370)-(890,370));
71   replace_strokeq(-1)((1.5,1.5)-(1.5,1.5));
72   set_boserif(-1,9);
73   expand_pbox;
74 enddef;

```

EIGH

U+53EC
tsuku.uni53EC

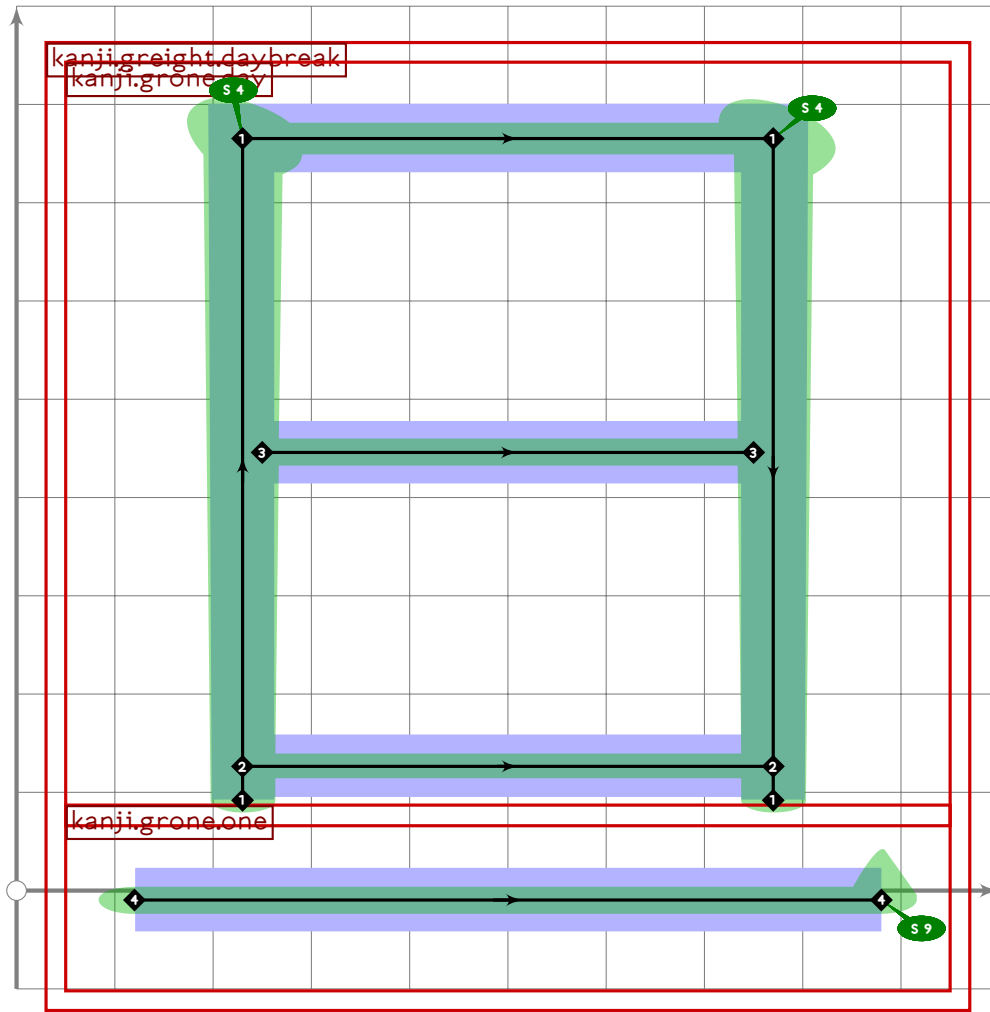


EIGH

```

75
76 vardef kanji.greight.call =
77   push_pbox_toexpand("kanji.greight.call");
78   build_kanji.tb(420,30)
79     (kanji.grtwo.sword)
80     (kanji.grone.mouth);
81   expand_pbox;
82 enddef;

```



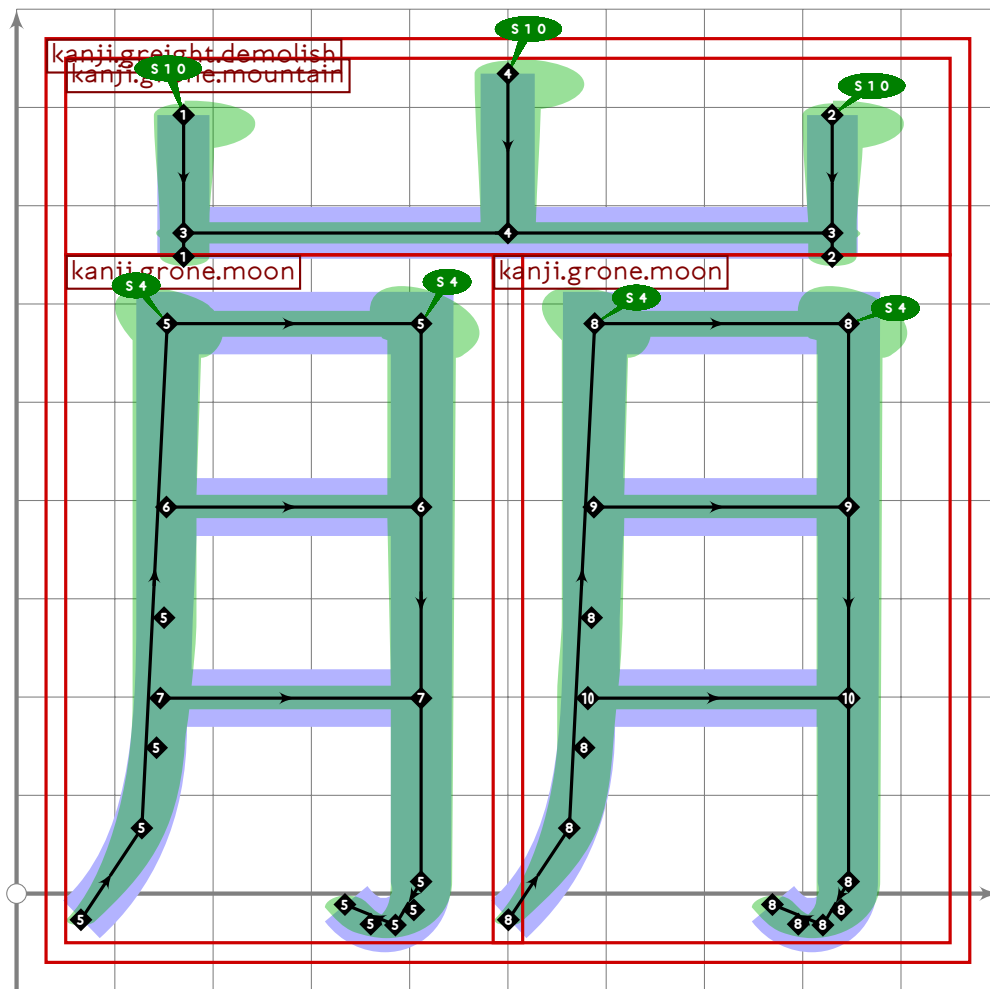
```

83
84 vardef kanji.greight.daybreak =
85   push_pbox_toexpand("kanji.greight.daybreak");
86   build_kanji.sscale(yscaled 1.05 shifted (0,-30))
87   (build_kanji.level(build_kanji.tb(120,20)
88     (kanji.grone.day)
89     (kanji.grone.one)));
90   expand_pbox;
91 enddef;

```

EIGH

U+5D29
tsuku.uni5D29

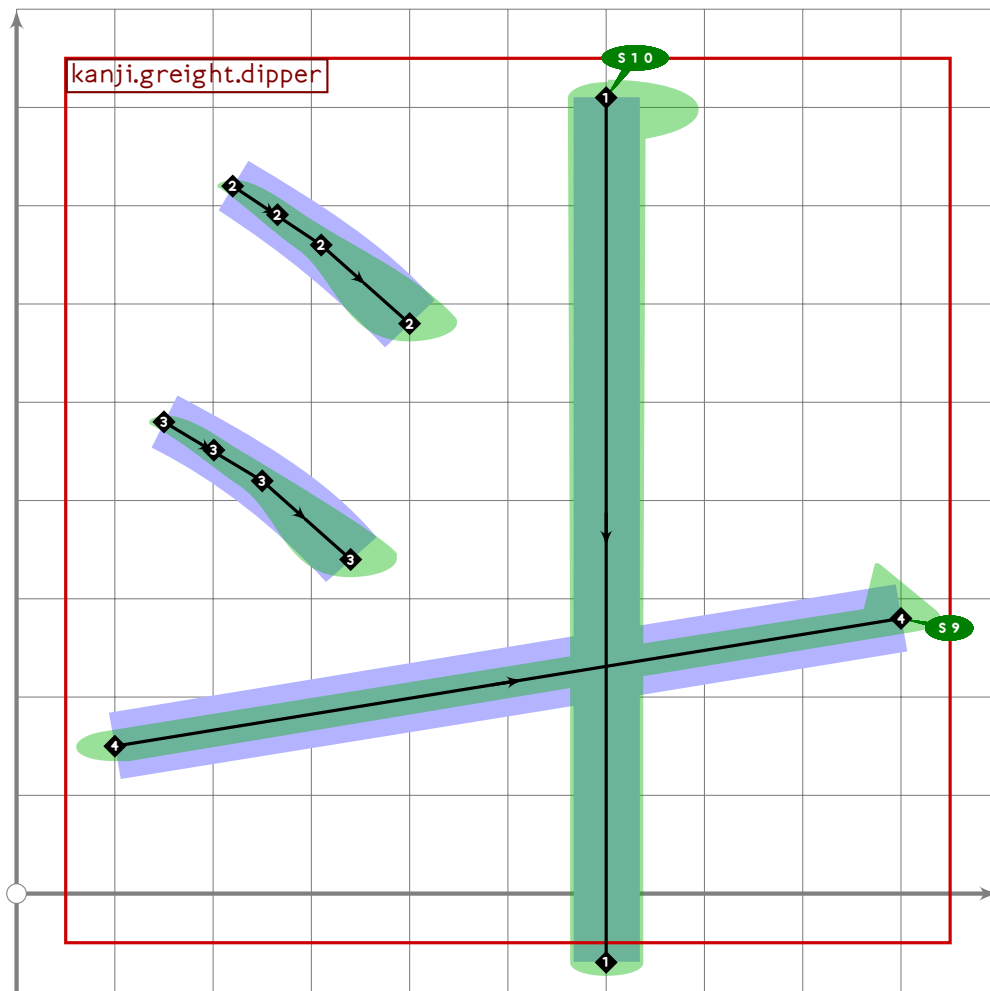


EIGH

```

92
93 vardef kanji.greight.demolish =
94   push_pbox_toexpand("kanji.greight.demolish");
95   build_kanji.tb(650,0)
96     (kanji.grone.mountain)
97     (build_kanji.lr(500,30)
98     (kanji.grone.moon)
99     (kanji.grone.moon));
100   expand_pbox;
101 enddef;

```

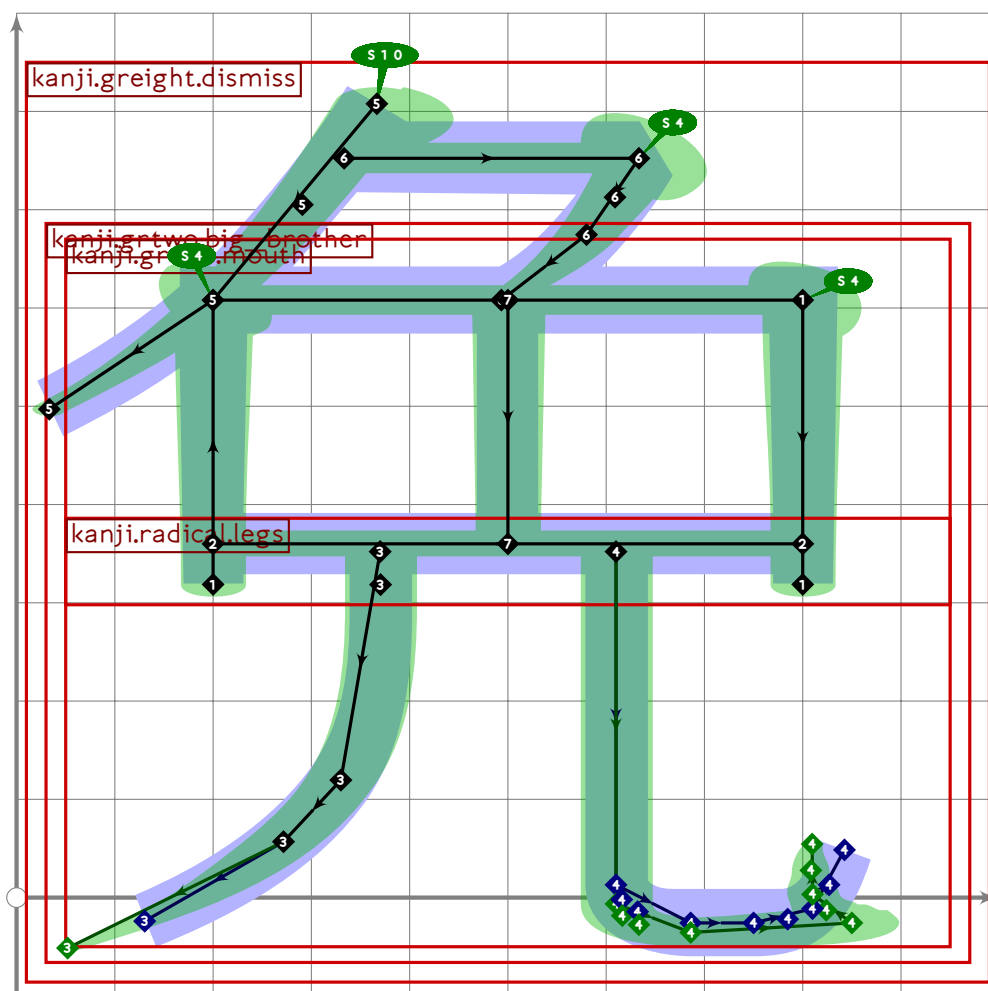


```

102
103 vardef kanji.greight.dipper =
104   push_pbox__toexpand("kanji.greight.dipper");
105   push_stroke((600,810)-(600,-70),(1.6,1.6)-(1.5,1.5));
106   set_boserif(0,0,10);
107   push_stroke((220,720)..tension 1.2..(310,660)..(400,580),
108     (1,1)-(1.3,1.3)-(1.9,1.9));
109   set_bosize(0,94);
110   push_stroke((150,480)..tension 1.2..(250,420)..(340,340),
111     (1,1)-(1.3,1.3)-(1.9,1.9));
112   set_bosize(0,94);
113   push_stroke((100,150)-(900,280),(1.6,1.6)-(1.6,1.6));
114   set_boserif(0,1,9);
115   expand_pbox;
116 enddef;

```

EIGH

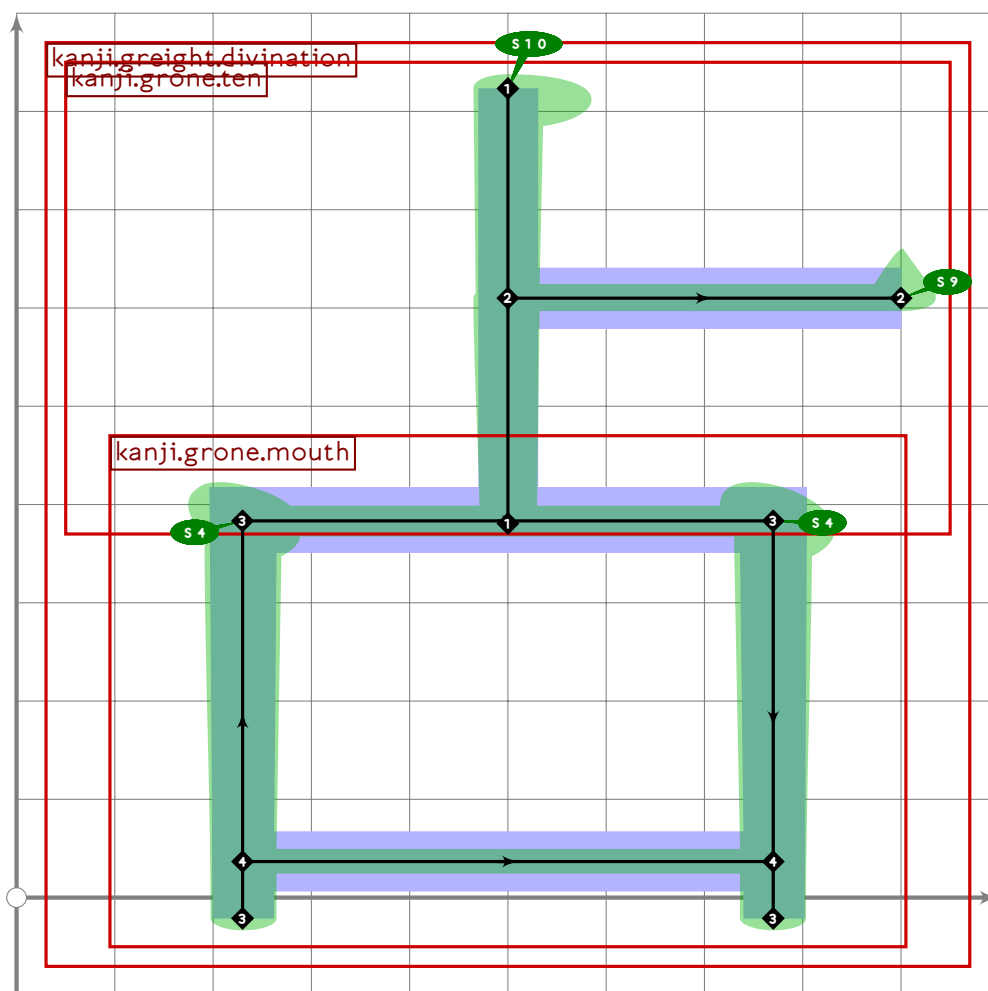


EIGH

```

117
118 vardef kanji.greight.dismiss =
119   push_pbox_toexpand("kanji.greight.dismiss");
120   build_kanji.attach_fishhook(0.8)(kanji.grtwo.big_brother);
121   push_stroke(
122     (point 1.5 of get_strokep(-5))-(point 0.5 of get_strokep(-4)),
123     (1.6,1.6)-(1.5,1.5));
124   set_bosize(0,get_bosize(-5));
125   expand_pbox;
126 enddef;

```

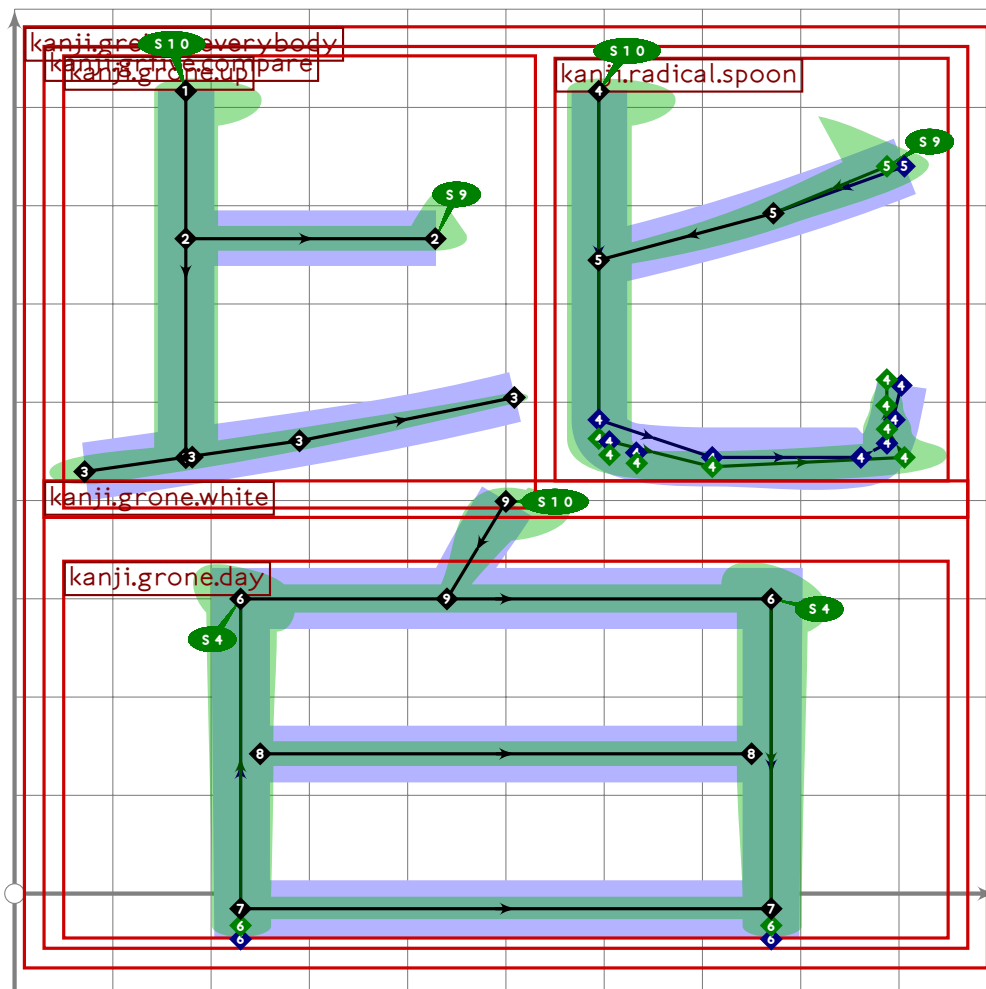


```

127
128 vardef kanji.greight.divination =
129   push_pbox__toexpand("kanji.greight.divination");
130   build_kanji.level(build_kanji.tb(420,100)
131     (kanji.grone.ten;
132       replace_strokep(0)(subpath (0.5,1) of oldp))
133     (build_kanji.sscale(xscaled 0.9)(kanji.grone.mouth)));
134   expand_pbox;
135 enddef;

```

EIGH

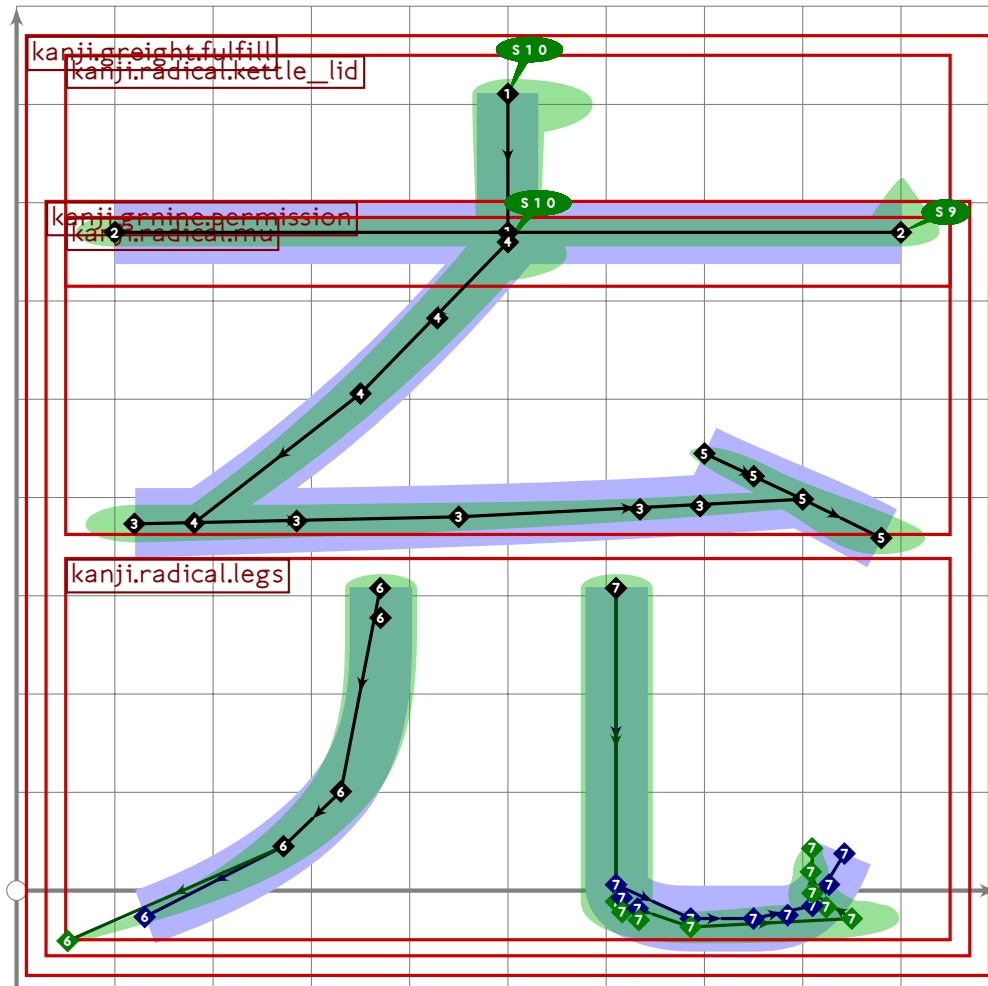


EIGH

```

136
137 vardef kanji.greight.everybody =
138   push_pbox_toexpand("kanji.greight.everybody");
139   build_kanji.level(build_kanji.tb(420,0)
140     (kanji.grfive.compare)
141     (kanji.grone.white));
142   expand_pbox;
143 enddef;

```

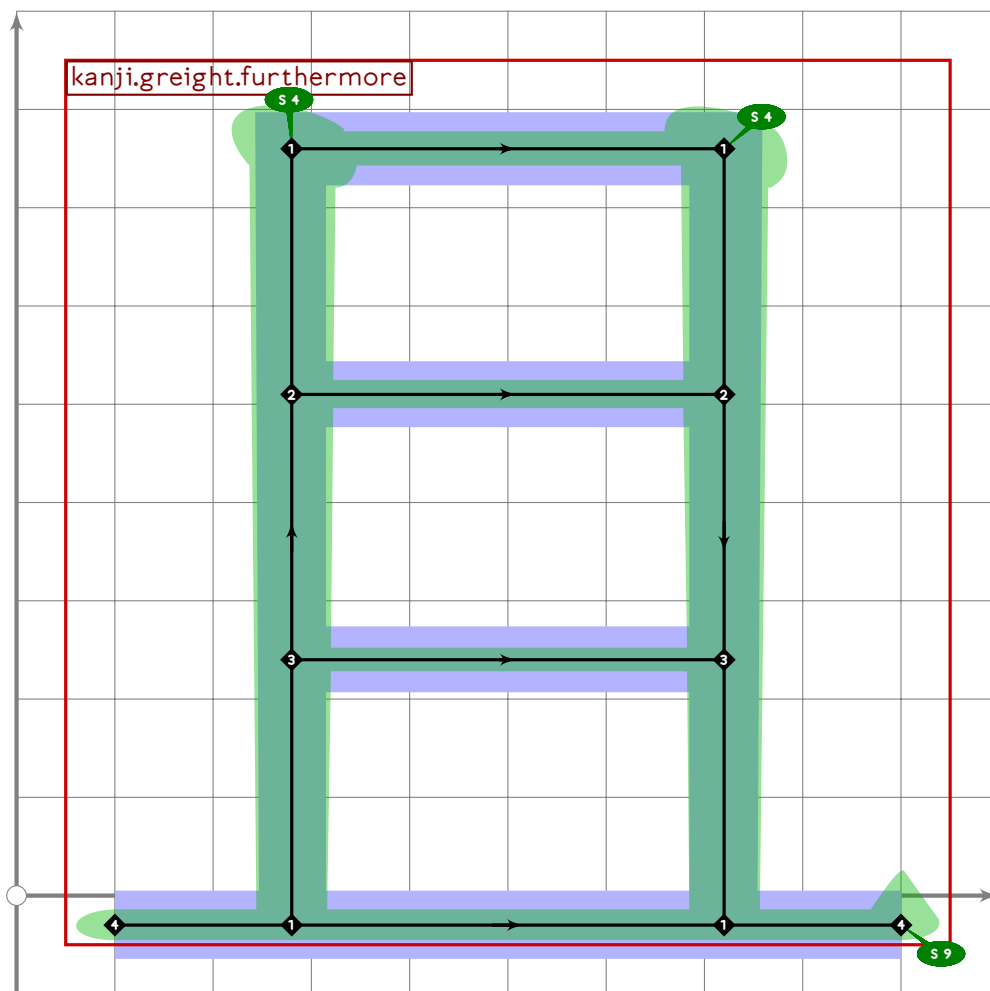
```

144
145 vardef kanji.greight. fulfill =
146   push_pbox_toexpand("kanji.greight. fulfill");
147   build_kanji.level(build_kanji.tb(650,70)
148     (kanji.radical.kettle_lid)
149     (kanji.grnine.permission));
150   expand_pbox;
151 enddef;

```

EIGH

U+4E14
tsuku.uni4E14

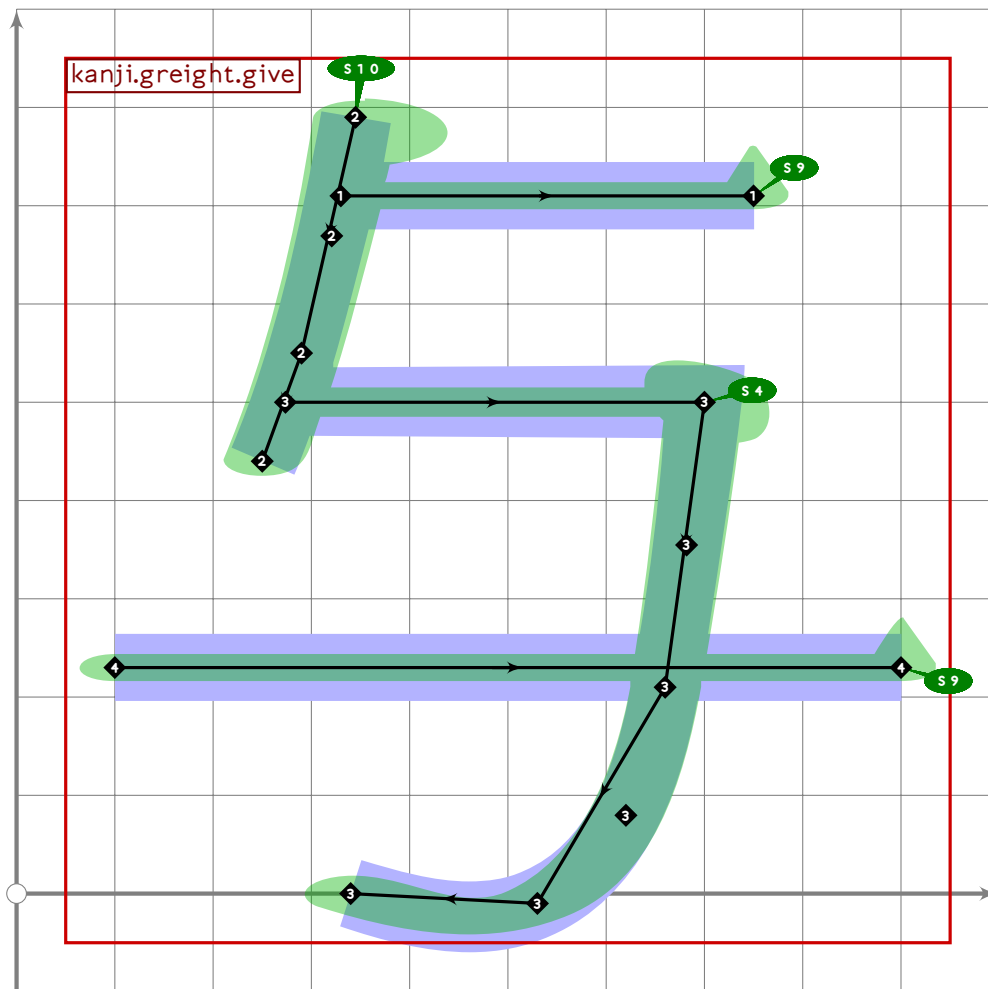


EIGH

```

152
153 vardef kanji.greight.furthermore =
154   push_pbox_toexpand("kanji.greight.furthermore");
155   push_stroke((280,-30)-(280,760)-(720,760)-(720,-30),
156     (1.5,1.5)-(1.7,1.7)-(1.7,1.7)-(1.5,1.5));
157   set_botip(0,1,1);
158   set_botip(0,2,1);
159   set_boserif(0,1,4);
160   set_boserif(0,2,4);
161   push_stroke((280,510)-(720,510),
162     (1.5,1.5)-(1.5,1.5));
163   push_stroke((280,240)-(720,240),
164     (1.4,1.4)-(1.4,1.4));
165   push_stroke((100,-30)-(900,-30),
166     (1.6,1.6)-(1.6,1.6));
167   set_boserif(0,1,9);
168   expand_pbox;
169 enddef;

```



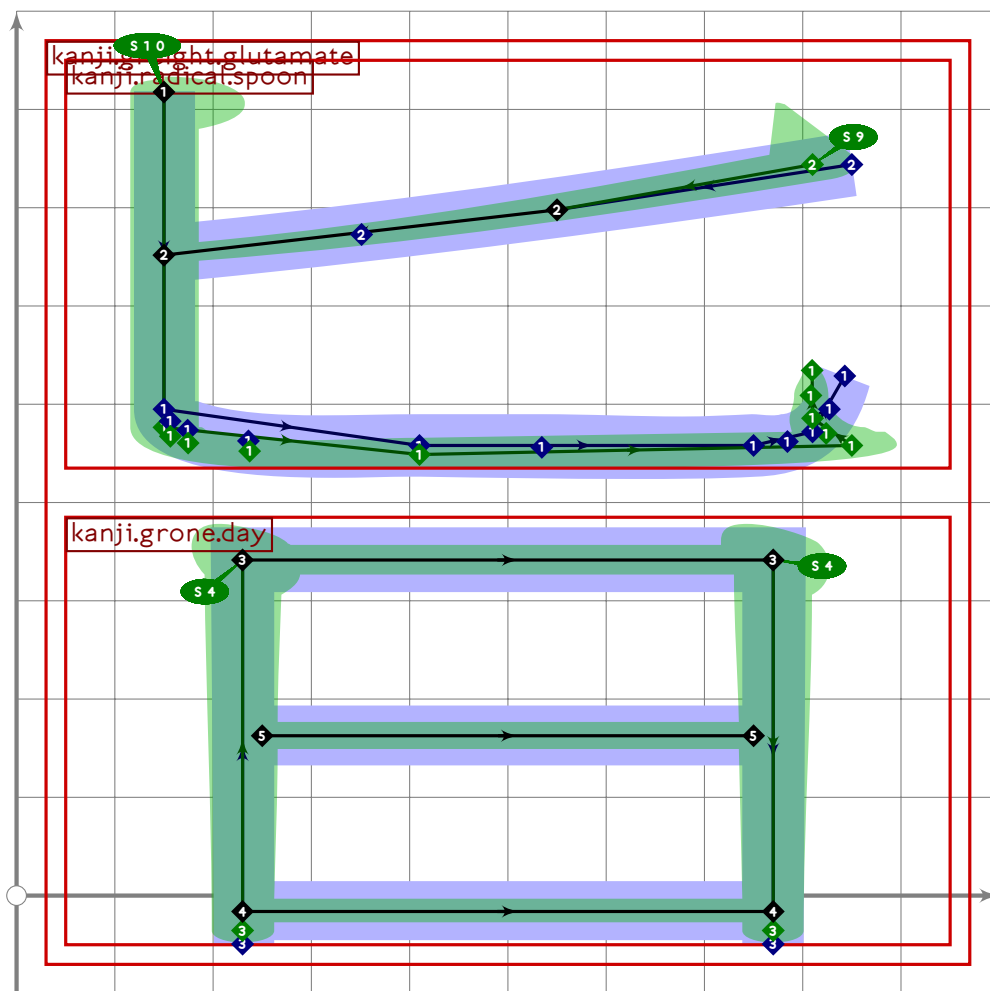
```

170
171 vardef kanji.greight.give =
172   push_pbox_toexpand("kanji.greight.give");
173   push_stroke((330,710)–(750,710),(1.5,1.5)–(1.5,1.5));
174   set_boserif(0,19);
175   push_stroke((345,790)..tension 1.2..(290,550)..(250,440),
176     (1.7,1.7)–(1.6,1.6)–(1.6,1.6));
177   set_boserif(0,0,10);
178   push_stroke((get_strokep(0) intersectionpoint ((0,500)–(1000,500)))–
179     (700,500)..tension 14..(660,210)..(530,–10)..{curl 0.1}(340,0),
180     (1.6,1.6)–(1.6,1.6)–(1.5,1.5)–(1.7,1.7)–(1.8,1.8));
181   set_botip(0,1,1);
182   set_boserif(0,14);
183   push_stroke((100,230)–(900,230),(1.5,1.5)–(1.5,1.5));
184   set_boserif(0,19);
185   expand_pbox;
186 enddef;
187

```

EIGH

U+65E8
tsuku.uni65E8

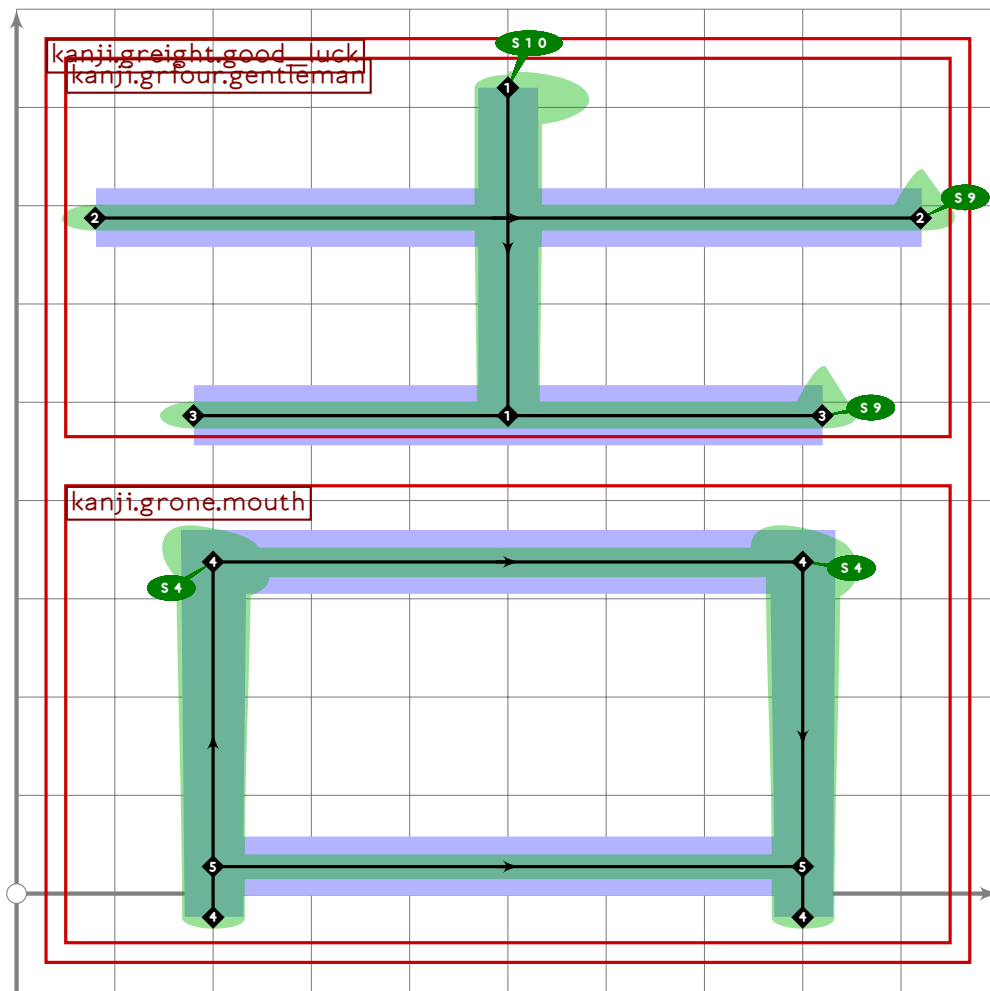


```

188 % this actually means sort of generically "good", but it's "uma" in
189 % "umami" and needs to be distinguished from other vague kanji
190 vardef kanji.greight.glutamate =
191   push_pbox_toexpand("kanji.greight.glutamate");
192   build_kanji.level(build_kanji.tb(410,-50)
193     (kanji.radical.spoon)
194     (kanji.grone.day));
195   expand_pbox;
196 enddef;

```

EIGH

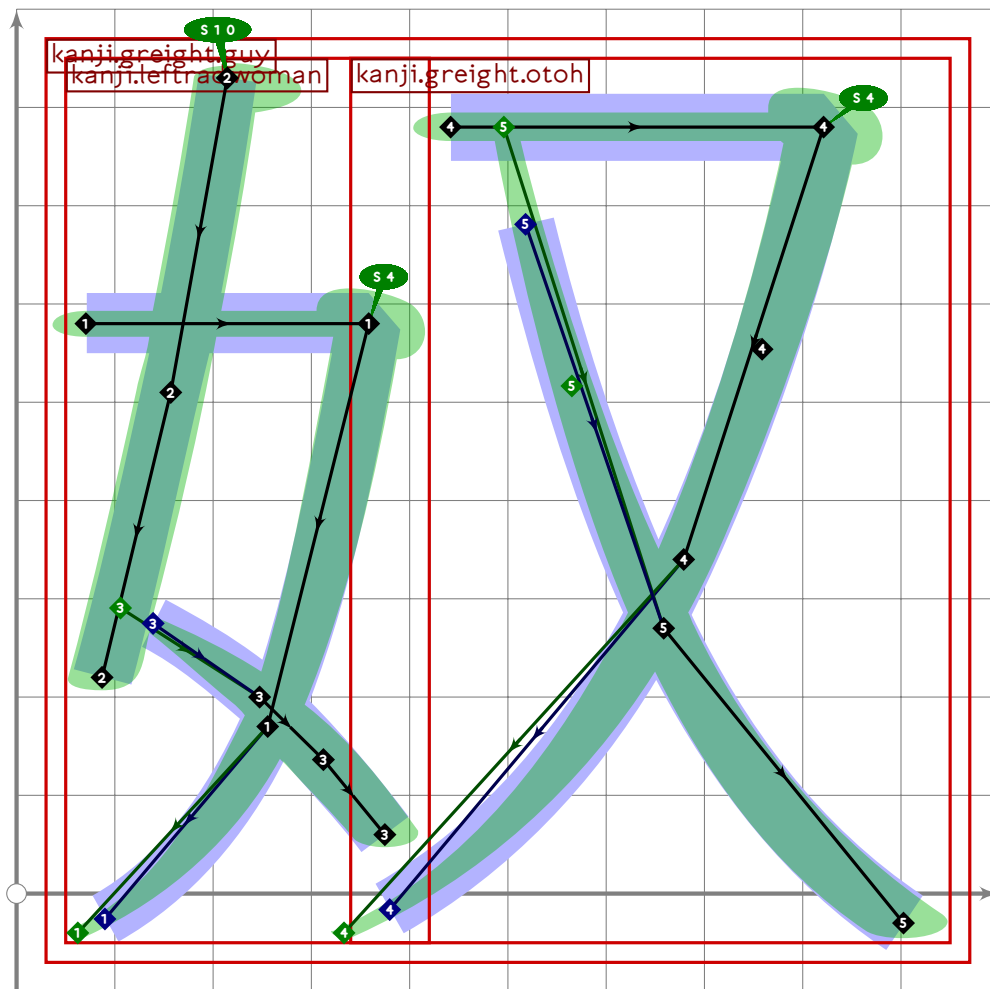


```

197
198 vardef kanji.greight.good_luck =
199   push_pbox_toexpand("kanji.greight.good_luck");
200   build_kanji.level(build_kanji.tb(440;50)
201     (kanji.grfour.gentleman)
202     (kanji.grone.mouth));
203   expand_pbox;
204 enddef;

```

EIGH

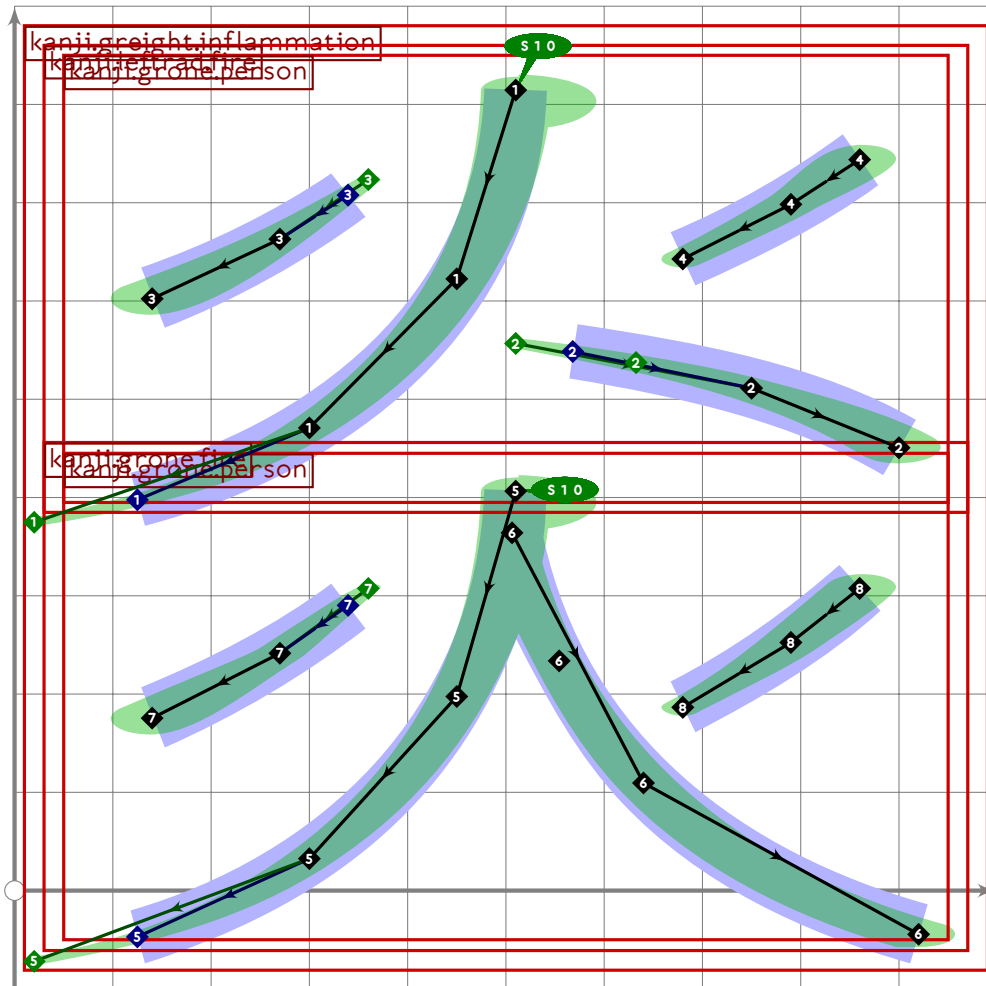


EIGH

```

205
206 vardef kanji.greight.guy =
207   push_pbox_toexpand("kanji.greight.guy");
208   build_kanji.lr(380,80)
209     (kanji.leftrad.woman)
210     (kanji.greight.otoh);
211   expand_pbox;
212 enddef;

```

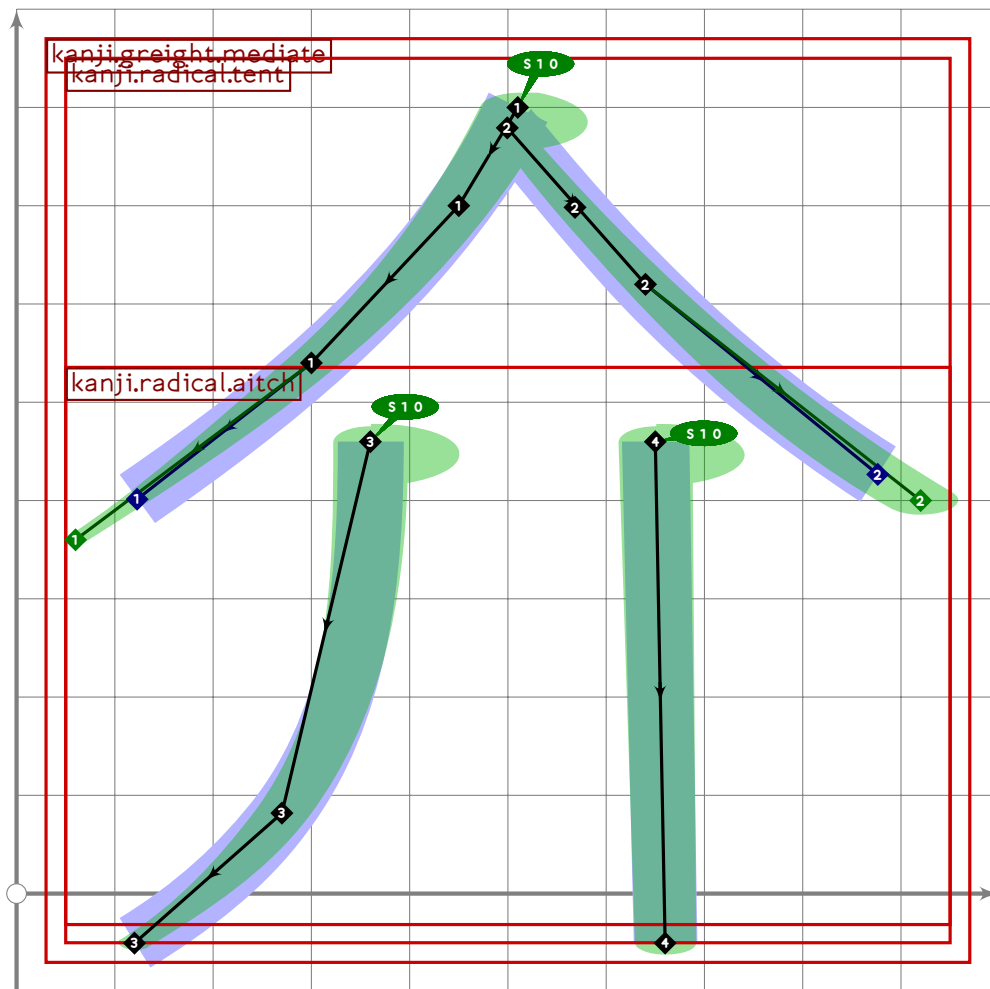


```

213
214 vardef kanji.greight.inflammation =
215   push_pbox_toexpand("kanji.greight.inflammation");
216   build_kanji.level(build_kanji.tb(420,50)
217     (kanji.leftrad.fire)
218     (kanji.grone.fire));
219   expand_pbox;
220 enddef;

```

EIGH

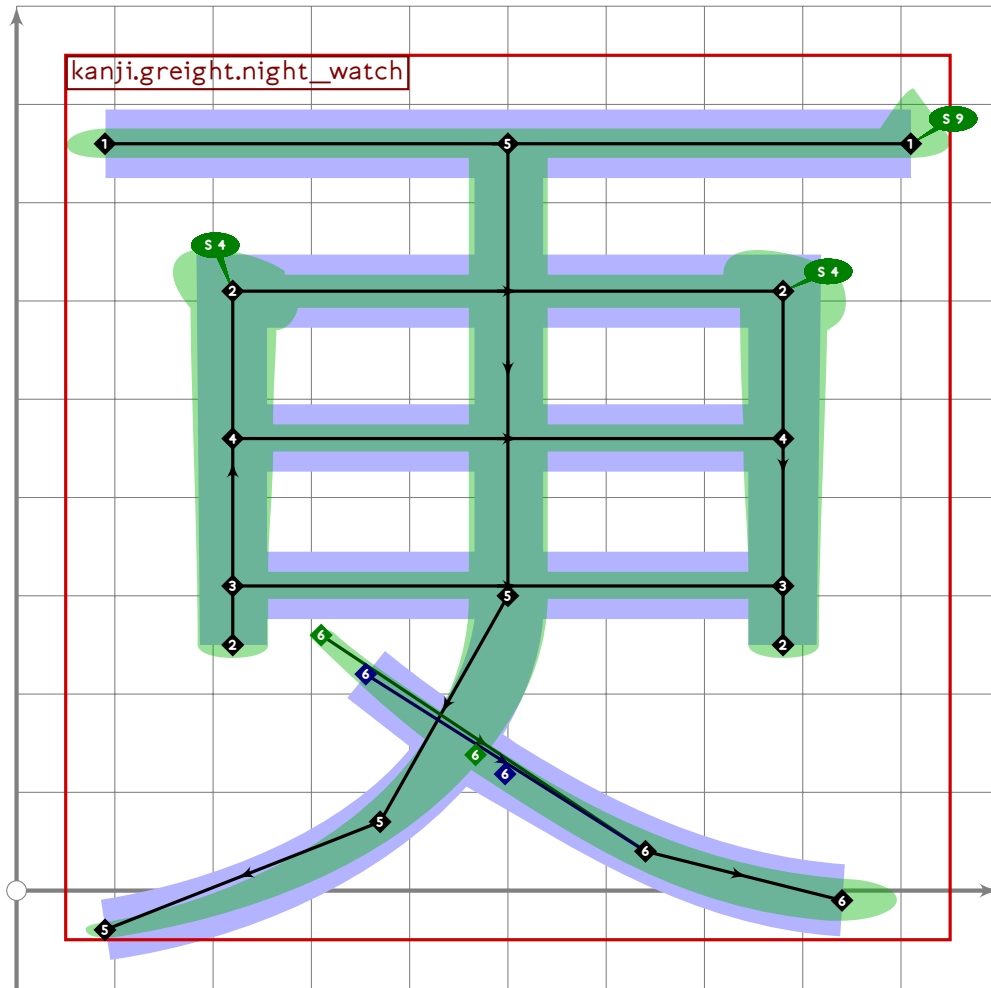


EIGH

```

221
222 vardef kanji.greight.mediate =
223   push_pbox__toexpand("kanji.greight.mediate");
224   build_kanji.level(
225     kanji.radical.tent;
226     pop_stroke;
227     tsu_xform(identity yscaled 0.63)(kanji.radical.aitch);
228     obstacktype[find_whatever(otstroke,-2)]:=otnull;
229   );
230   expand_pbox;
231 enddef;

```

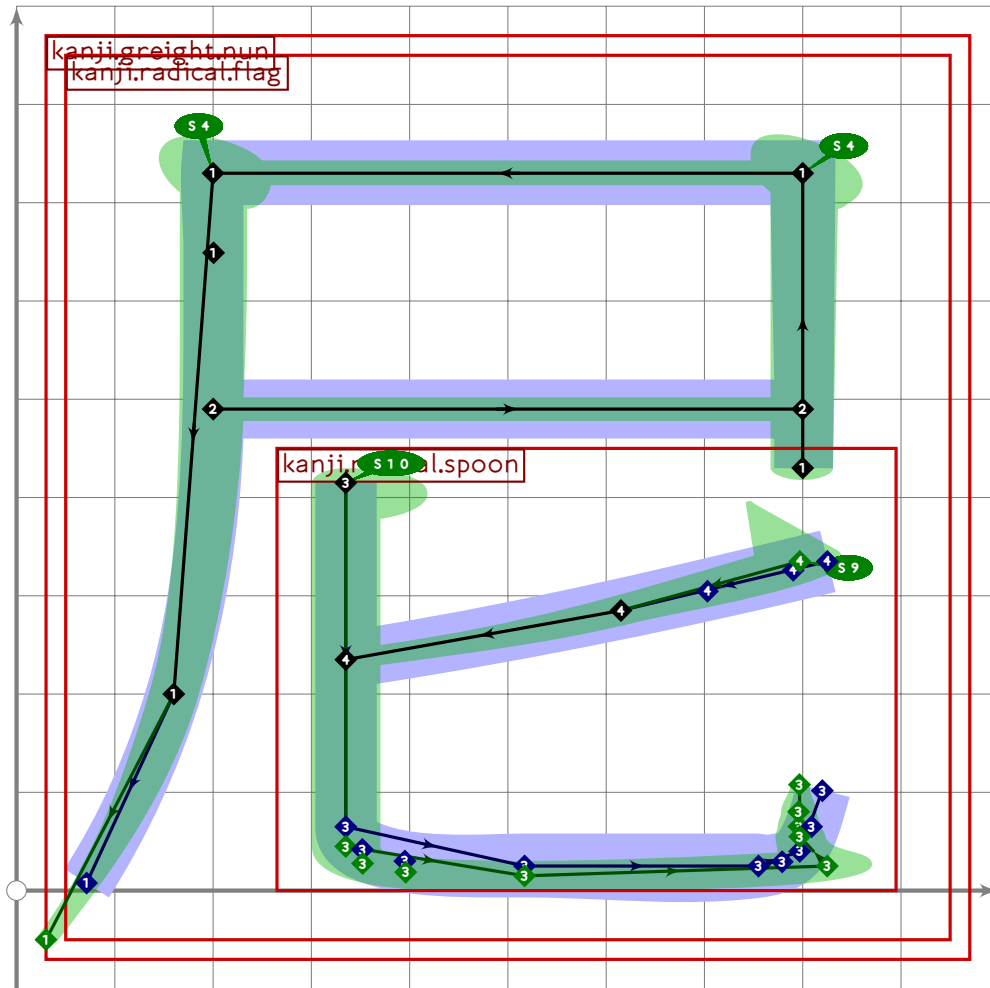
```

232
233 vardef kanji.greight.night_watch =
234   push_pbox_toexpand("kanji.greight.night_watch");
235   push_stroke((90,760)–(910,760),(1.6,1.6)–(1.6,1.6));
236   set_boserif(0,19);
237   build_kanji.box((220,610),(780,310));
238   push_stroke((220,460)–(780,460),(1.5,1.5)–(1.5,1.5));
239   push_stroke((500,760)–(500,300){down}..(370,70)..{curl 0.5}(90,-40),
240     (1.6,1.6)–(1.6,1.6)–(1.4,1.4)–(1.1,1.1));
241   push_stroke((310,260)..tension 1.2..(640,40)..(840,-10),
242     (0.9,0.9)–(1.5,1.5)–(2,2));
243   expand_pbox;
244 enddef;

```

EIGH

U+5C3C
tsuku.uni5C3C

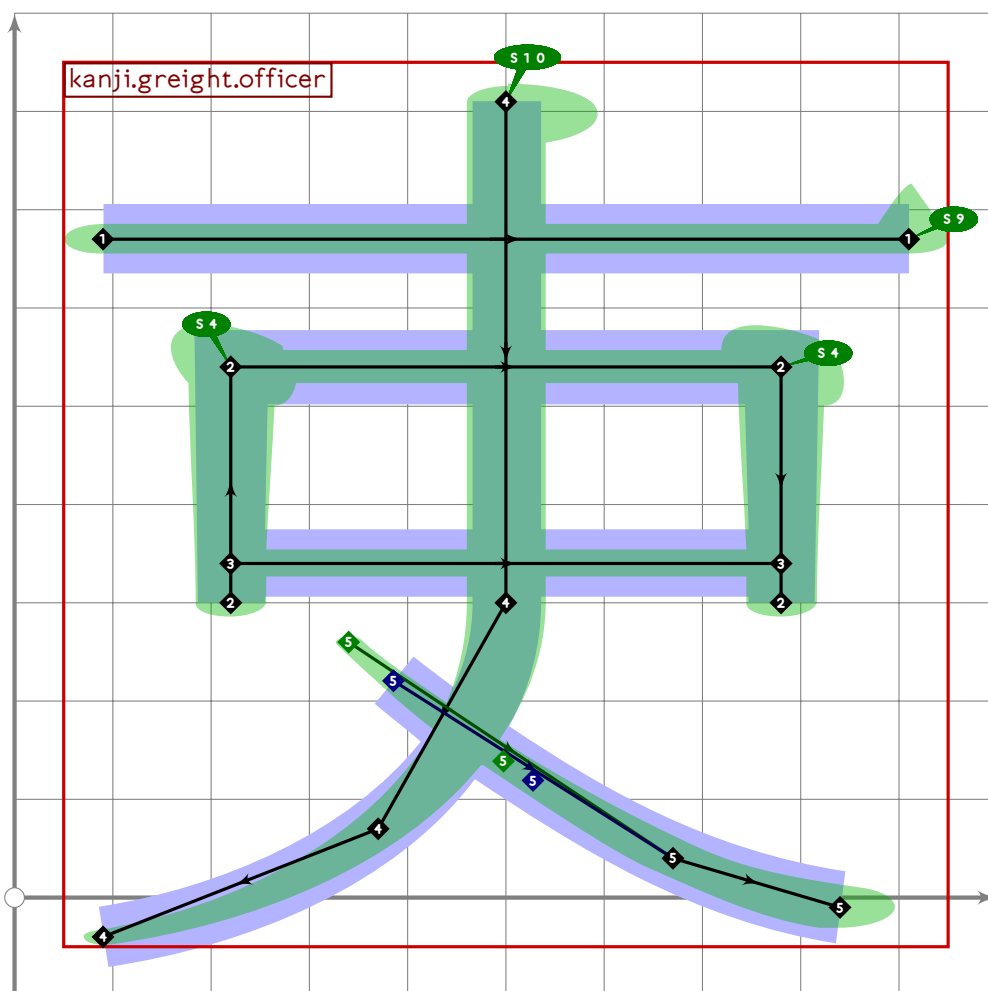


EIGH

```

245
246 vardef kanji.greight.nun =
247   push_pbox__toexpand("kanji.greight.nun");
248   build_kanji.level(
249     kanji.radical.flag;
250     build_kanji.sscale(xyscaled (0.7,0.5) shifted (80,-170))
251       (kanji.radical.spoon));
252   expand__pbox;
253 enddef;

```

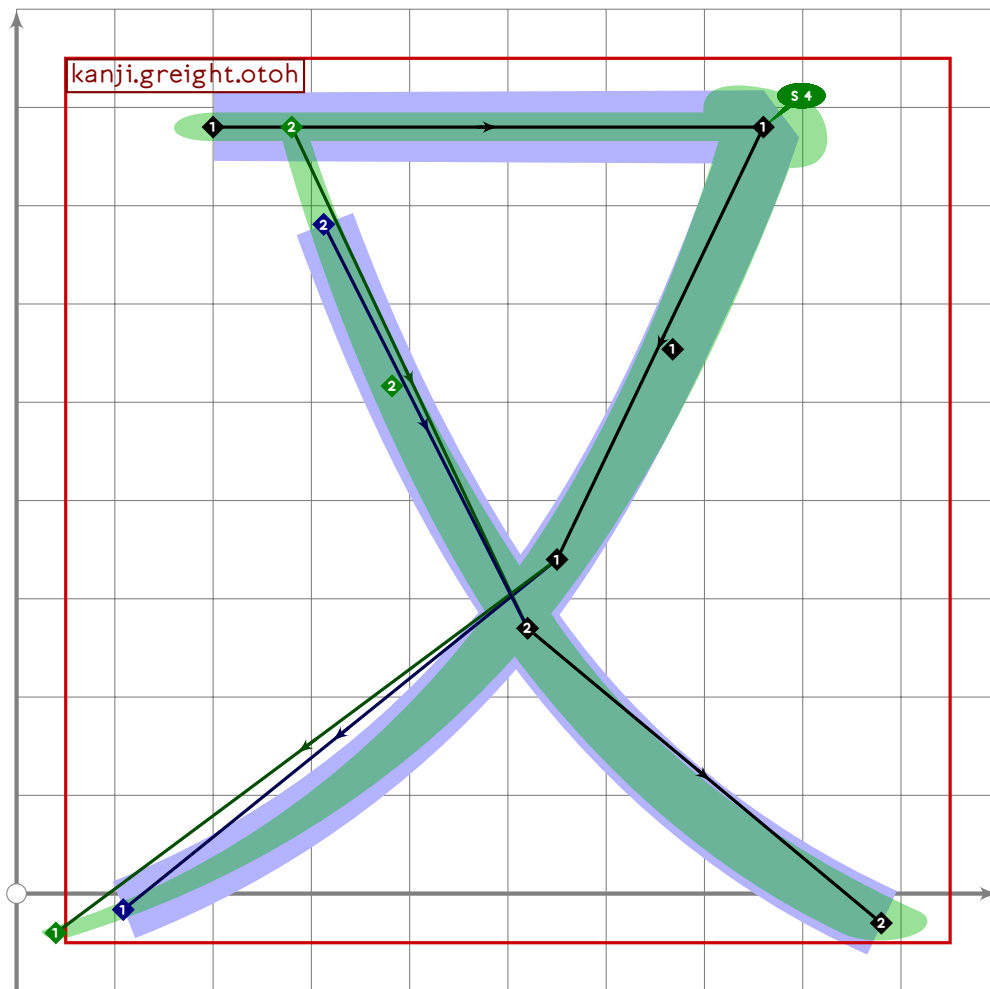


```

254
255 vardef kanji.greight.officer =
256   push_pbox_toexpand("kanji.greight.officer");
257   push_stroke((90,670)–(910,670),(1.6,1.6)–(1.6,1.6));
258   set_boserif(0,1,9);
259   build_kanji.box((220,540),(780,340));
260   push_stroke((500,810)–(500,300){down}..(370,70)..{curl 0.5}(90,-40),
261     (1.6,1.6)–(1.6,1.6)–(1.4,1.4)–(1.1,1.1));
262   set_boserif(0,0,10);
263   push_stroke((340,260)..tension 1.2..(670,40)..(840,-10),
264     (0,0.9)–(1.5,1.5)–(2,2));
265   expand_pbox;
266 enddef;

```

EIGH

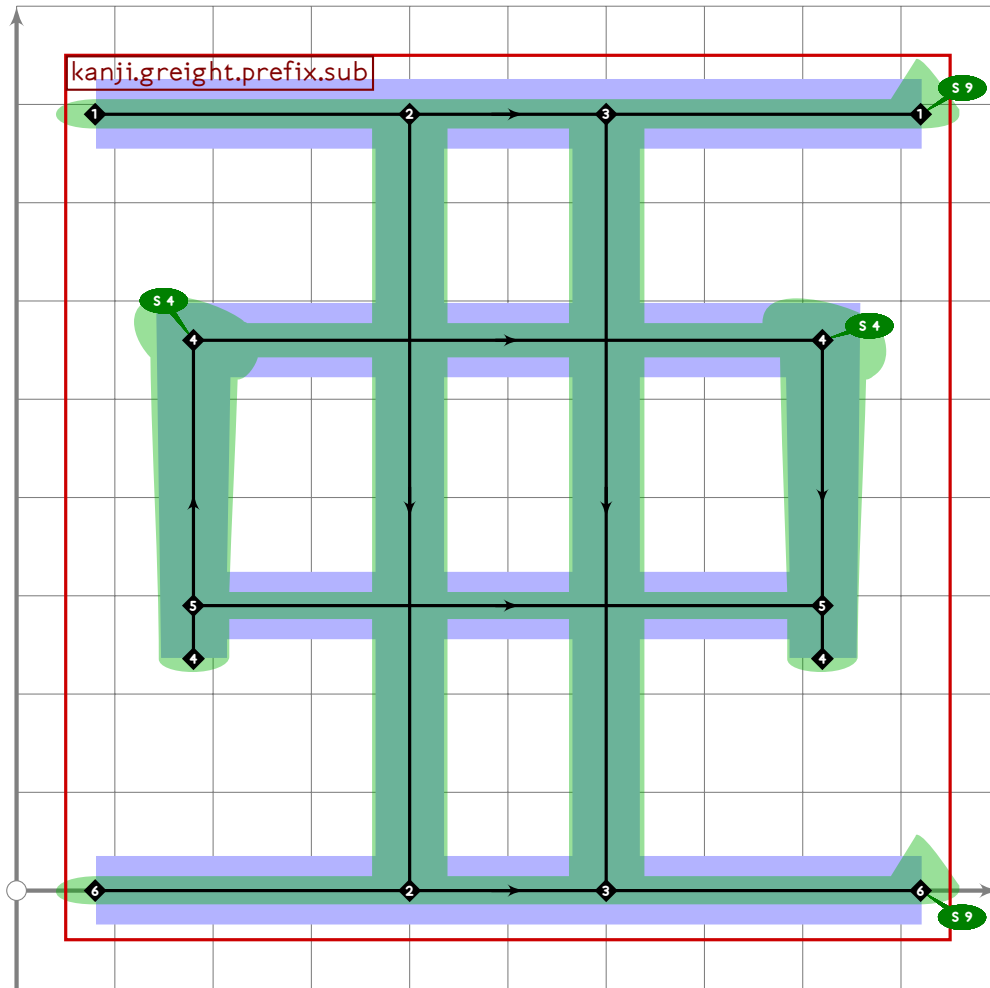


EIGH

```

267
268 vardef kanji.greight.otoh =
269   push_pbox_toexpand("kanji.greight.otoh");
270   push_stroke(
271     (200,780)–(760,780)..tension 1.2..(550,340)..(40,-40),
272     (1.6,1.6)–(1.6,1.6)–(1.4,1.4)–(0.9,0.95));
273   set_botip(0,1,0);
274   set_boserif(0,1,4);
275   push_stroke((280,780)..tension 1.2..(520,270)..(880,30),
276     (0.9,0.9)–(1.4,1.4)–(1.8,1.8));
277   expand_pbox;
278 enddef;

```

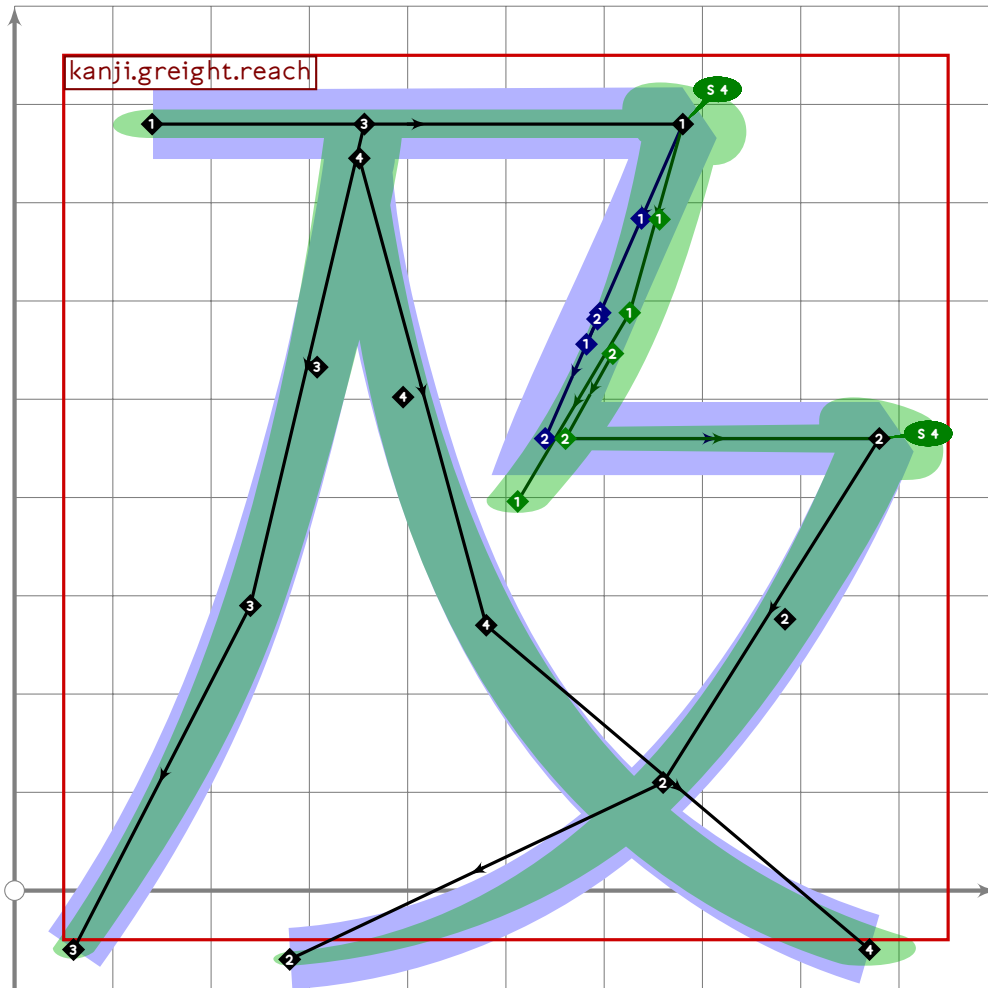


```

279
280 vardef kanji.greight.prefix_sub =
281   push_pbox__toexpand("kanji.greight.prefix.sub");
282   push_stroke((80,790)-(920,790),(1.6,1.6)-(1.6,1.6));
283   set_boserif(0,19);
284   push_stroke((400,790)-(400,0),(1.6,1.6)-(1.5,1.5));
285   push_stroke((600,790)-(600,0),(1.6,1.6)-(1.5,1.5));
286   build_kanji.box((180,560),(820,290));
287   push_stroke((80,0)-(920,0),(1.6,1.6)-(1.6,1.6));
288   set_boserif(0,19);
289   expand_pbox;
290 enddef;

```

EIGH



EIGH

```

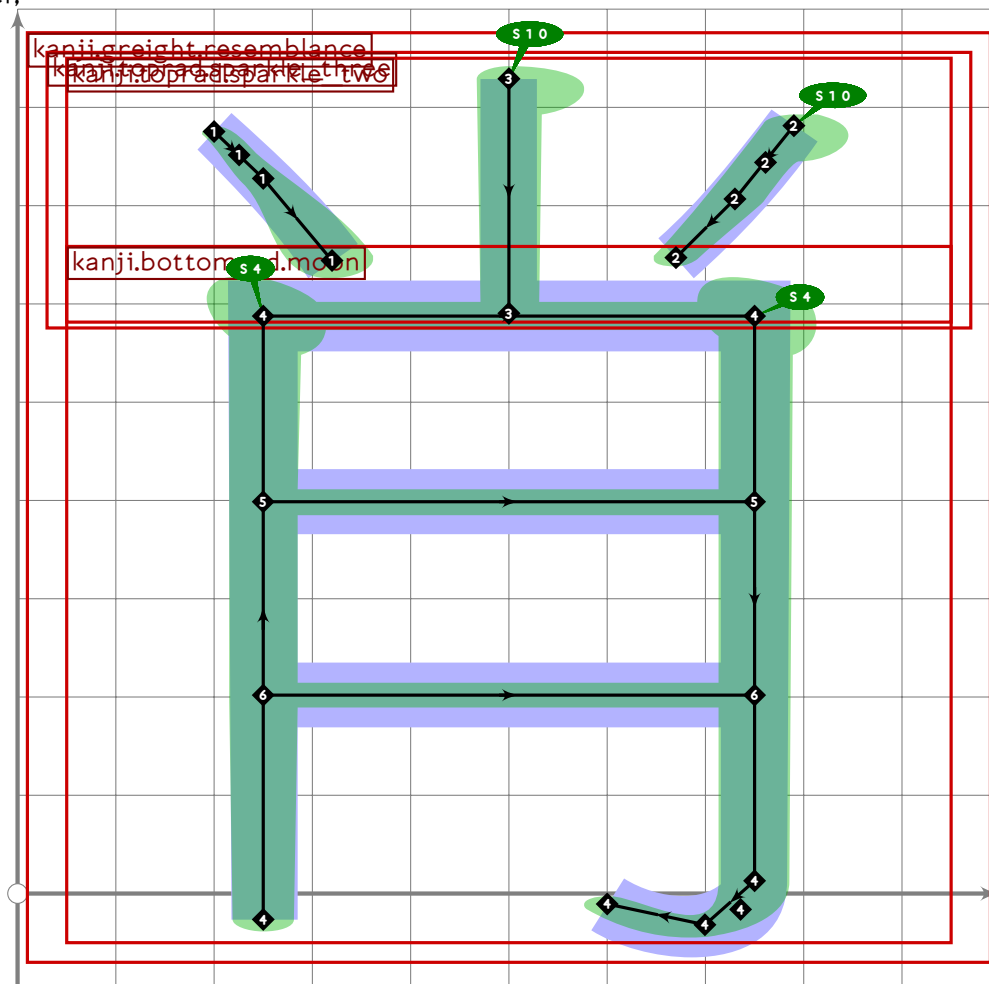
291
292 vardef kanji.greight.reach =
293   push_pbox_toexpand("kanji.greight.reach");
294   begingroup
295     save x,y;
296     numeric x[],y[];
297     x1=140;
298     x2=680;
299     x4=540;
300     y1=y2=780;
301     y4=460;
302     z3=0.4[z4,z2]+mincho*(30,0);
303     z5=(0.3-0.5*mincho)[z4,z2];
304     push_stroke(z1-z2..tension 1.2..z3..z5,
305       (1.6,1.6)-(1.6,1.6)-(1.6-0.1*mincho,1.6-0.1*mincho)-
306       (1.6-0.2*mincho,1.6-0.2*mincho));
307     set_boserif(0,1,4);
308     set_botip(0,1,0);
309     x7=0;
310     x9=880;
311     x10=660;

```

```

312     x11=280;
313     y7=y9=y4;
314     y10=110;
315     y11=-70;
316     z6=point 2.2 of get_strokep(0);
317     z8=(z7-z9) intersectionpoint (get_strokep(0)-((1)[z4,z2]));
318     push_stroke(z6-z8-z9..tension 1.2..z10..z11,
319         (1.6-0.5*mincho,1.6-0.5*mincho)-(1.5-0.1*mincho,1.5-0.1*mincho)-
320         (1.6,1.6)-(1.4,1.4)-(1,1));
321     set_boserif(0,2,4);
322     set_botip(0,1,1);
323     set_botip(0,2,0);
324 endgroup;
325 push_stroke((point 0.4 of get_strokep(-1))..tension 1.2..
326     (240,290)..(60,-60),
327     (1.6,1.6)-(1.4,1.4)-(1.1,1.1));
328 push_stroke((point 0.08 of get_strokep(0))..tension 1.2..
329     (480,270)..(870,-60),
330     (1.2,1.2)-(1.5,1.5)-(1.8,1.8));
331 expand_pbox;
332 endif;

```

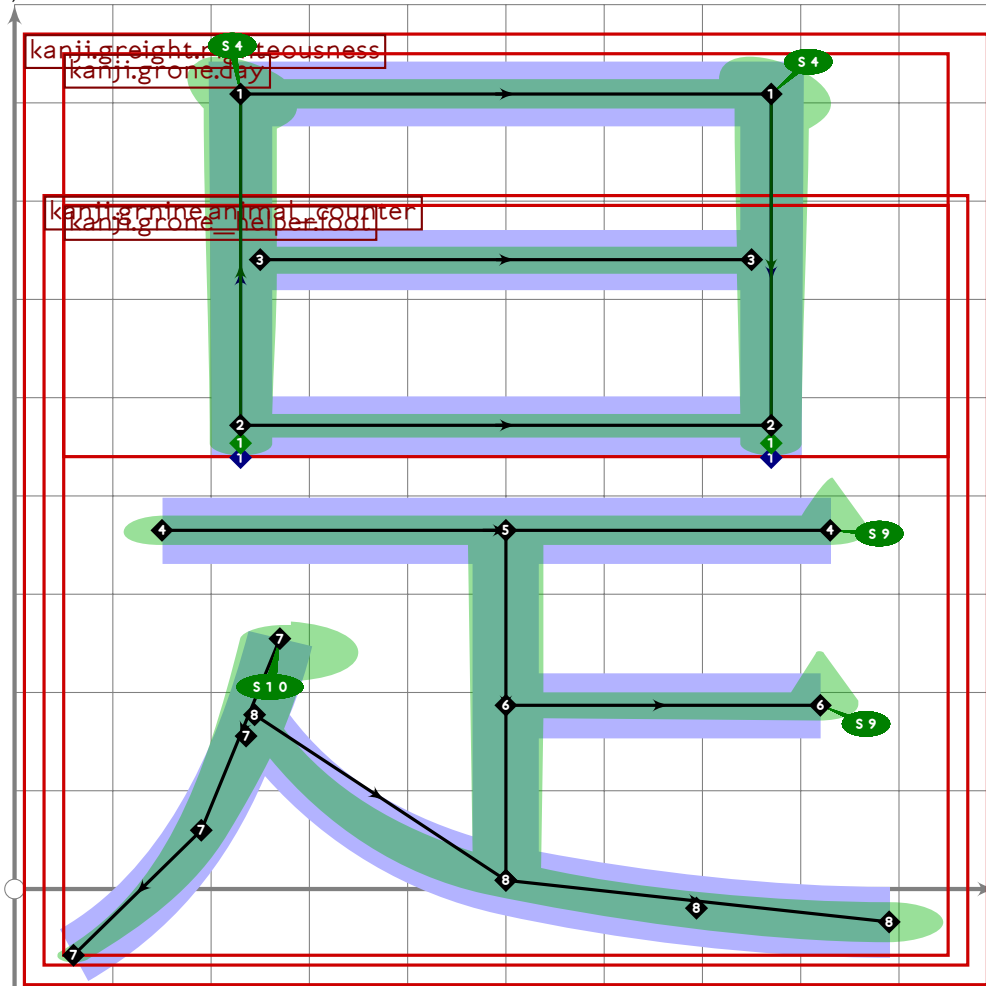


EIGH

```

333
334 vardef kanji.greight.resemblance =
335   push_pbox_toexpand("kanji.greight.resemblance");
336   build_kanji.tb(620,77)
337     (kanji.toprad.sparkle_three)
338     (kanji.bottomrad.moon);
339   expand_pbox;
340 enddef;

```

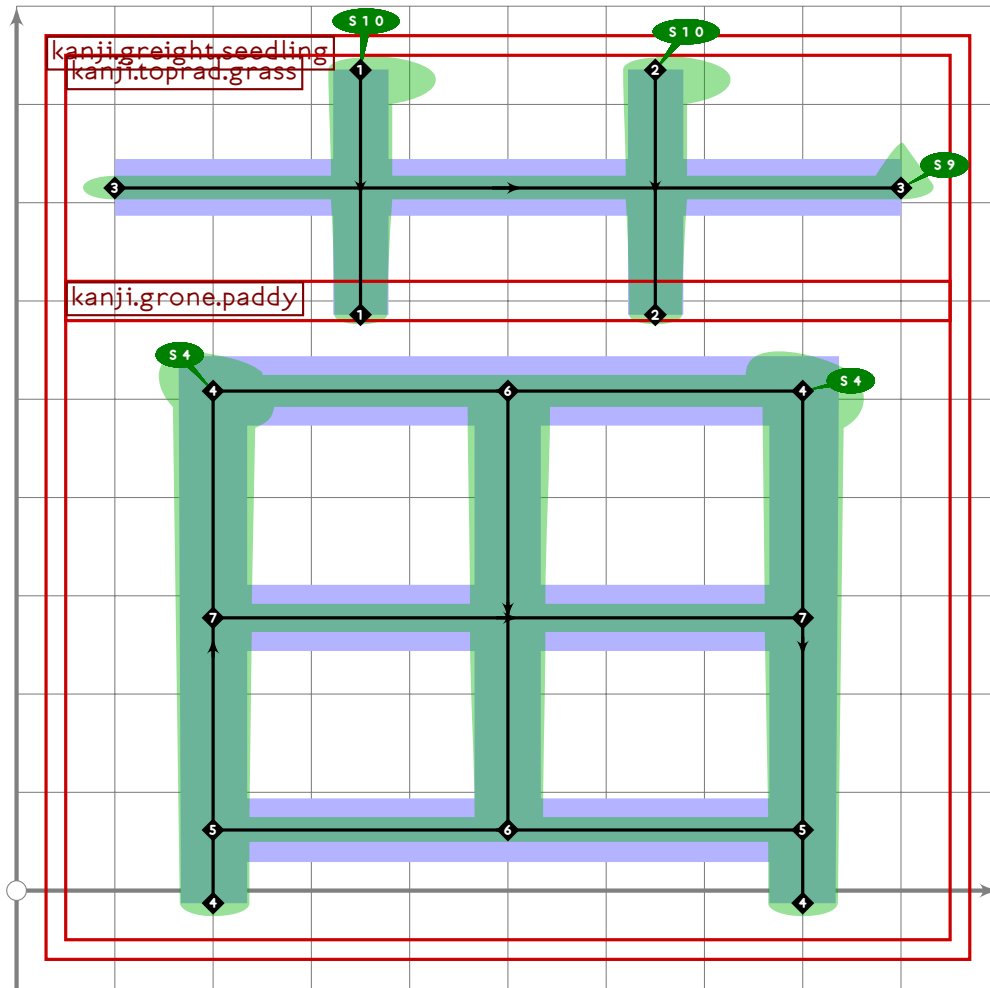


RIGHT

```

341
342 vardef kanji.greight.righteousness =
343   push_pbox_toexpand("kanji.greight.righteousness");
344   build_kanji.tb(420,40)
345     (kanji.grone.day)
346     (kanji.grnine.animal_counter;
347       replace_stroke(-4)(subpath (0,1) of oldp);
348       set_botip(-4,1,whatever);
349       replace_strokeq(-4)((1.6,1.6)-(1.6,1.6));
350       set_boserif(-4,1,9));
351   expand_pbox;
352 enddef;

```

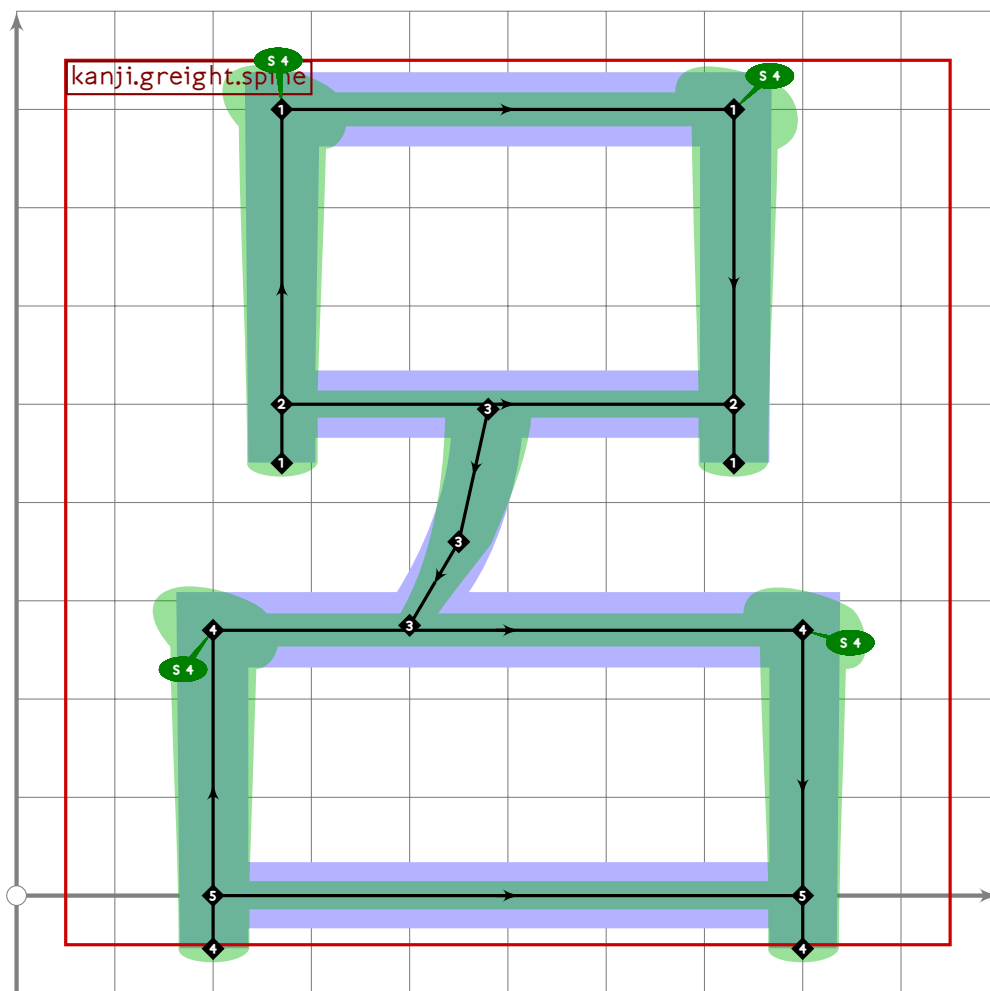



```

353
354 vardef kanji.greight.seedling =
355   push_pbox_toexpand("kanji.greight.seedling");
356   build_kanji.tb(600,40)
357     (kanji.toprad.grass)
358     (kanji.grone.paddy);
359   expand_pbox;
360 enddef;

```

EIGH

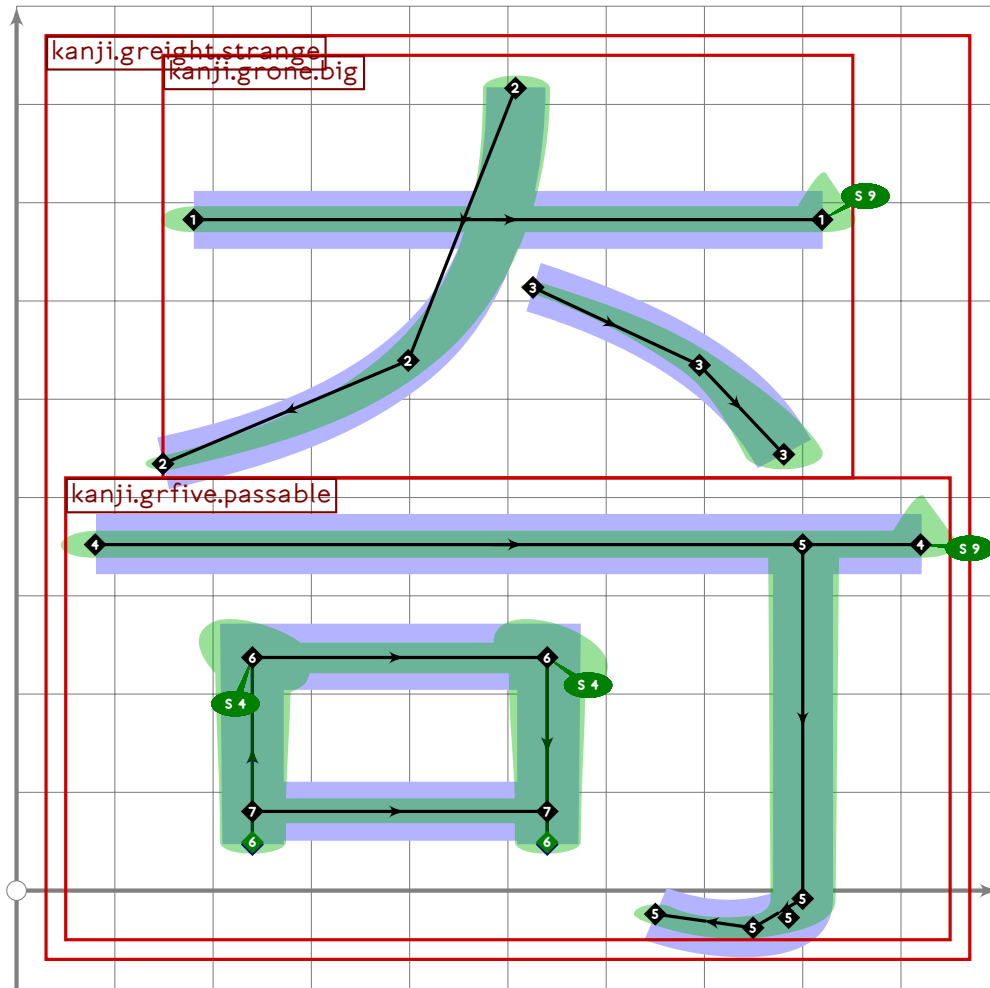


EIGH

```

361
362 vardef kanji.greight.spine =
363   push_pbox_toexpand("kanji.greight.spine");
364   build_kanji.box((270,800),(730,500));
365   push_stroke((480,495)..(450,360)..(400,275),
366     (1,7,1,7)-(14,1,4)-(1,1));
367   build_kanji.box((200,270),(800,0));
368   expand_pbox;
369 enddef;

```



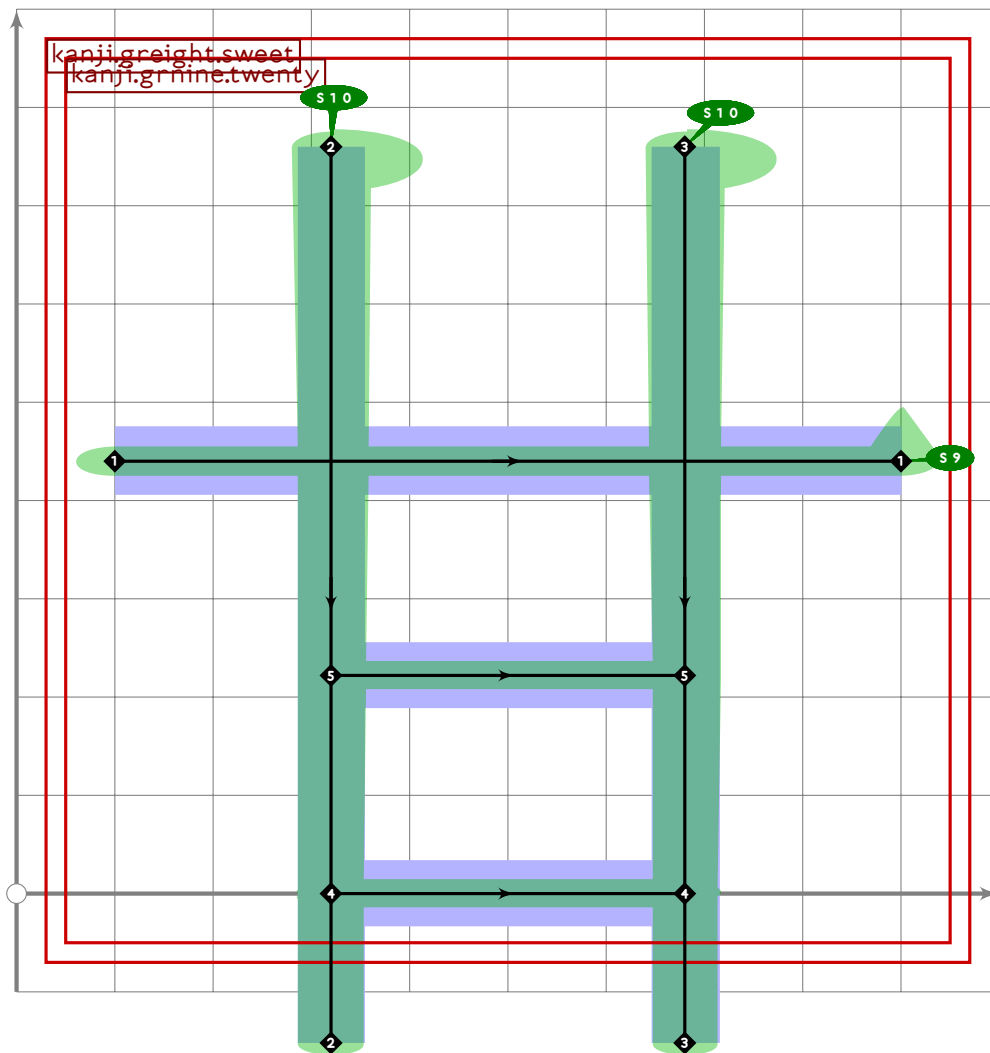
```

370
371 vardef kanji.greight.strange =
372   push_pbox_toexpand("kanji.greight.strange");
373   build_kanji.tb(420,0)
374     (build_kanji.sscale(xscaled 0.78)(kanji.leftrad.big))
375     (kanji.grfive.passable);
376   expand_pbox;
377 enddef;

```

EIGH

U+7518
tsuku.uni7518

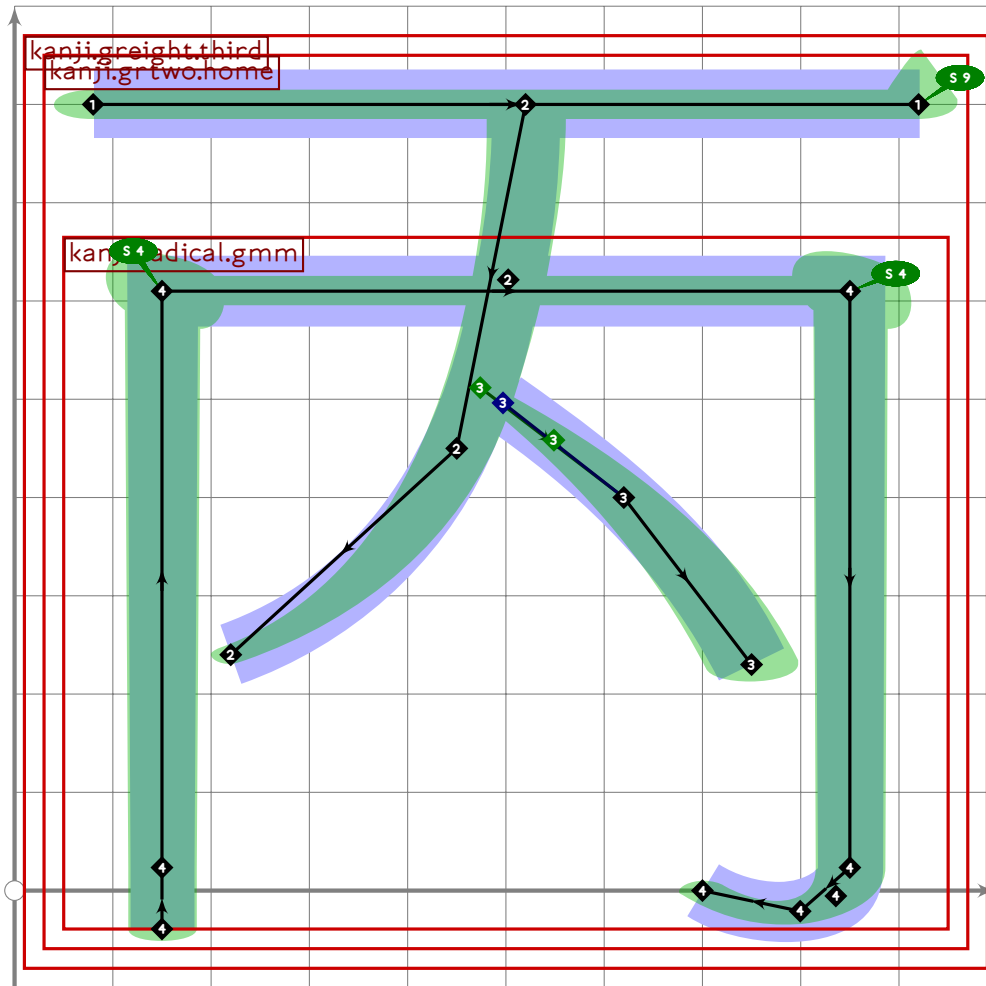


EIGH

```

378
379 vardef kanji.greight.sweet =
380   push_pbox__toexpand("kanji.greight.sweet");
381   kanji.grnine.twenty;
382   push_stroke((320,222)-(680,222),(1.5,1.5)-(1.5,1.5));
383   expand_pbox;
384 enddef;

```

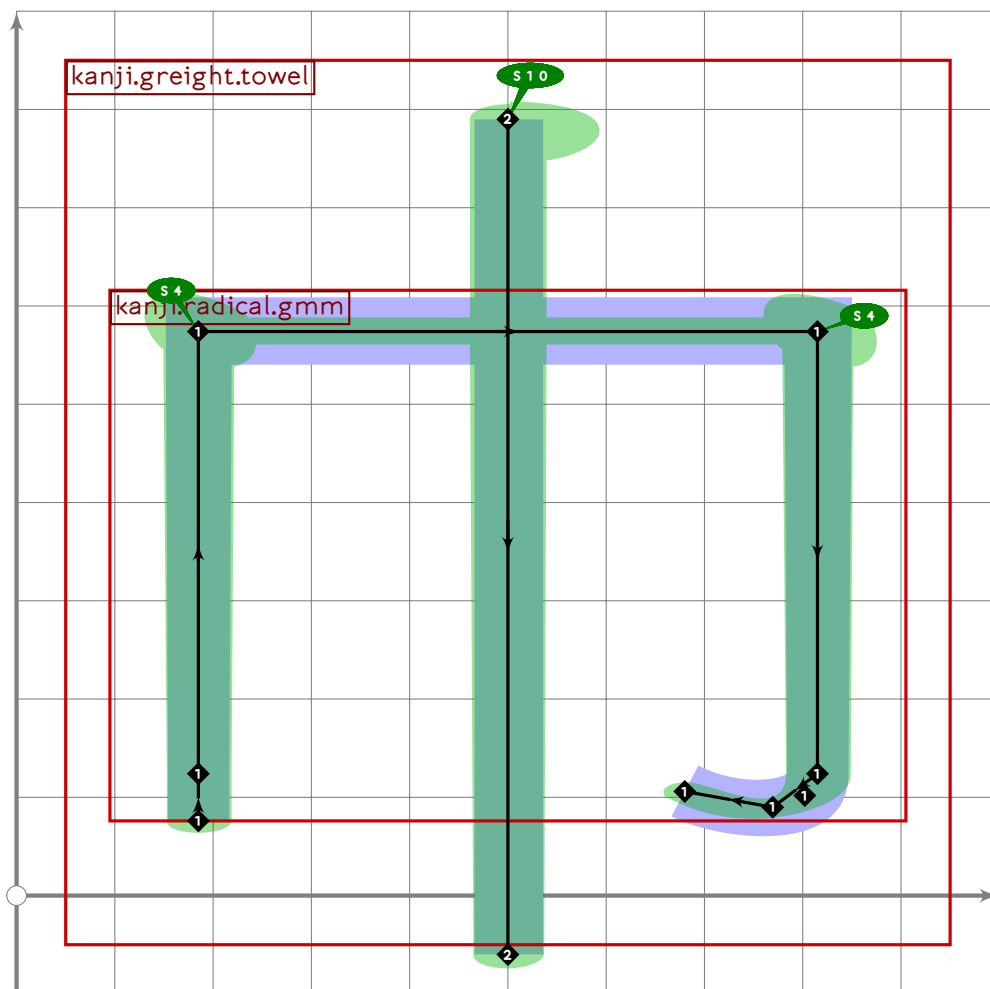


```

385
386 vardef kanji.greight.third =
387   push_pbox_toexpand("kanji.greight.third");
388   push_stroke((80,800)-(920,800),(1.6,1.6)-(1.6,1.6));
389   set_boserif(0,19);
390   kanji.grtwo.home;
391   set_boserif(-2,0,whatever);
392   expand_pbox;
393 enddef;

```

EIGH

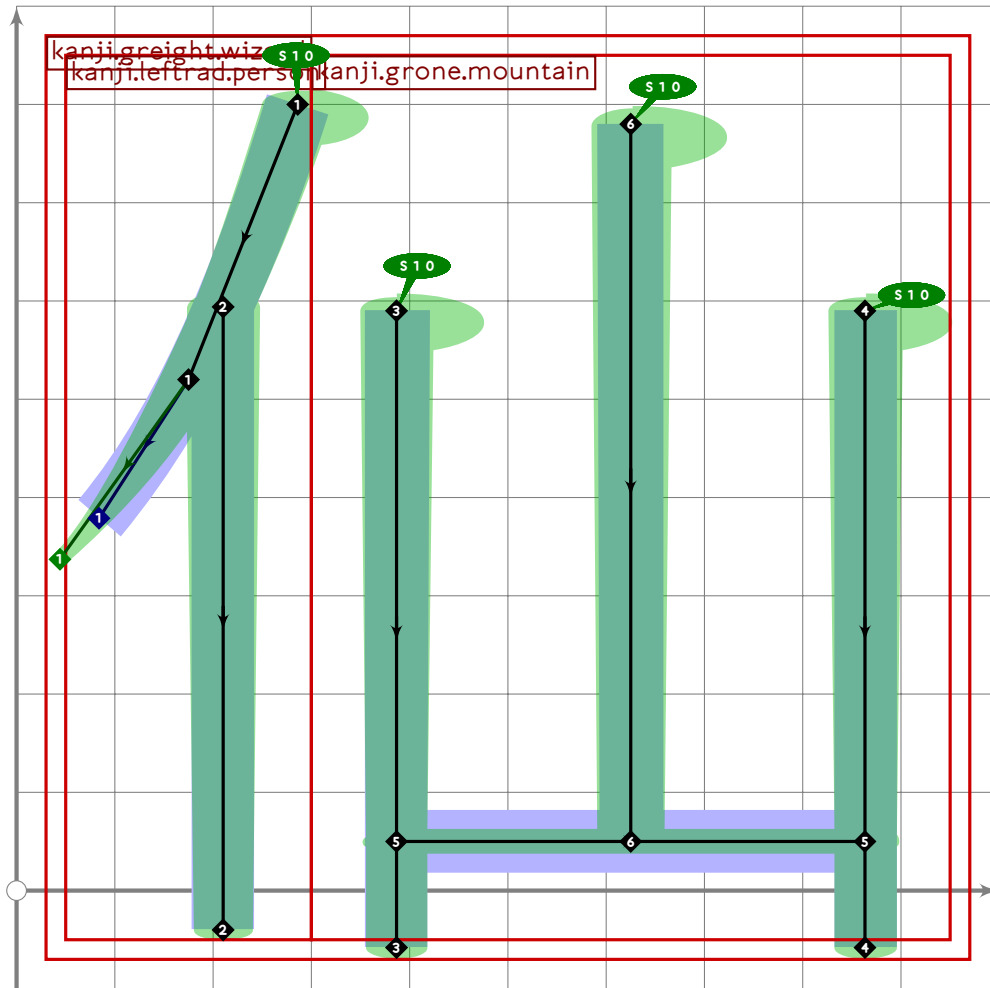


```

394
395 vardef kanji.greight.towel =
396   push_pbox__toexpand("kanji.greight.towel");
397   build_kanji.sscale(xyscaled (0.9,0.6) shifted (0,-50))
398     (kanji.radical.gmm);
399   push_stroke((500,790)-(500,-60),
400     (1.6,1.6)-(1.5,1.5));
401   set_boserif(0,0,10);
402   expand_pbox;
403 enddef;

```

EIGH



```

404
405 vardef kanji.greight.wizard =
406   push_pbox_toexpand("kanji.greight.wizard");
407   build_kanji.lr(300,0)
408     (kanji.leftrad.person)
409     (kanji.grone.mountain);
410   expand_pbox;
411 enddef;

```

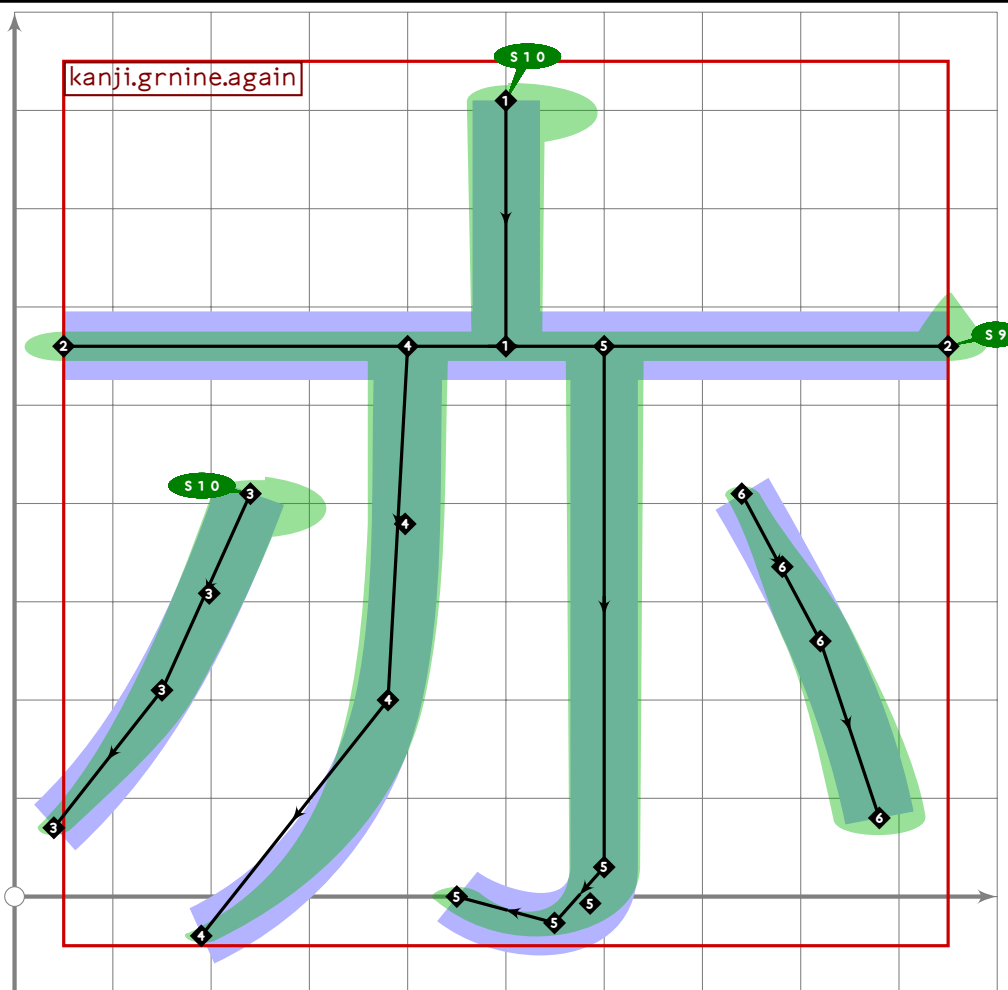
EIGH

gradenine.mp

```

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

```



NINE

```

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(0,1,9);
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);

```



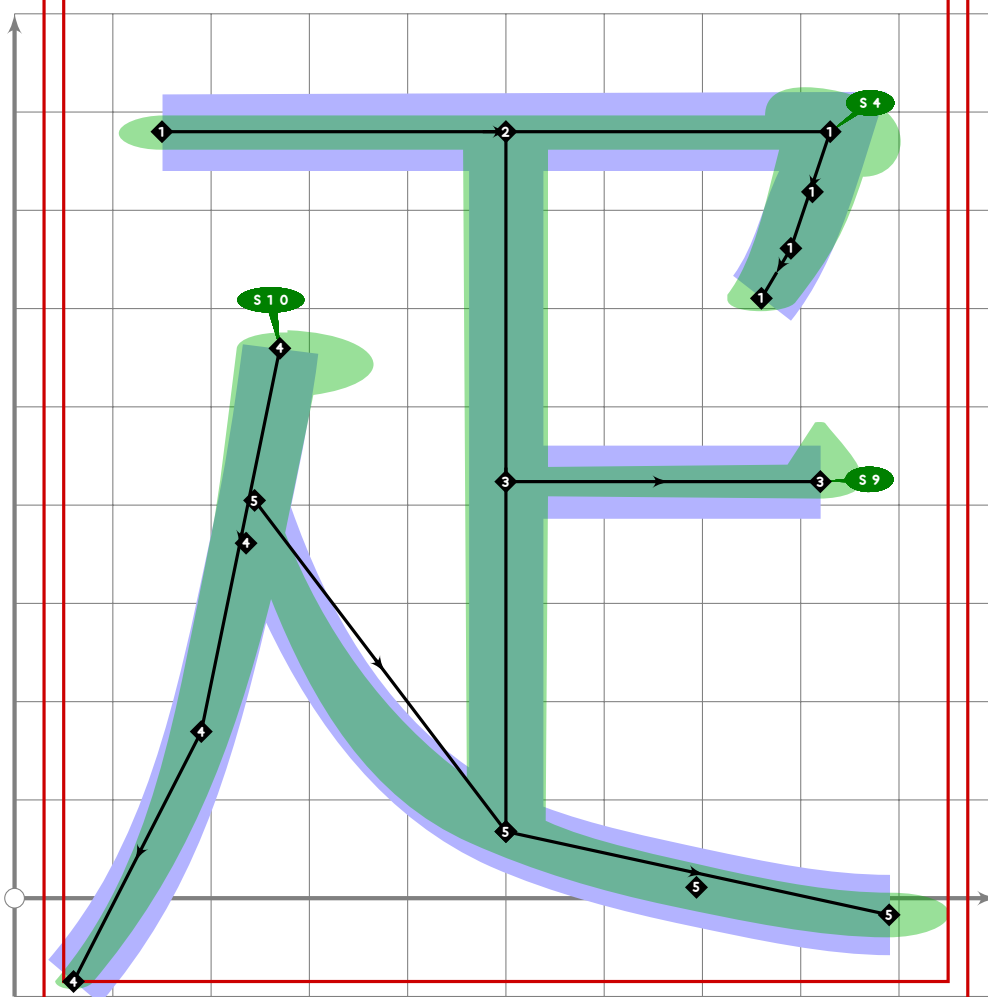
```

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;

```

U+758B
tsuku.uni758B

kanji.grnine.animal_counter
kanji.grnine_helper.foot



NINE

```

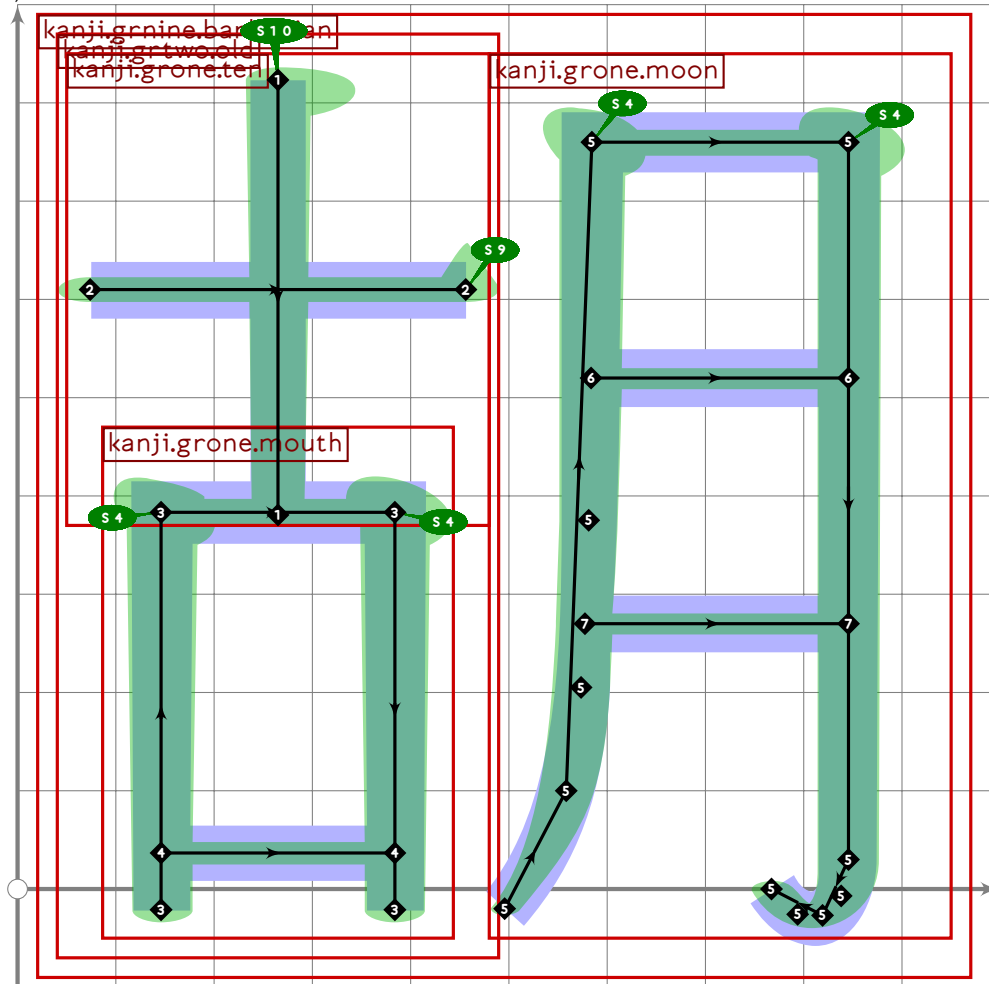
52
53 vardef kanji.grnine.animal_counter =
54   push_pbox_toexpand("kanji.grnine.animal_counter");
55   tsu_xform(identity yscaled (780/460))
56   (push_stroke((150,460)-(830,460)..tension 1.2..(790,390)..(760,360),
57     (1.6,1.6)-(1.7,1.7)-(1.6,1.6)-(1.4,1.4));

```

```

58   set_botip(0,1,1);
59   set_boserif(0,1,4);
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(0,1,9);
63   kanji.grone_helper.foot);
64   expand_pbox;
65 enddef;

```



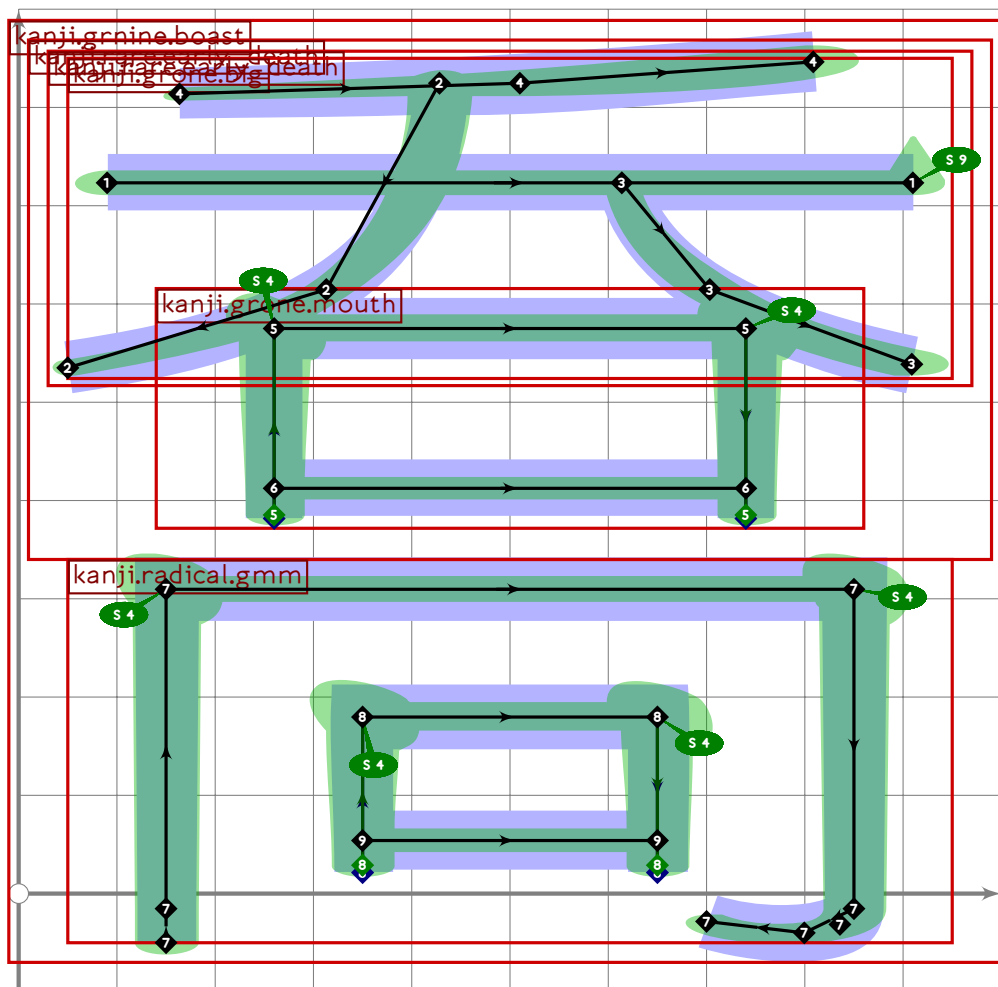
```

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;

```

NINE

U+55AC
tsuku.uni55AC

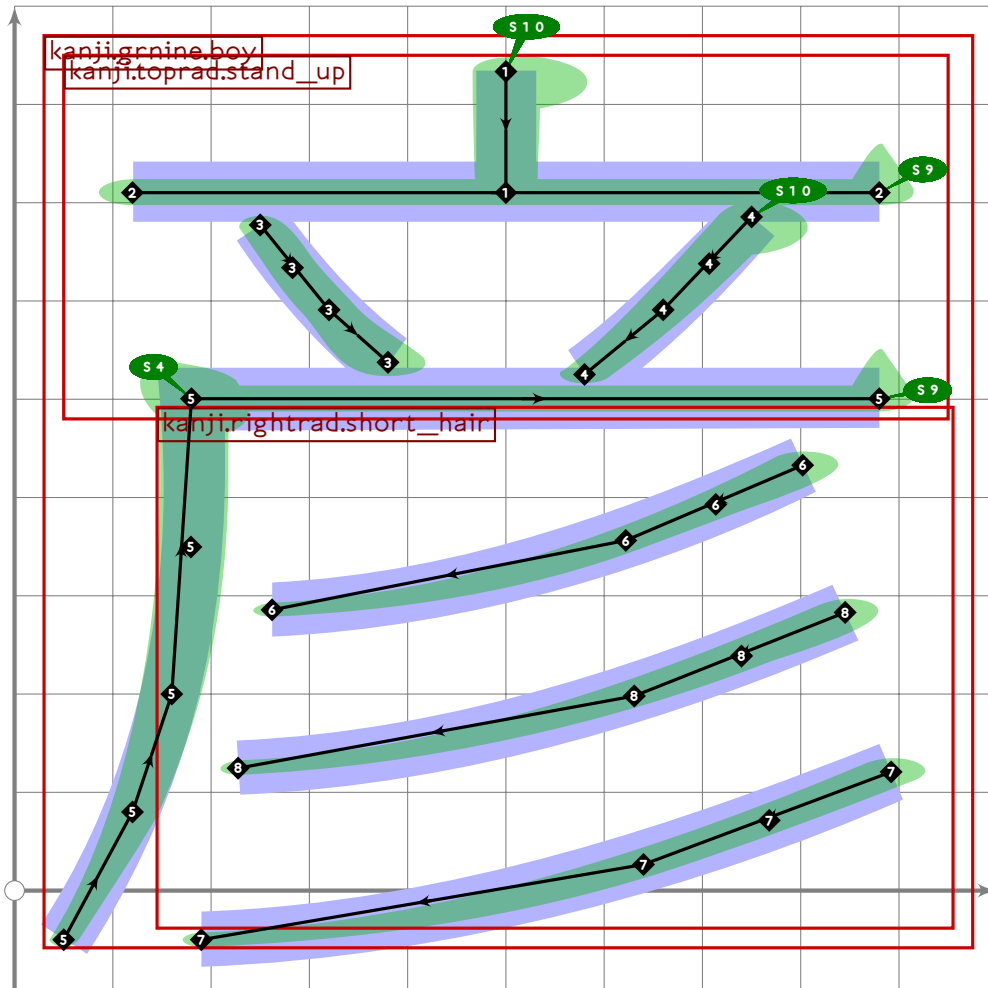


```

74
75 vardef kanji.grnine.boast =
76   push_pbox_toexpand("kanji.grnine.boast");
77   build_kanji.tb(340,0)
78   (kanji.rare.drink)
79   (kanji.radical.gmm;
80     build_kanji.box((350,480),(650,190)));
81   expand_pbox;
82 enddef;

```

NINE



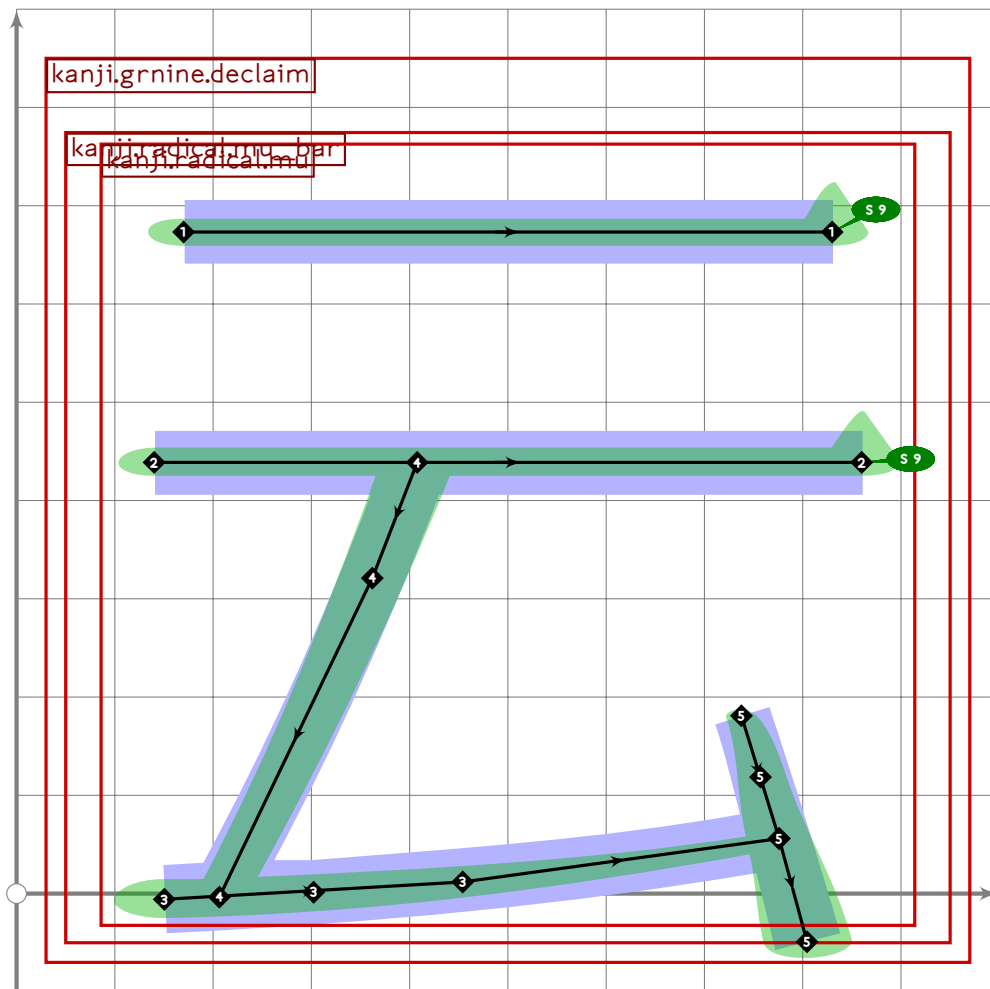
```

83
84 vardef kanji.grnine.boy =
85   push_pbox_toexpand("kanji.grnine.boy");
86   build_kanji.level(build_kanji.tb(480,0)
87     (kanji.toprad.stand_up)
88     (build_kanji.scale(xscaled 0.9 shifted (50,20))
89       (kanji.rightrad.short_hair)));
90   replace_strokep(-3)((50,-50)..(120,80)..(160,200)..tension 1.2..
91     (180,y part point 0 of oldp)-(880,y part point 1 of oldp));
92   replace_strokeq(-3)((1,1)-(1.3,1.3)-(1.5,1.5)-(1.6,1.6)-(1.6,1.6));
93   set_botip(-3,3,1);
94   set_boserif(-3,1,whatever);
95   set_boserif(-3,3,4);
96   set_boserif(-3,4,9);
97   expand_pbox;
98 enddef;

```

NINE

U+4E91
tsuku.uni4E91

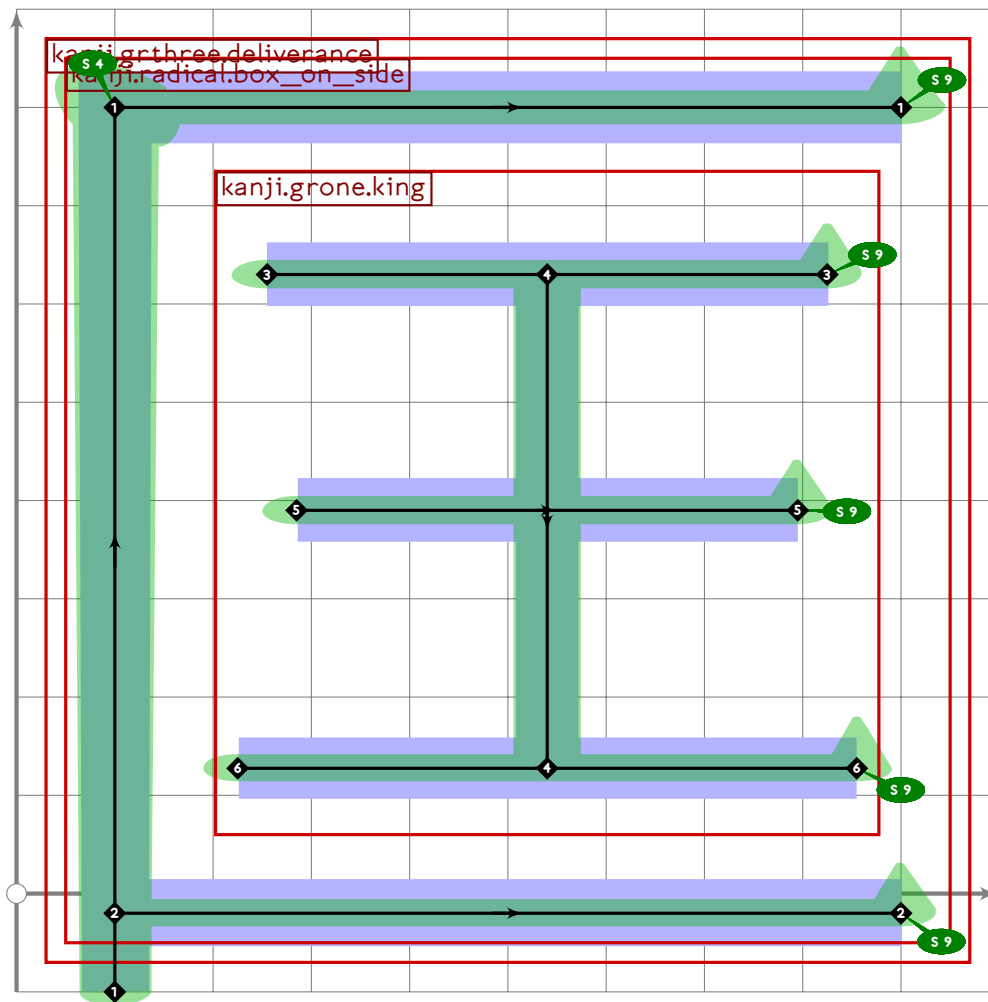


```

99
100 vardef kanji.grnine.declaim =
101   push_pbox__toexpand("kanji.grnine.declaim");
102   build_kanji.level(build_kanji.tb(480,0)
103     (push_stroke((170,420)-(830,420),
104       (1.6,1.6)-(1.6,1.6));
105     set_boserif(0,1,9);
106   )
107   (kanji.radical.mu_bar));
108   expand_pbox;
109 enddef;

```

NINE

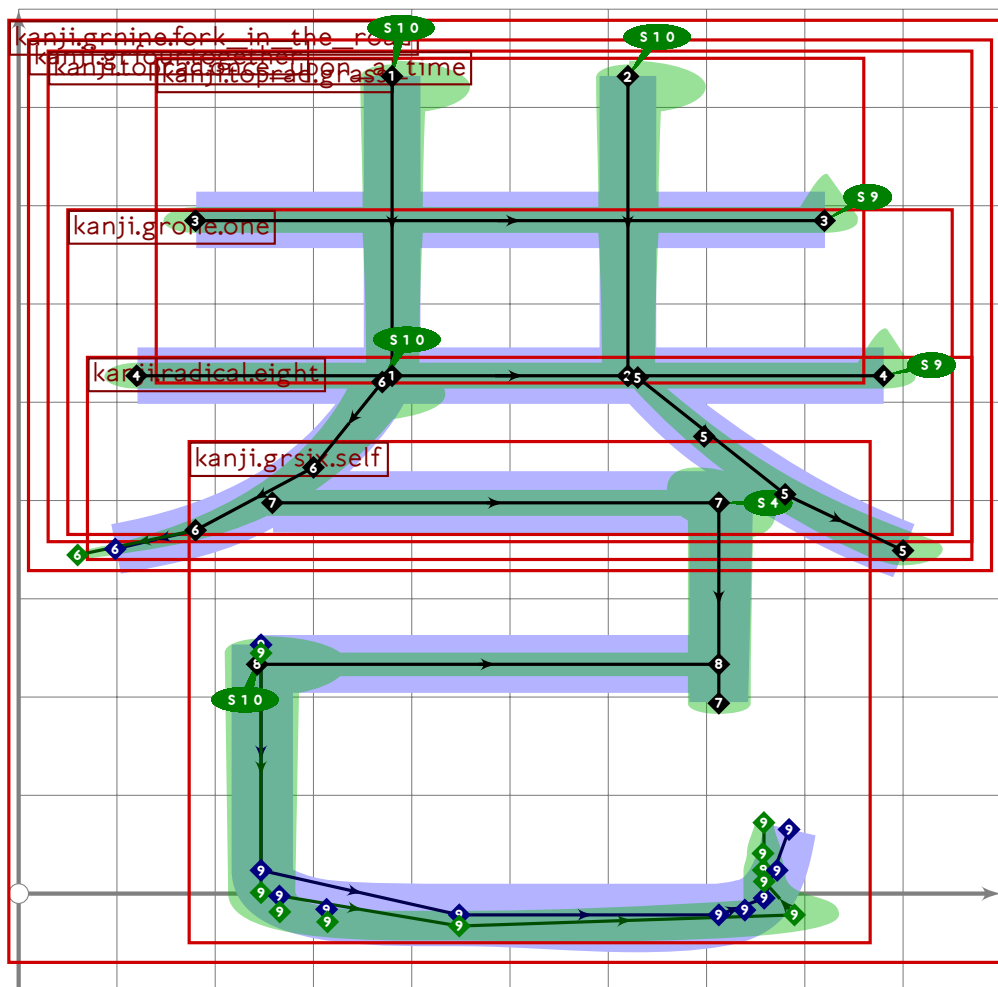


```

110
111 vardef kanji.grnine.deliverance =
112   push_pbox_toexpand("kanji.grthree.deliverance");
113   kanji.radical.box_on_side;
114   build_kanji.sscale(scaled 0.75 shifted (40,0))(kanji.grone.king);
115   expand_pbox;
116 enddef;

```

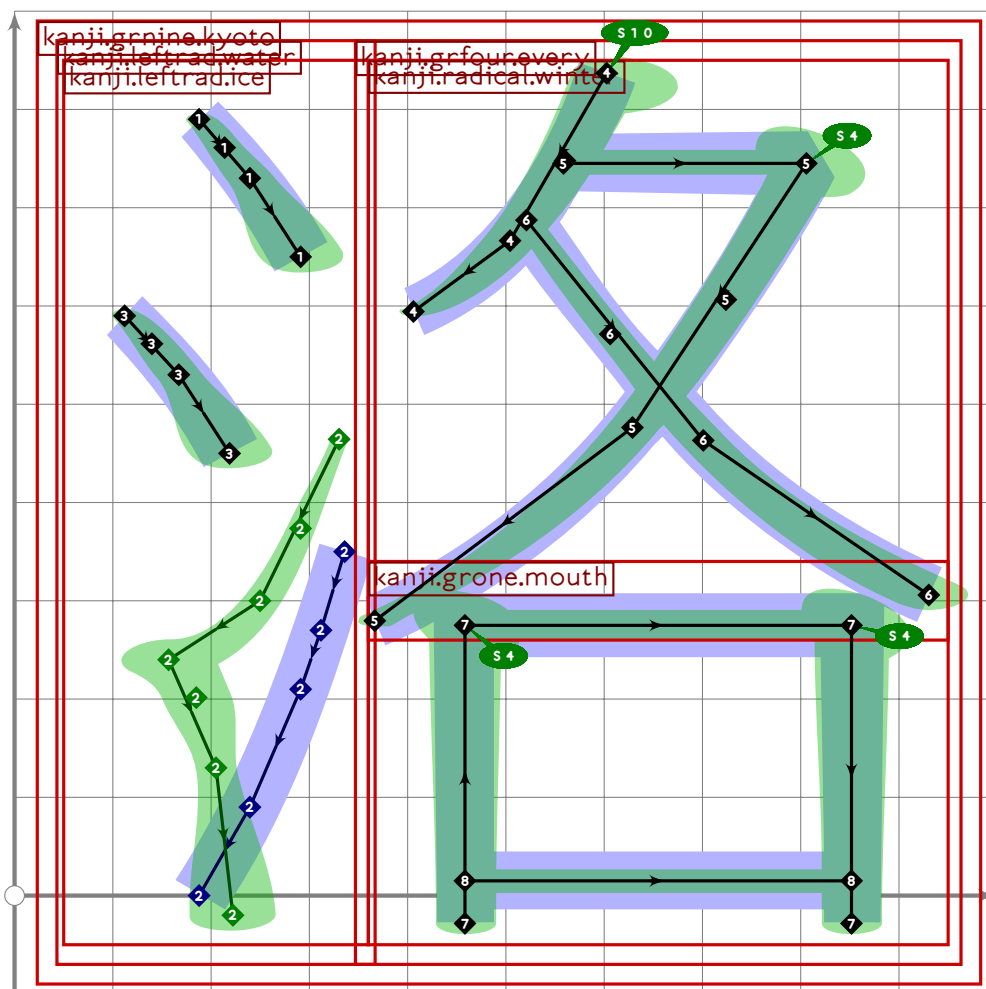
NINE



```

117
118 vardef kanji.grnine.fork_in_the_road =
119   push_pbox_toexpand("kanji.grnine.fork_in_the_road");
120   build_kanji.tb(400,120)
121     (kanji.grfour.together)
122     (build_kanji.sscale(xscaled 0.77 shifted (20,0))(kanji.grsix.self));
123   expand_pbox;
124 enddef;

```

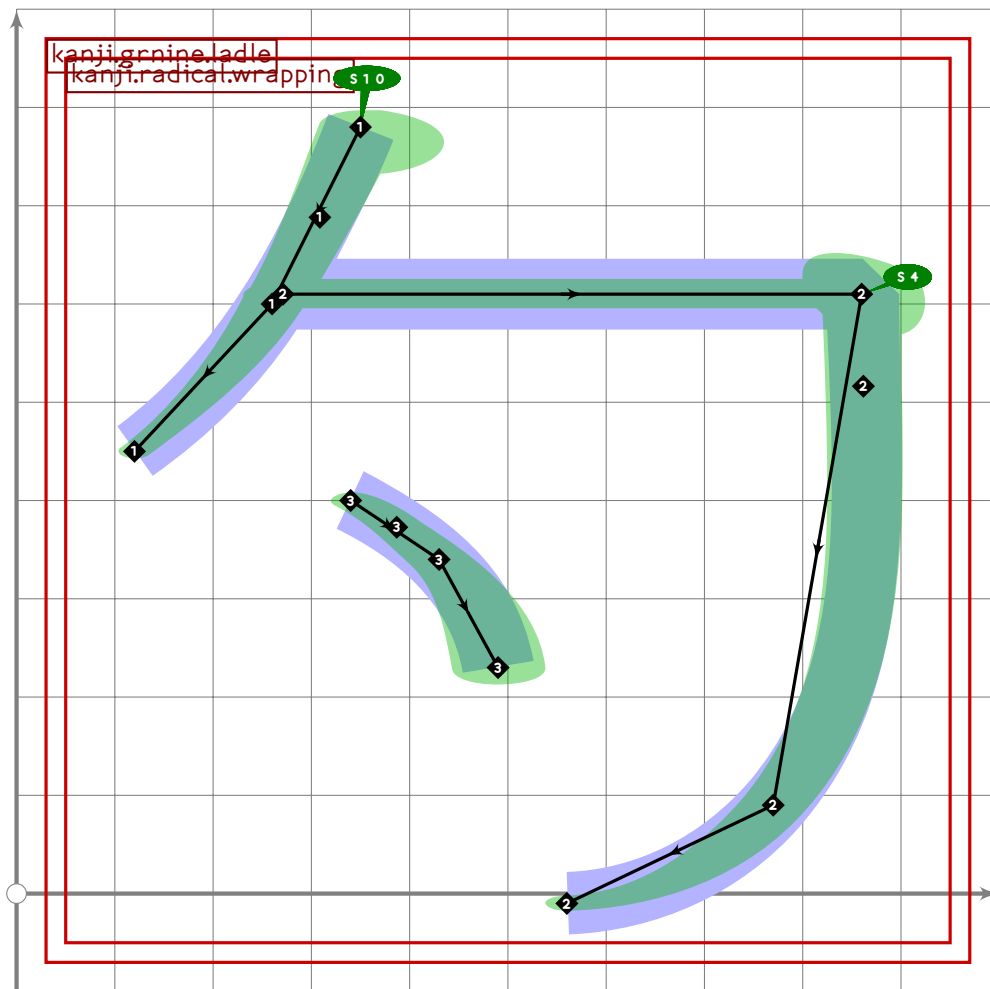
```

125
126 vardef kanji.grnine.kyoto =
127   push_pbox_toexpand("kanji.grnine.kyoto");
128   build_kanji.lr(360,0)
129     (kanji.leftrad.water)
130     (kanji.grfour.every);
131   expand_pbox;
132 enddef;

```

NINE

U+52FA
tsuku.uni52FA

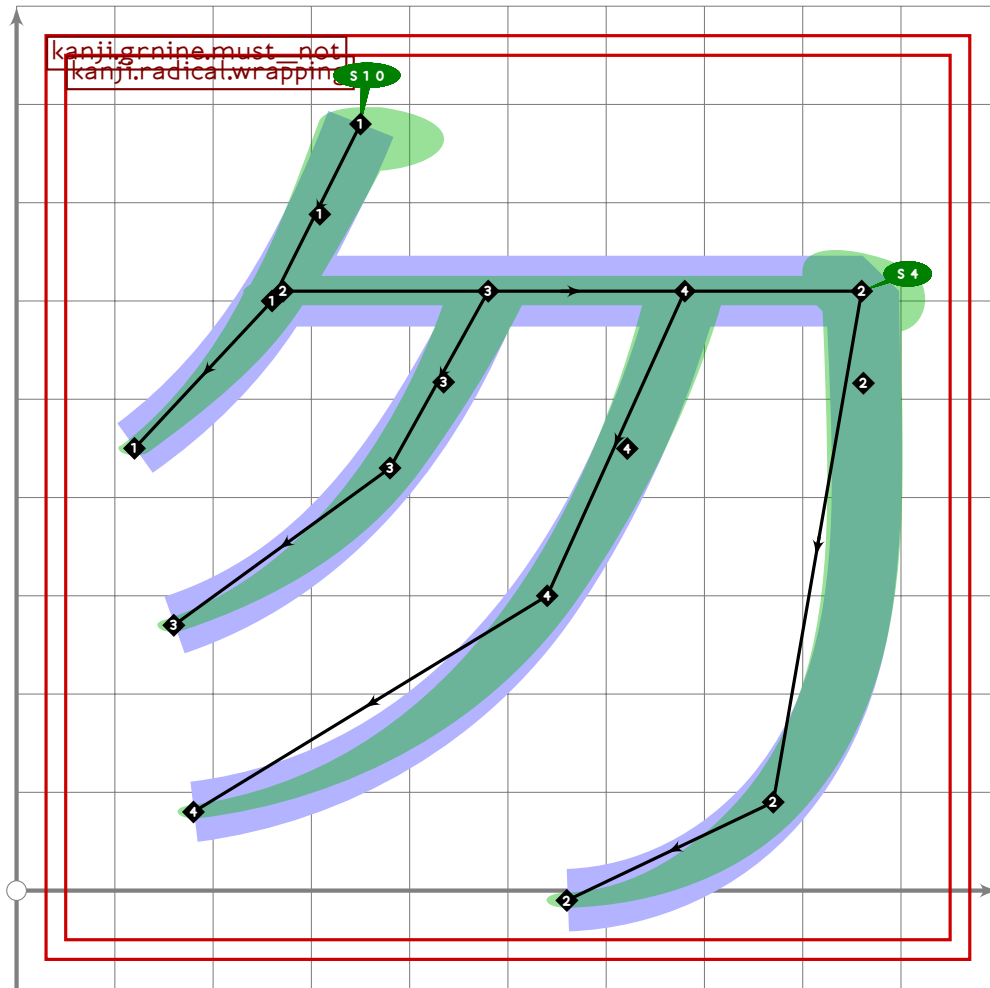


```

133
134 vardef kanji.grnine.ladle =
135   push_pbox_toexpand("kanji.grnine.ladle");
136   kanji.radical.wrapping;
137   push_stroke((340,400)..tension 1.2..(430,340)..(490,230),
138     (1,1,1)-(14,14)-(18,18));
139   expand_pbox;
140 enddef;

```

NINE



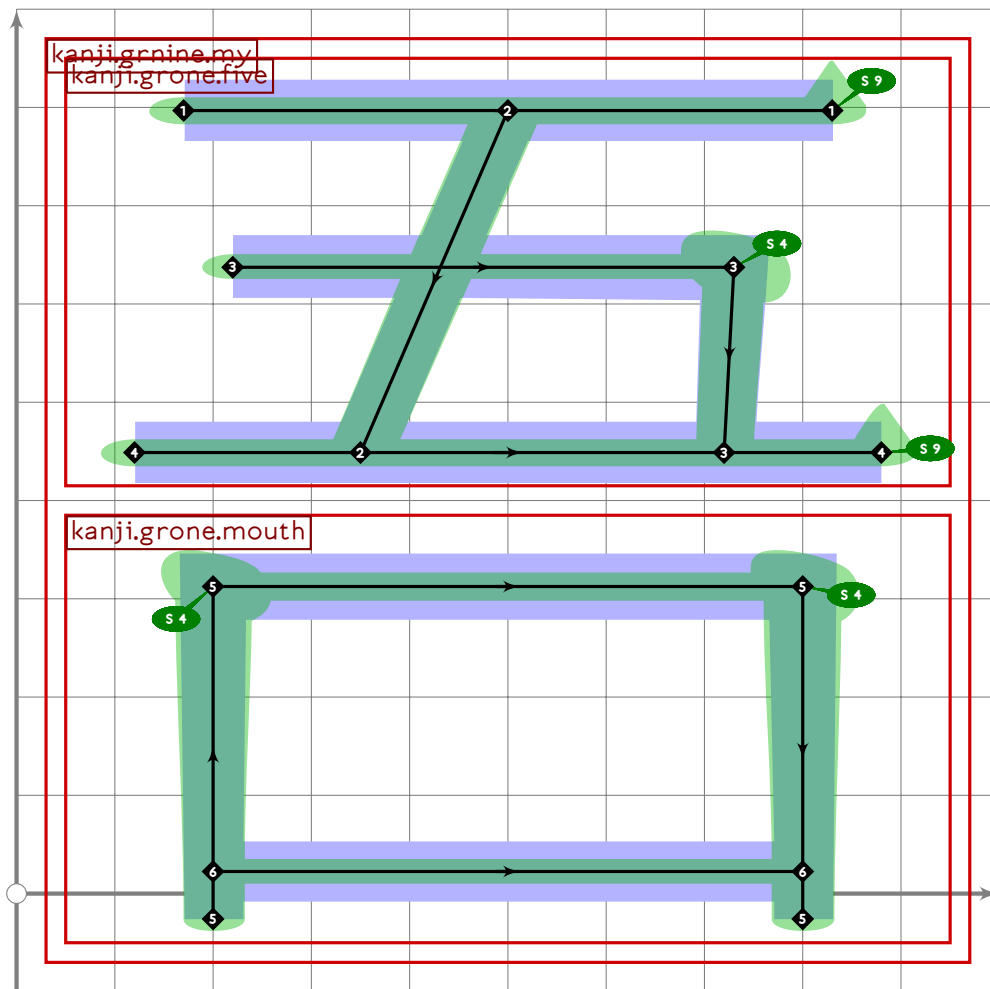
```

141
142 vardef kanji.grnine.must_not =
143   push_pbox_toexpand("kanji.grnine.must_not");
144   kanji.radical.wrapping;
145   push_stroke(
146     (480,610)..tension 1.2..(380,430)..(160,270),
147     (1.6,1.6)–(1.4,1.4)–(1.0,1.0));
148   push_stroke(
149     (680,610)..tension 1.2..(540,300)..(180,80),
150     (1.6,1.6)–(1.4,1.4)–(1.0,1.0));
151   expand_pbox;
152 enddef;

```

NINE

U+543E
tsuku.uni543E

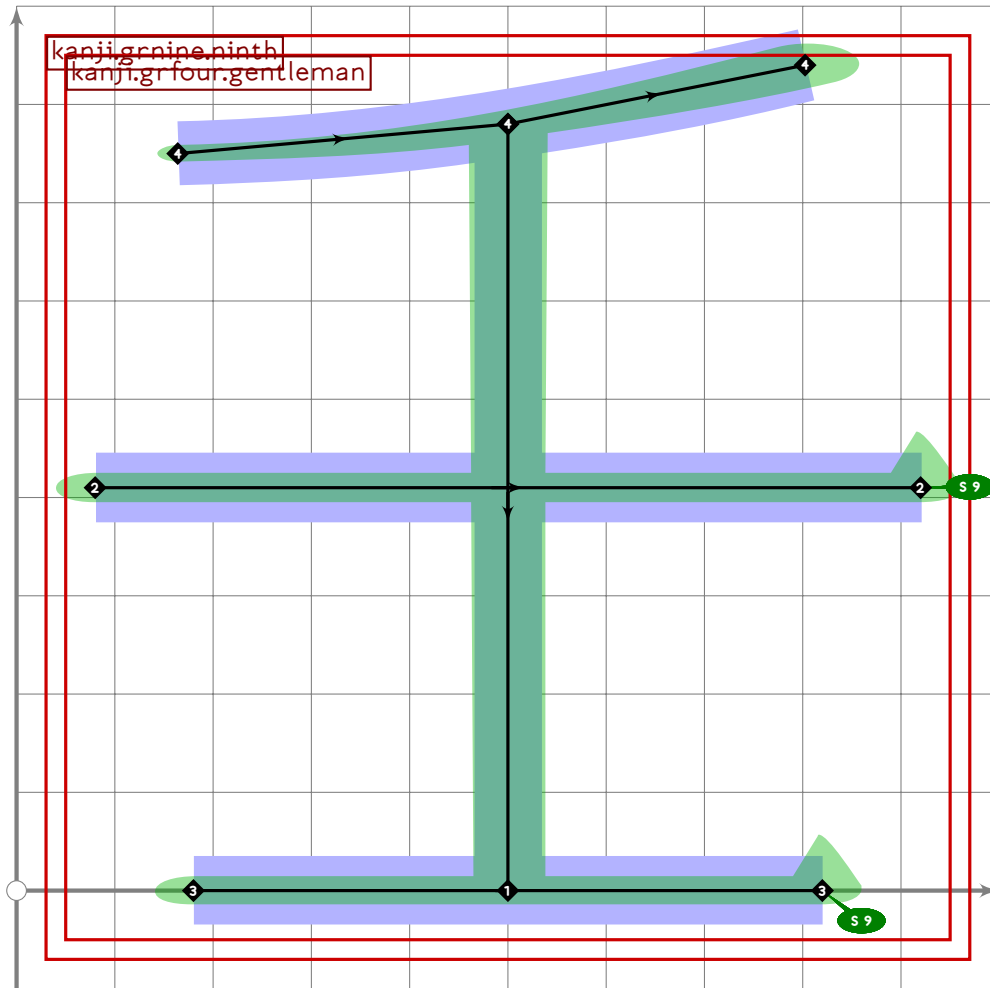


```

153
154 vardef kanji.grnine.my =
155   push_pbox_toexpand("kanji.grnine.my");
156   build_kanji.level(build_kanji.tb(400,-30)
157     (kanji.grone.five)
158     (kanji.grone.mouth));
159   expand_pbox;
160 enddef;

```

NINE



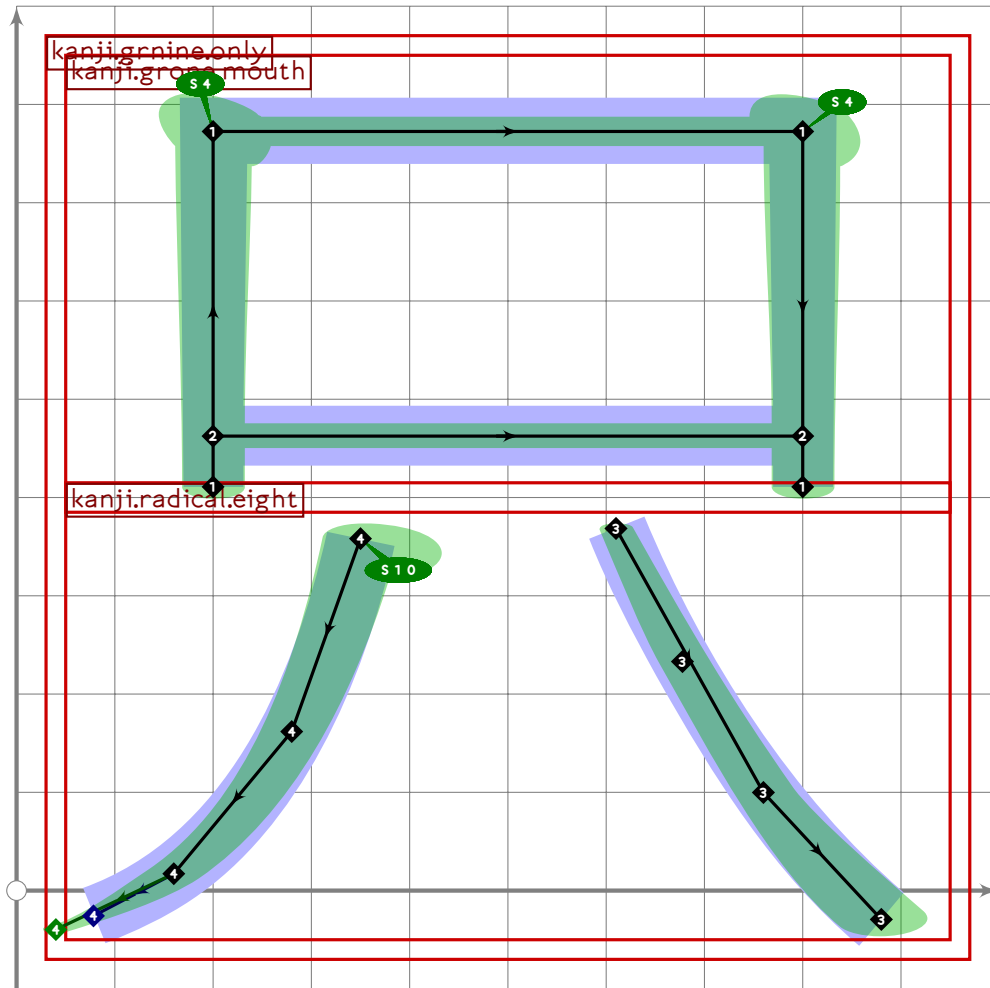
```

161
162 vardef kanji.grnine.ninth =
163   push_pbox_toexpand("kanji.grnine.ninth");
164   build_kanji.add_beret(
165     kanji.grfour.gentleman;
166     replace_stroke(-1)(oldp shifted (0,-60)));
167   expand_pbox;
168 enddef;

```

NINE

U+53EA
tsuku.uni53EA

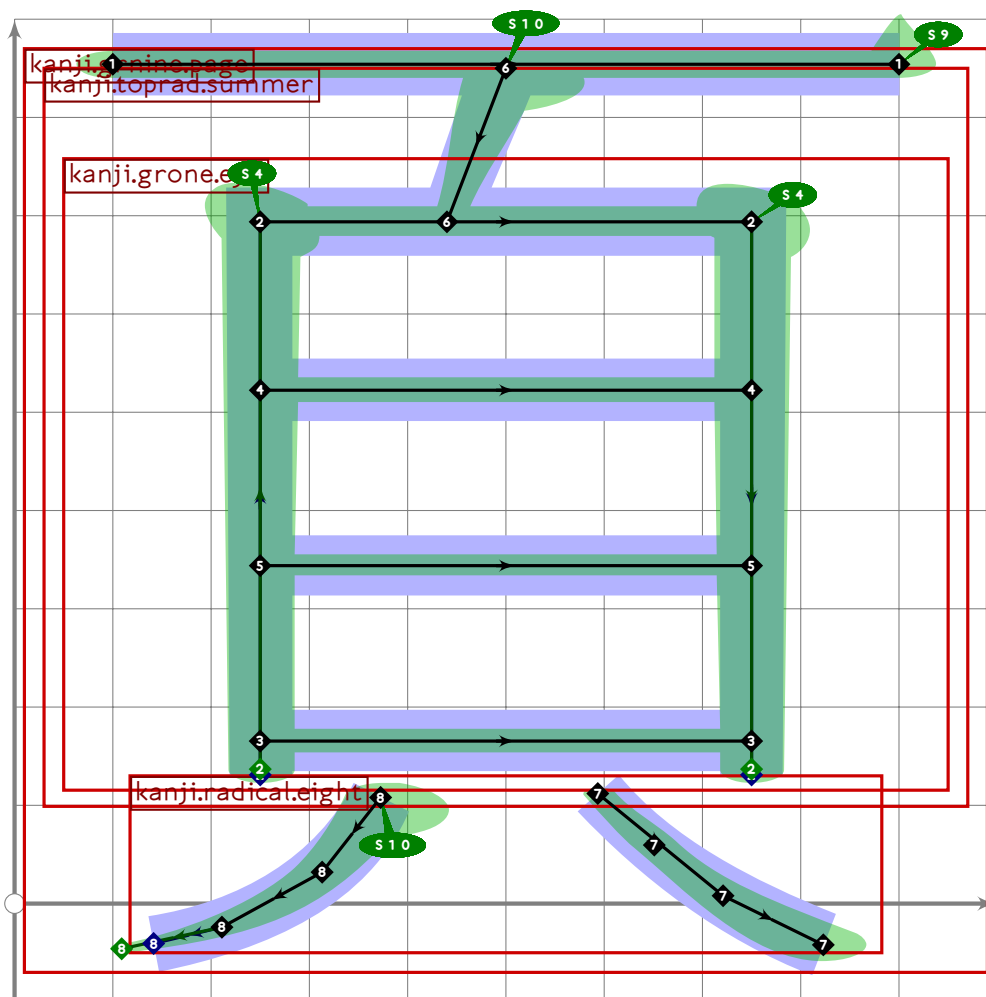


```

169
170 vardef kanji.grnine.only =
171   push_pbox_toexpand("kanji.grnine.only");
172   build_kanji.tb(400,30)
173     (kanji.grnine.mouth)
174     (kanji.radical.eight);
175   expand_pbox;
176 enddef;

```

NINE

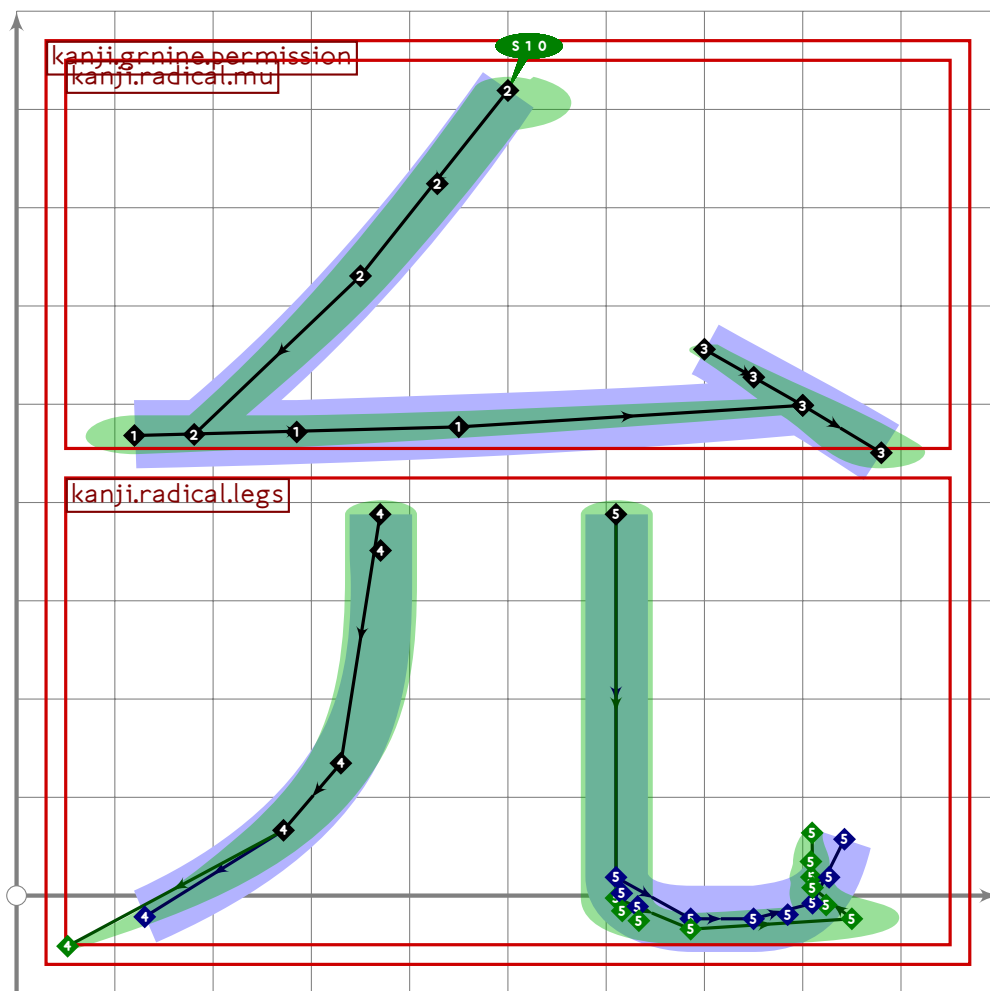


```

177
178 vardef kanji.grnine.page =
179   push_pbox_toexpand("kanji.grnine.page");
180   build_kanji.level(build_kanji.tb(120,20)
181     (kanji.toprad.summer)
182     (build_kanji.sscale(xscaled 0.85)(kanji.radical.eight)));
183   expand_pbox;
184 enddef;

```

NINE

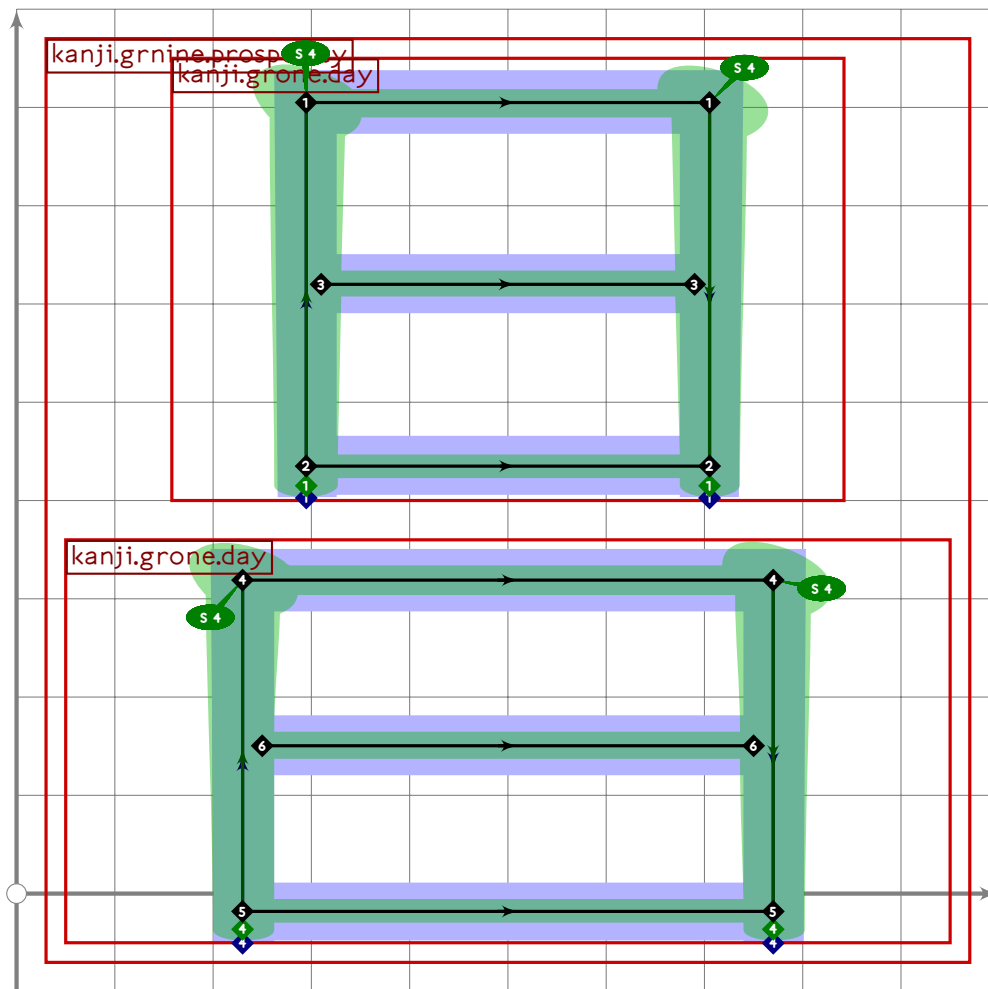


```

185
186 vardef kanji.grnine.permission =
187   push_pbox_toexpand("kanji.grnine.permission");
188   build_kanji.level(build_kanji.tb(440,-30)
189     (kanji.radical.mu)
190     (kanji.radical.legs));
191   expand_pbox;
192 enddef;

```

NINE

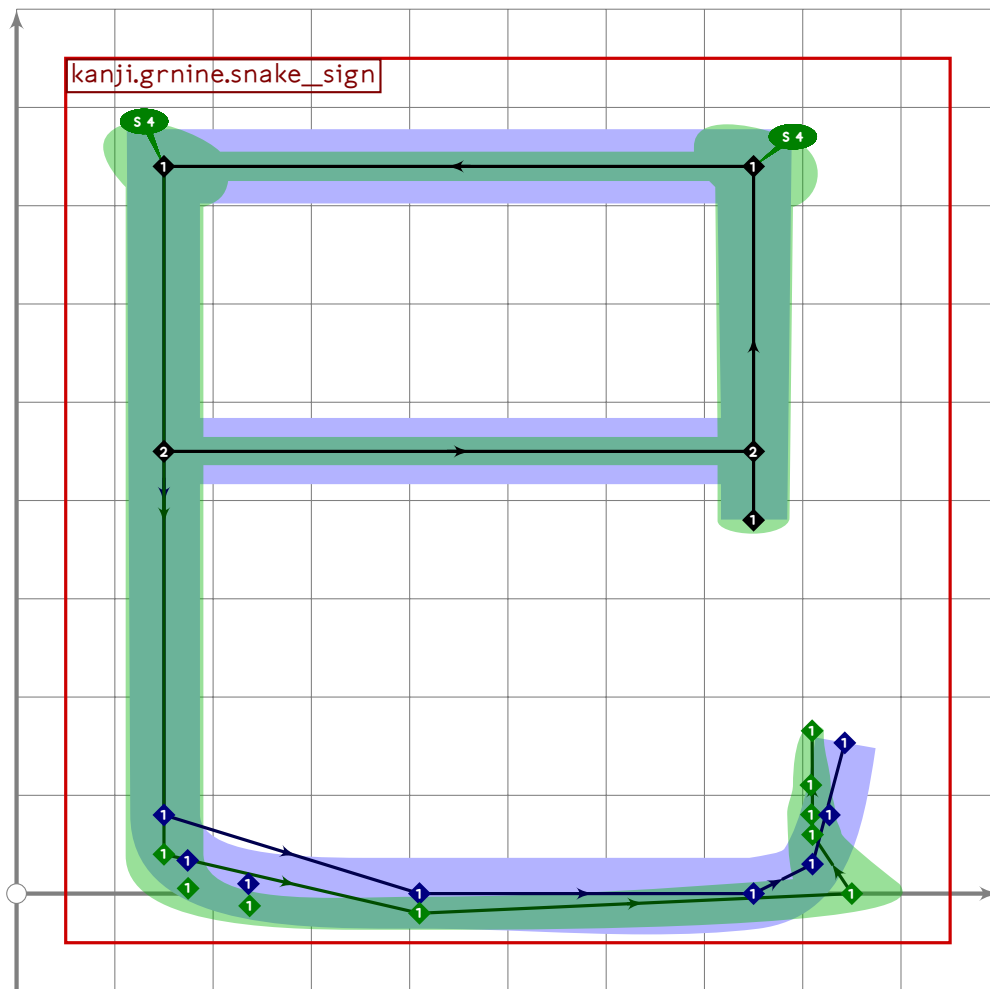


```

193
194 vardef kanji.grnine.prosperity =
195   push_pbox_toexpand("kanji.grnine.prosperity");
196   build_kanji.level(build_kanji.tb(380,-40)
197     (build_kanji.sscale(xscaled 0.76)(kanji.grone.day))
198     (kanji.grone.day));
199   expand_pbox;
200 enddef;

```

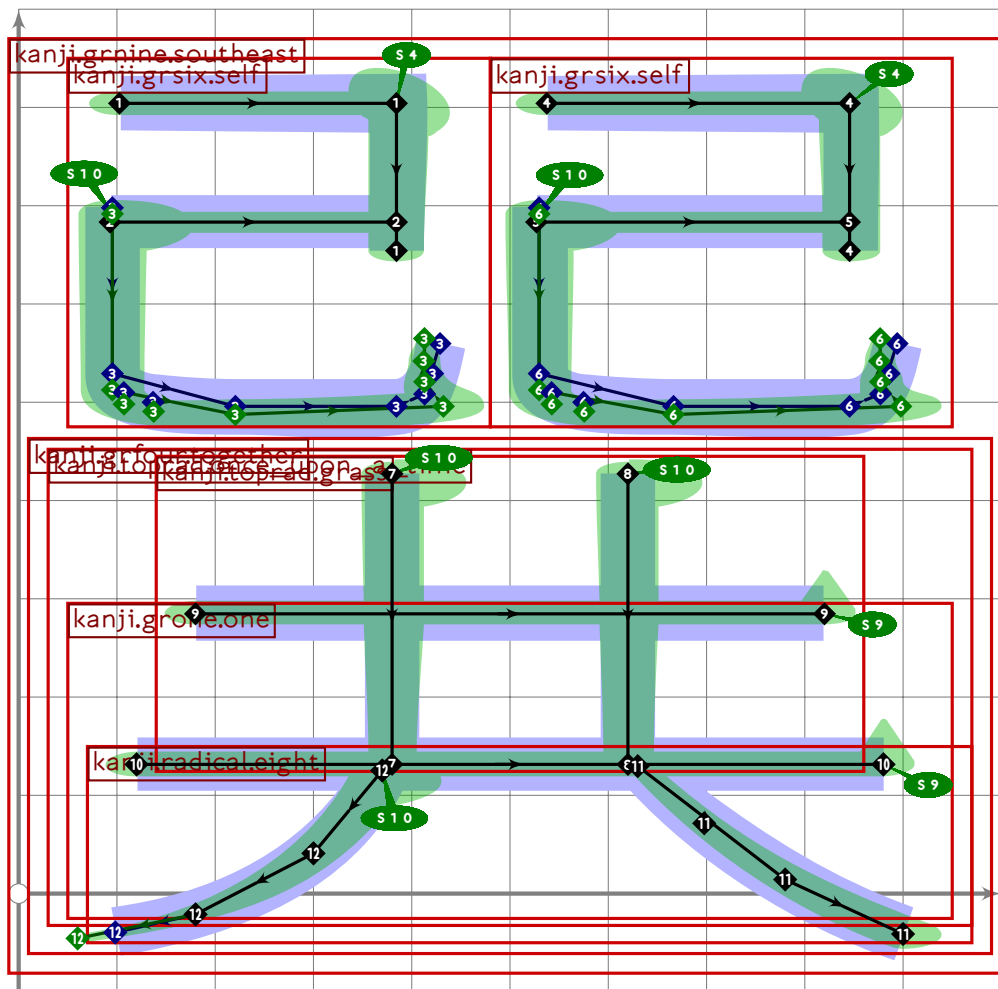
NINE



```

201
202 vardef kanji.grnine.snake_sign =
203   push_pbox_toexpand("kanji.grnine.snake_sign");
204   push_stroke((750,380)–(750,740)–(150,740),
205     (1.5,1.5)–(1.6,1.6)–(1.6,1.6));
206   set_botip(0,1,1);
207   set_botip(0,2,1);
208   set_boserif(0,1,4);
209   set_boserif(0,2,4);
210   build_kanji.add_tail(0);
211   push_stroke((150,450)–(750,450),
212     (1.5,1.5)–(1.5,1.5));
213   expand_pbox;
214 enddef;

```

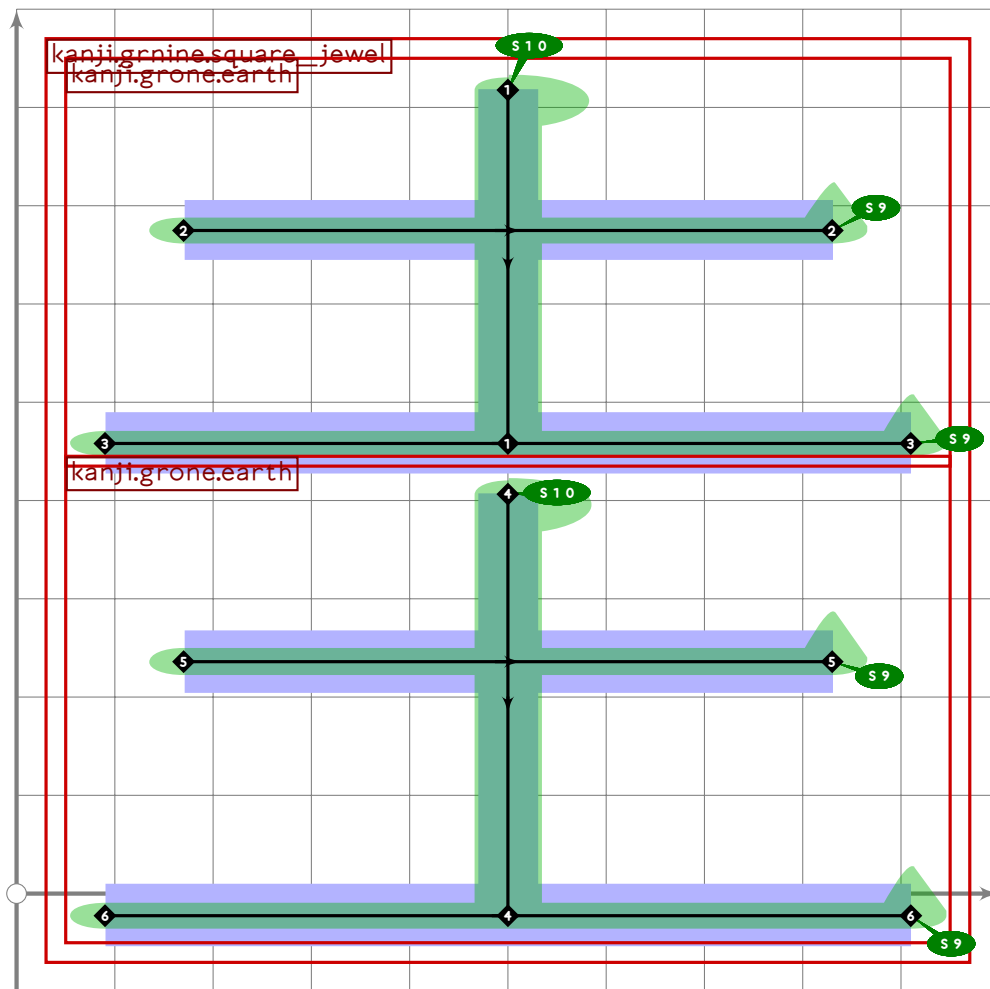


```

215
216 vardef kanji.grnine.southeast =
217   push_pbox_toexpand("kanji.grnine.southeast");
218   build_kanji.level(build_kanji.tb(460,-30)
219     (build_kanji.lr(480,0)
220       (kanji.grsix.self)
221       (kanji.grsix.self))
222     (kanji.grfour.together));
223   expand_pbox;
224 enddef;

```

NINE

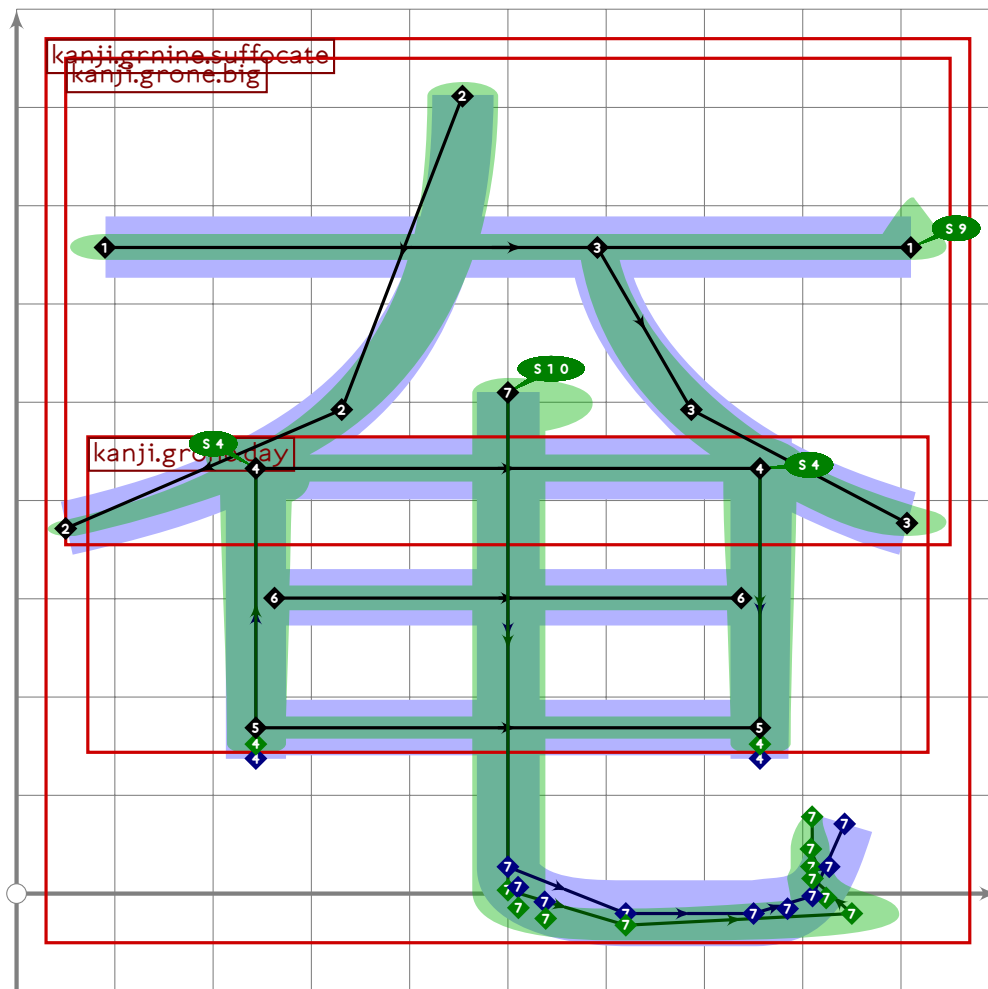


```

225
226 vardef kanji.grnine.square_jewel =
227   push_pbox_toexpand("kanji.grnine.square_jewel");
228   build_kanji.tb(440,10)
229     (kanji.grone.earth)
230     (kanji.grone.earth);
231   expand_pbox;
232 enddef;

```

NINE

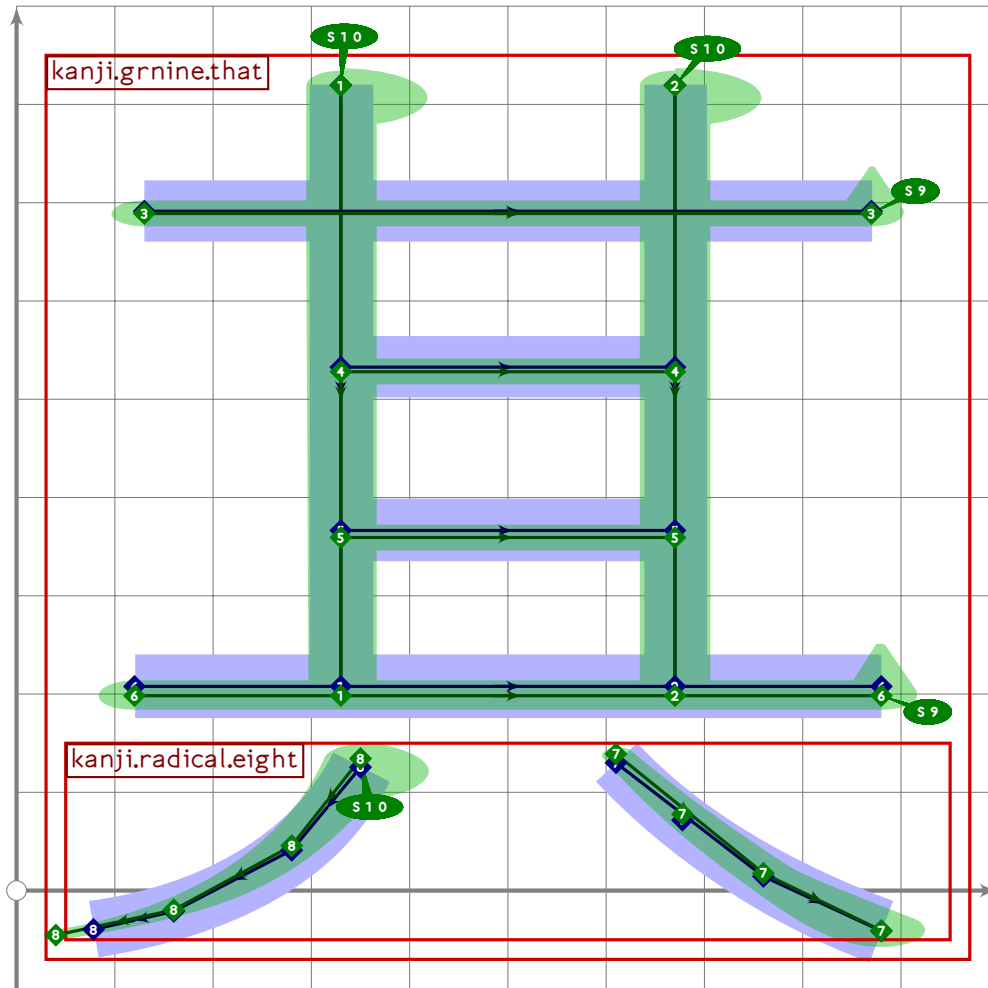


```

233
234 vardef kanji.grnine.suffocate =
235   push_pbox__toexpand("kanji.grnine.suffocate");
236   build_kanji.tb(420,130)
237     (build_kanji.spread_legs(110)
238       (kanji.grone.big))
239     (build_kanji.sscale(xyscaled (0.95,0.6) shifted (0,150))
240       (kanji.grone.day);
241     push_stroke(((0,130)+point 1.5 of get__strokep(-2)),(1.6,1.6));
242     build_kanji.add__ltail(0);
243     set__boserif(0,0,10));
244   expand_pbox;
245 enddef;

```

NINE

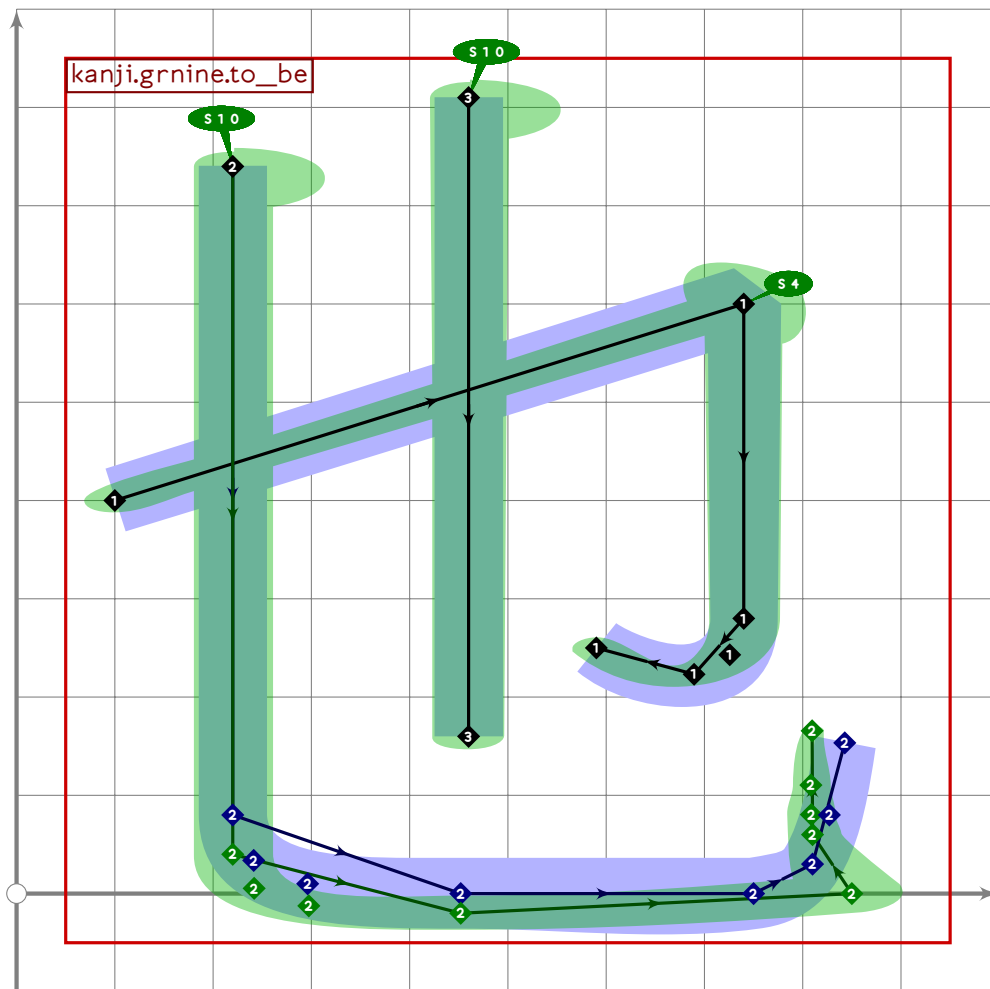


```

246
247 vardef kanji.grnine.that =
248   push_pbox_toexpand("kanji.grnine.that");
249   build_kanji.level(build_kanji.tb(160,-20+20*mincho)
250     (push_stroke((330,810)-(330,0),(1.6,1.6)-(1.5,1.5));
251       set_boserif(0,0,10);
252       push_stroke((670,810)-(670,0),(1.6,1.6)-(1.5,1.5));
253       set_boserif(0,0,10);
254       push_stroke((130,640)-(870,640),(1.5,1.5)-(1.5,1.5));
255       set_boserif(0,1,9);
256       push_stroke((330,430)-(670,430),(1.5,1.5)-(1.5,1.5));
257       push_stroke((330,210)-(670,210),(1.5,1.5)-(1.5,1.5));
258       push_stroke((120,0)-(880,0),(1.6,1.6)-(1.6,1.6));
259       set_boserif(0,1,9))
260     (kanji.radical.eight));
261   expand_pbox;
262 enddef;

```

NINE



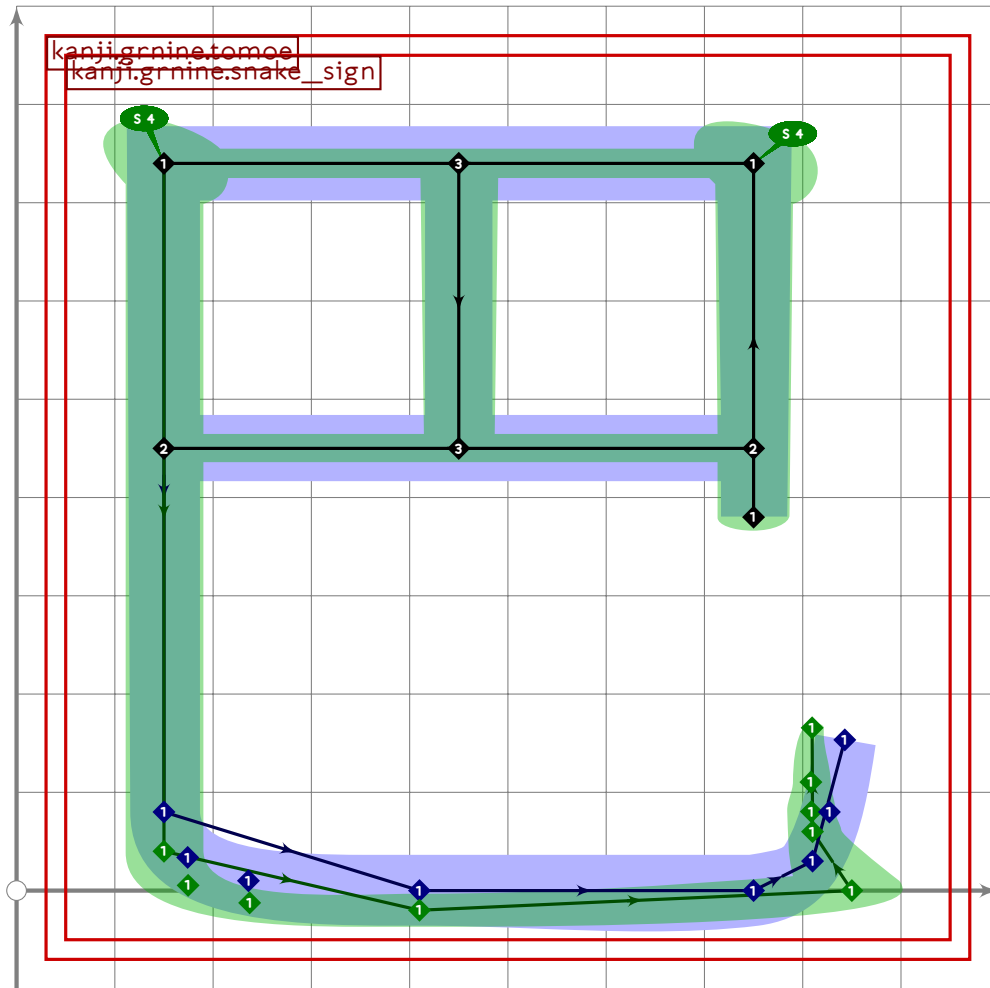
```

263
264 vardef kanji.grnine.to_be =
265   push_pbox_toexpand("kanji.grnine.to_be");
266   tsu_xform(identity shifted (0,250))(
267     push_stroke((100,150)–(740,350),
268       (1.4,1.4)–(1.6,1.6));
269     set_botip(0,1,0);
270     set_boserif(0,1,4);
271     build_kanji.add_jtail(0);
272   );
273   push_stroke((220,740),(1.6,1.6));
274   build_kanji.add_ltail(0);
275   set_boserif(0,0,10);
276   push_stroke((460,810)–(460,160),
277     (1.6,1.6)–(1.5,1.5));
278   set_boserif(0,0,10);
279   expand_pbox;
280 enddef;

```

NINE

U+5DF4
tsuku.uni5DF4

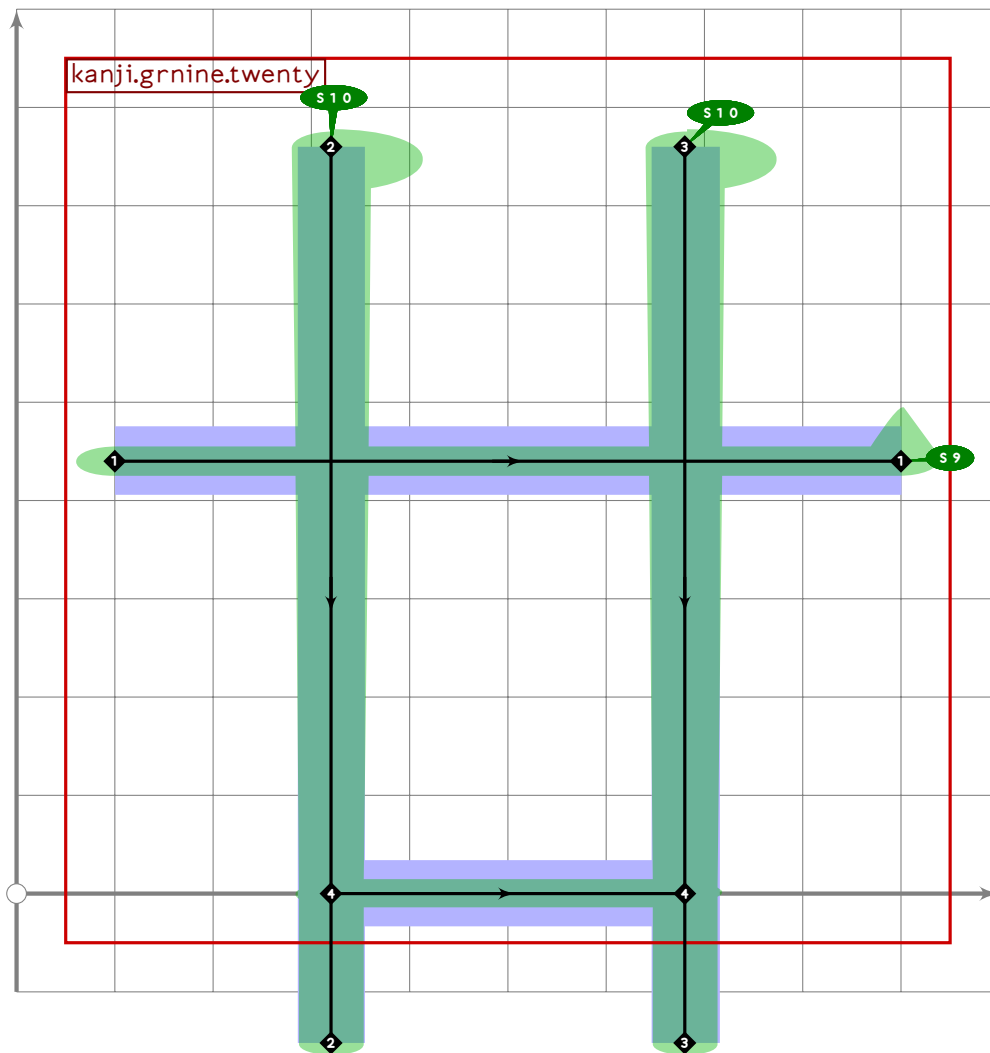


```

281
282 vardef kanji.grnine.tomoe =
283   push_pbox_toexpand("kanji.grnine.tomoe");
284   kanji.grnine.snake_sign;
285   push_stroke((450,740)-(450,450),(1.6,1.6)-(1.5,1.5));
286   expand_pbox;
287 enddef;

```

NINE



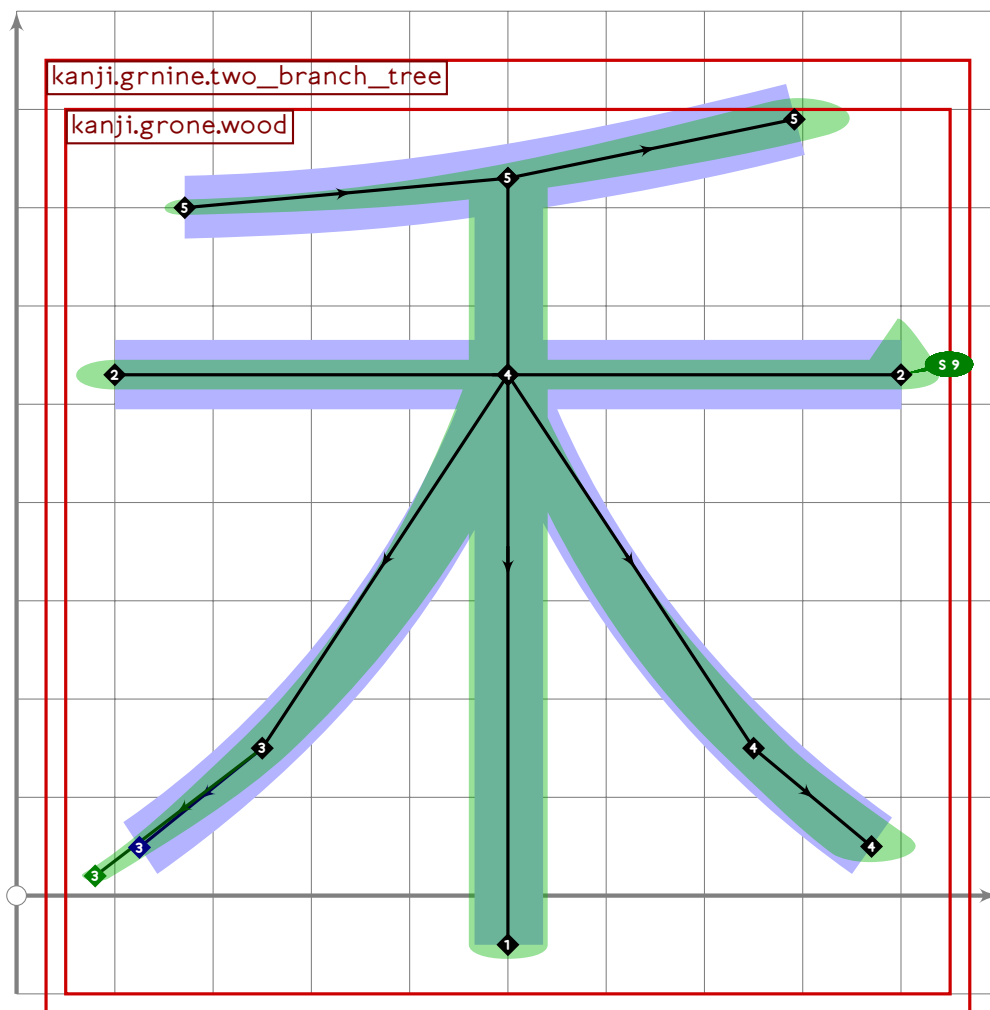
```

288
289 vardef kanji.grnine.twenty =
290   push_pbox_toexpand("kanji.grnine.twenty");
291   push_stroke((100,440)-(900,440),(1.6,1.6)-(1.6,1.6));
292   set_boserif(0,19);
293   build_kanji.cup((320,760),(680,0));
294   expand_pbox;
295 enddef;

```

NINE

U+79BE
tsuku.uni79BE



```

296
297 vardef kanji.grnine.two_branch_tree =
298   push_pbox_toexpand("kanji.grnine.two_branch_tree");
299   tsu_xform(identity shifted (0,-50))
300     (build_kanji.add_beret(kanji.grone.wood));
301   expand_pbox;
302 enddef;

```

NINE

rare.mp

```

1 %
2 % Rare kanji needed to build others
3 % Copyright (C) 2011, 2012, 2013 Matthew Skala
4 %
5-29 [Standard copyright notice]

```

```

30
31 inclusion_lock(rare);

```

```

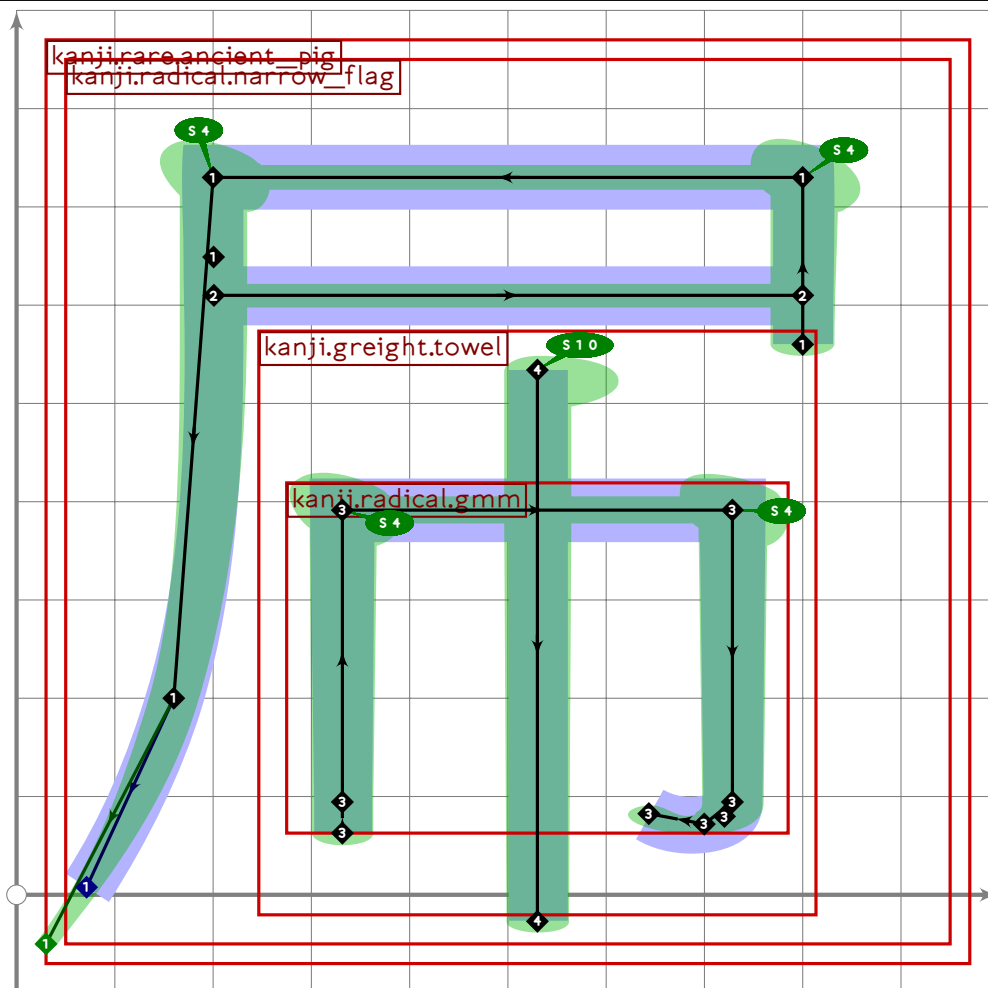
32

```

```

33

```



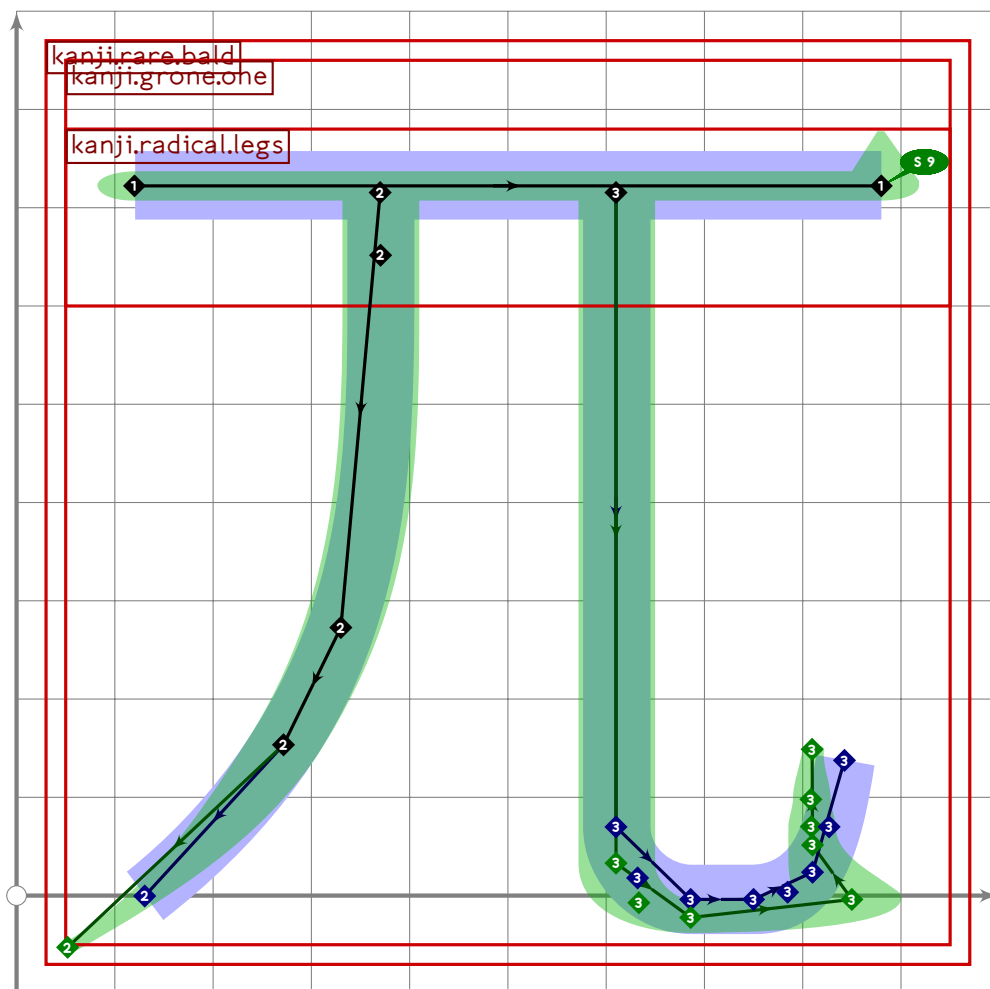
```

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

U+5140
tsuku.uni5140

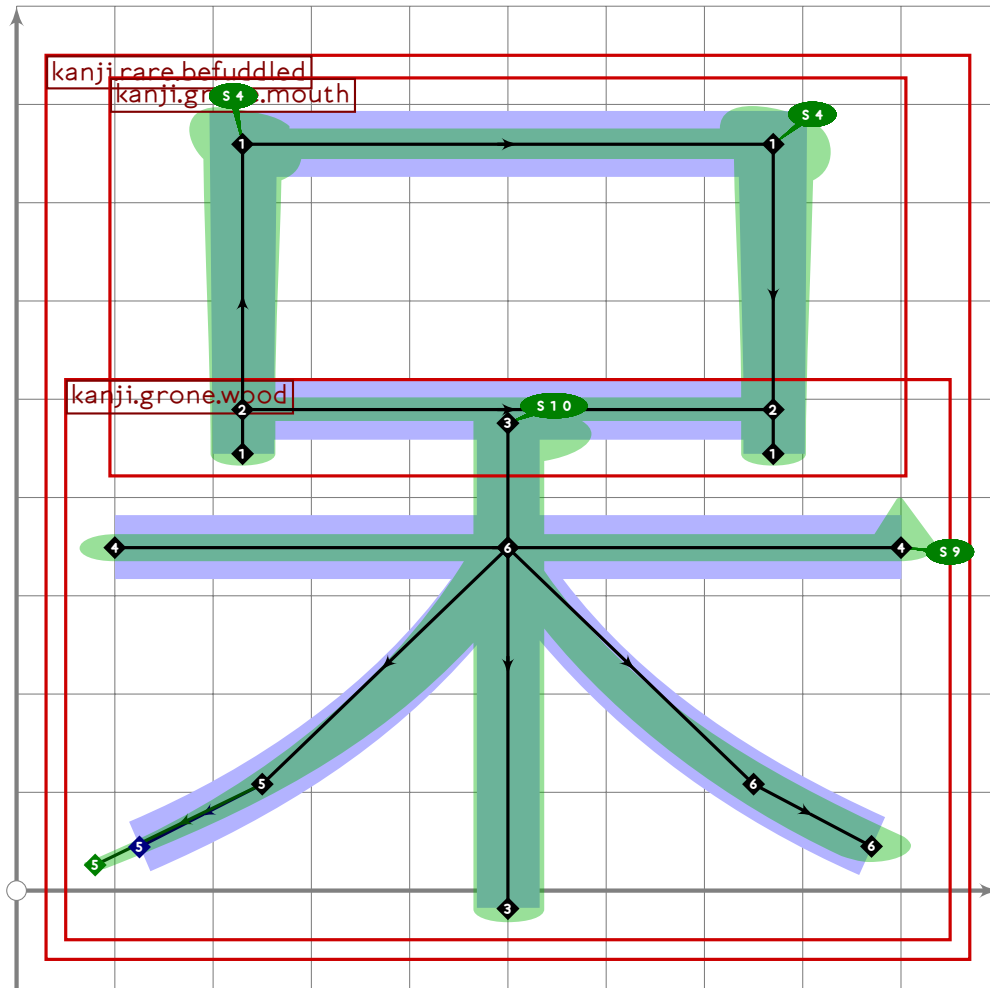


```

43
44 vardef kanji.rare.bald =
45   push_pbox_toexpand("kanji.rare.bald");
46   build_kanji.level(build_kanji.tb(690,180)
47     (kanji.grone.one)
48     (kanji.radical.legs));
49   expand_pbox;
50 enddef;

```

RARE



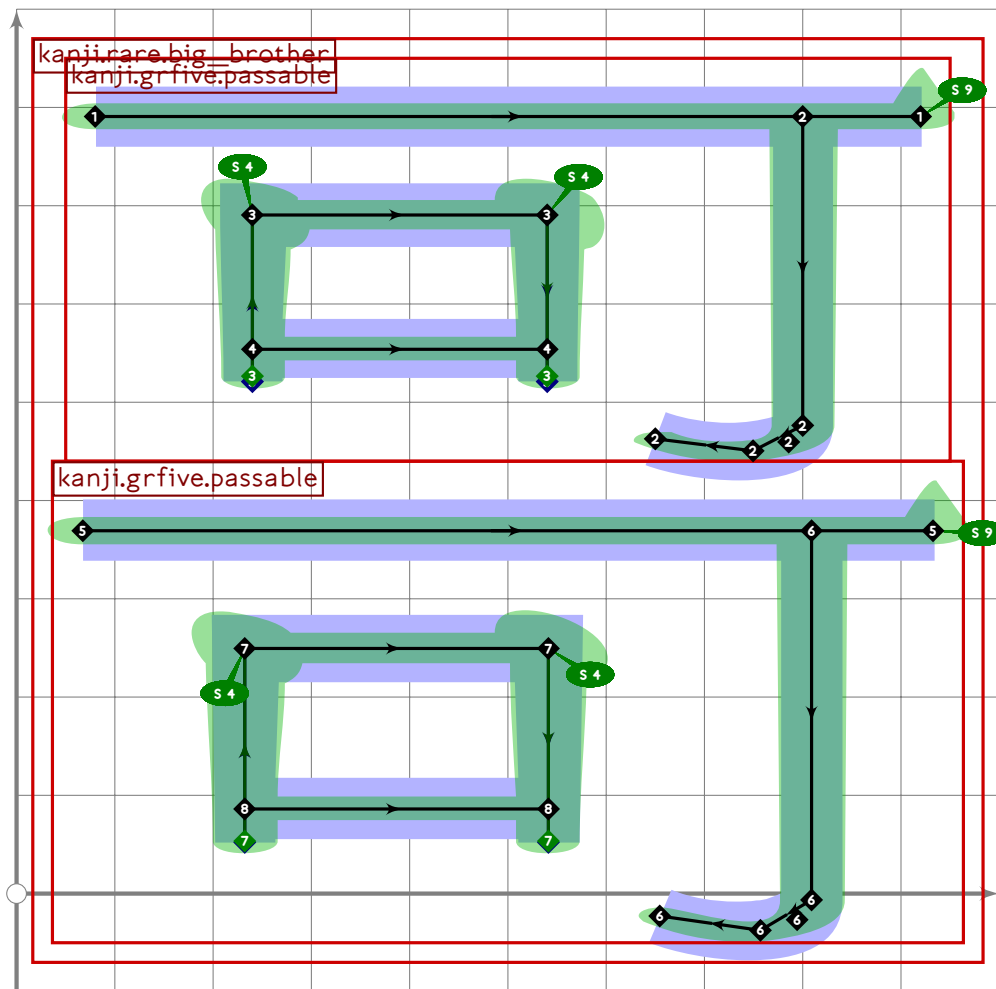
```

51
52 vardef kanji.rare.befuddled =
53   push_pbox_toexpand("kanji.rare.befuddled");
54   build_kanji.level(build_kanji.tb(460,120)
55     (build_kanji.sscale(scaled 0.9)(kanji.grone.mouth))
56     (kanji.grone.wood));
57   expand_pbox;
58 enddef;

```

RARE

U+54E5
tsuku.uni54E5

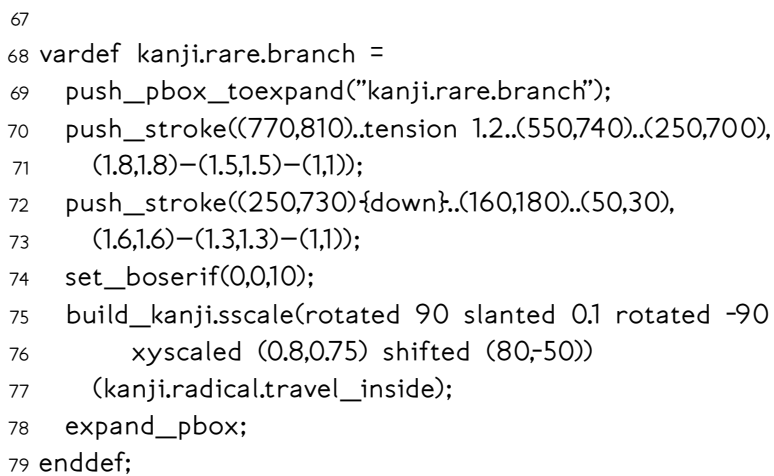


```

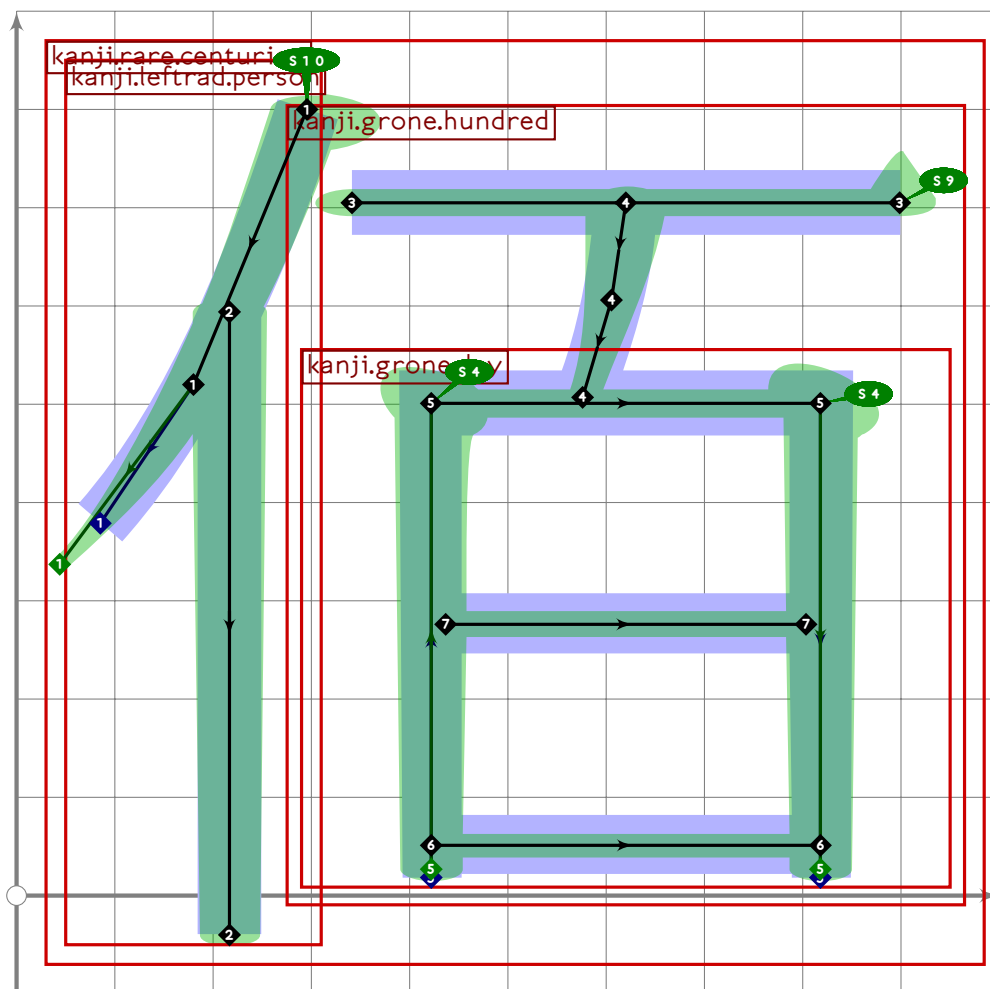
59
60 vardef kanji.rare.big_brother =
61   push_pbox_toexpand("kanji.rare.big_brother");
62   build_kanji.tb(440,0)
63     (kanji.grfive.passable)
64     (build_kanji.sscale(xscaled 1.03)(kanji.grfive.passable));
65   expand_pbox;
66 enddef;

```

RARE



U+4F70
tsuku.uni4F70

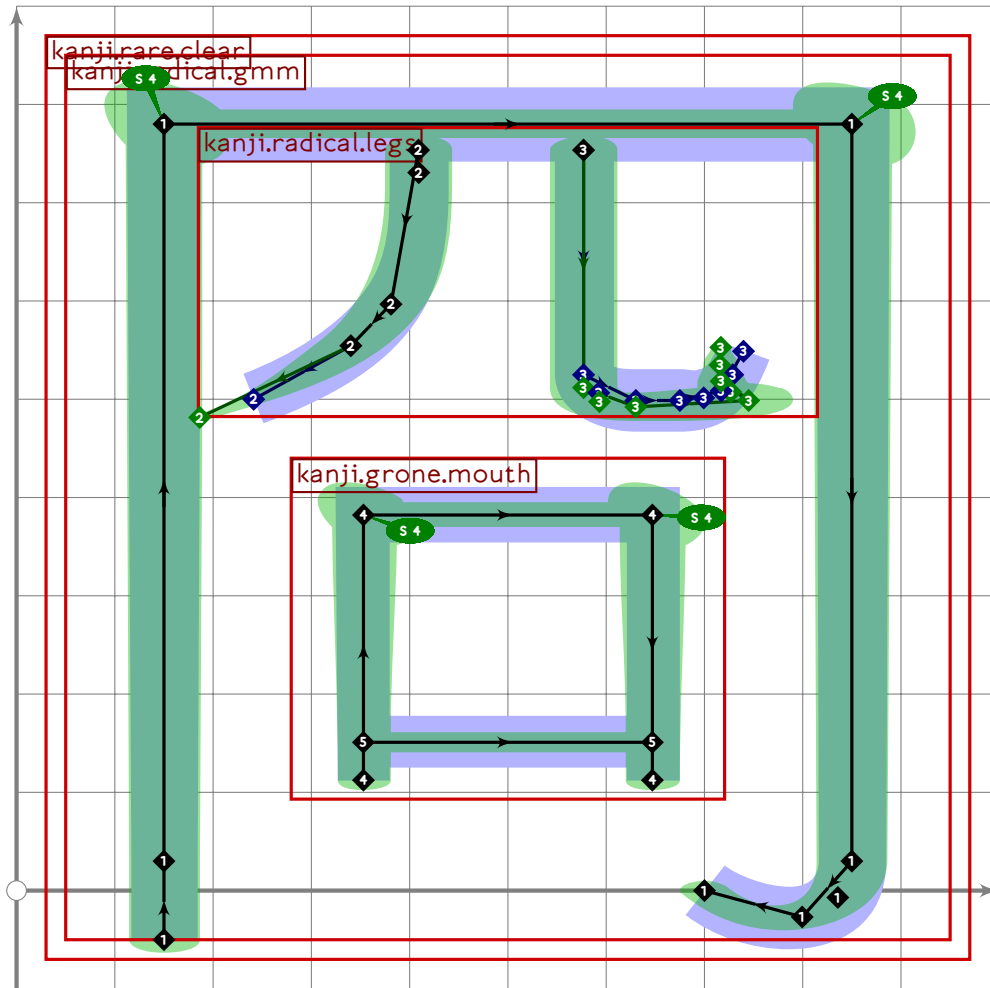


```

80
81 vardef kanji.rare.centurion =
82   push_pbox_toexpand("kanji.rare.centurion");
83   build_kanji.lr(300,20)
84     (kanji.leftrad.person)
85     (build_kanji.sscale(yscaled 0.9)(kanji.grone.hundred));
86   expand_pbox;
87 enddef;

```

RARE



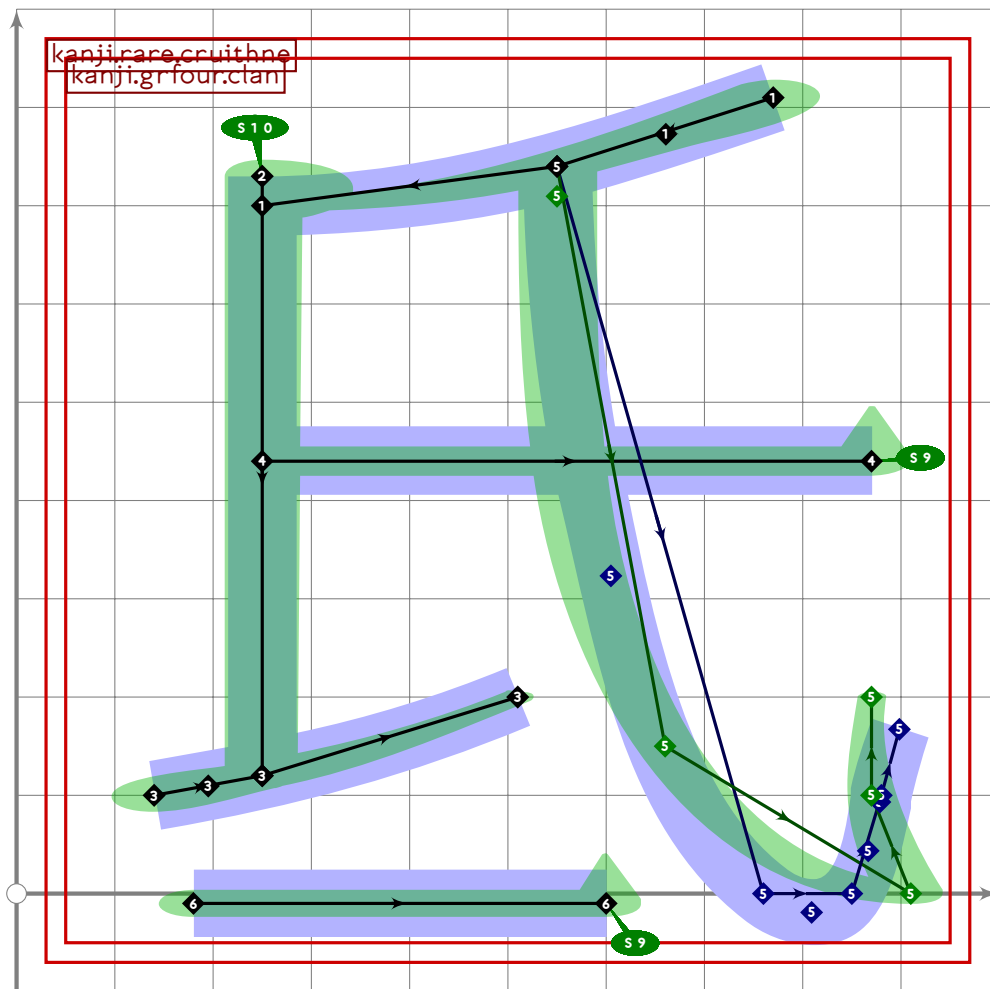
```

88
89 vardef kanji.rare.clear =
90   push_pbox_toexpand("kanji.rare.clear");
91   kanji.radical.gmm;
92   build_kanji.sscale(xyscaled (0.7,0.84))(build_kanji.tb(520,40)
93     (kanji.radical.legs)
94     (build_kanji.sscale(scaled 0.7)(kanji.grone.mouth)));
95   expand_pbox;
96 enddef;
97

```

RARE

U+6C10
tsuku.uni6C10

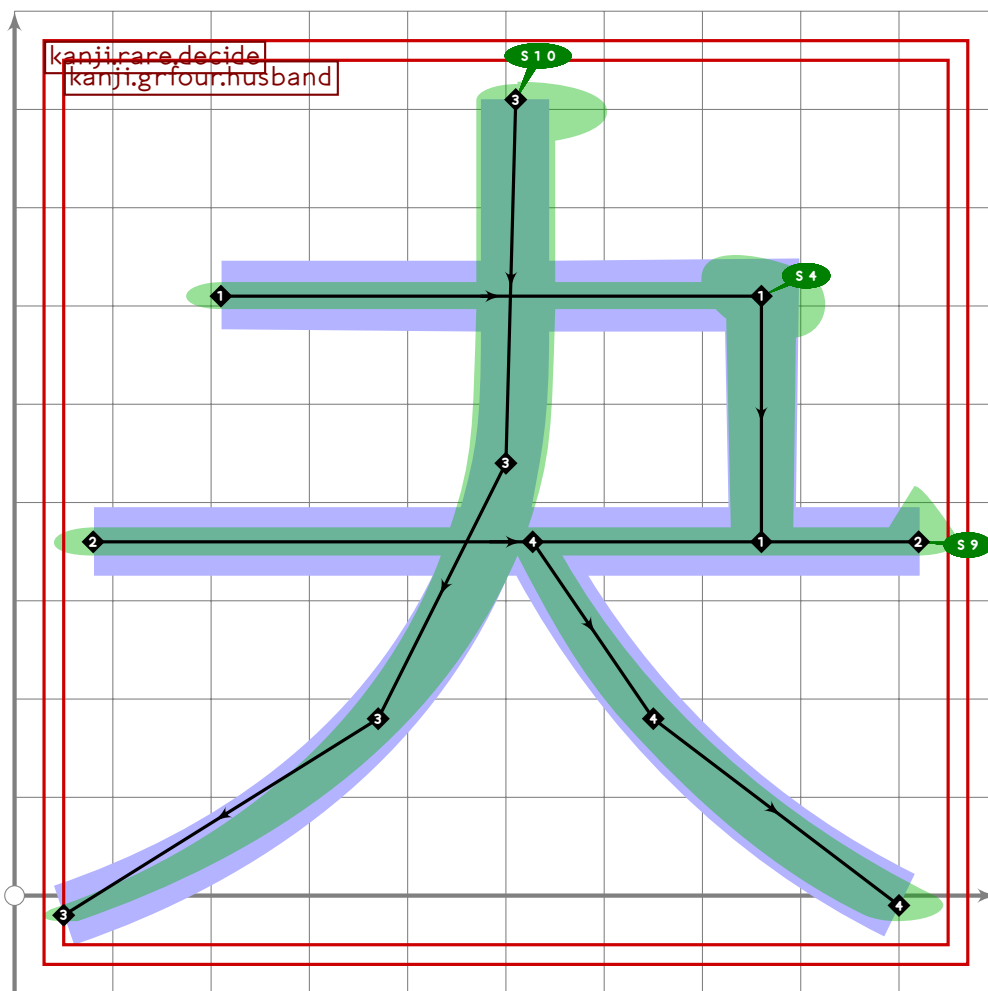


```

98 % dictionary says "name of an ancient tribe"; needed for grfour.low
99 vardef kanji.rare.cruithne =
100   push_pbox__toexpand("kanji.rare.cruithne");
101   kanji.grfour.clan;
102   replace_strokep(-3)((250,730)-(250,120));
103   replace_strokep(-2)(oldp shifted (0,130));
104   push_stroke((180,-10)-(600,-10),(1.5,1.5)-(1.5,1.5));
105   set_boserif(0,1,9);
106   expand_pbox;
107 enddef;

```

RARE

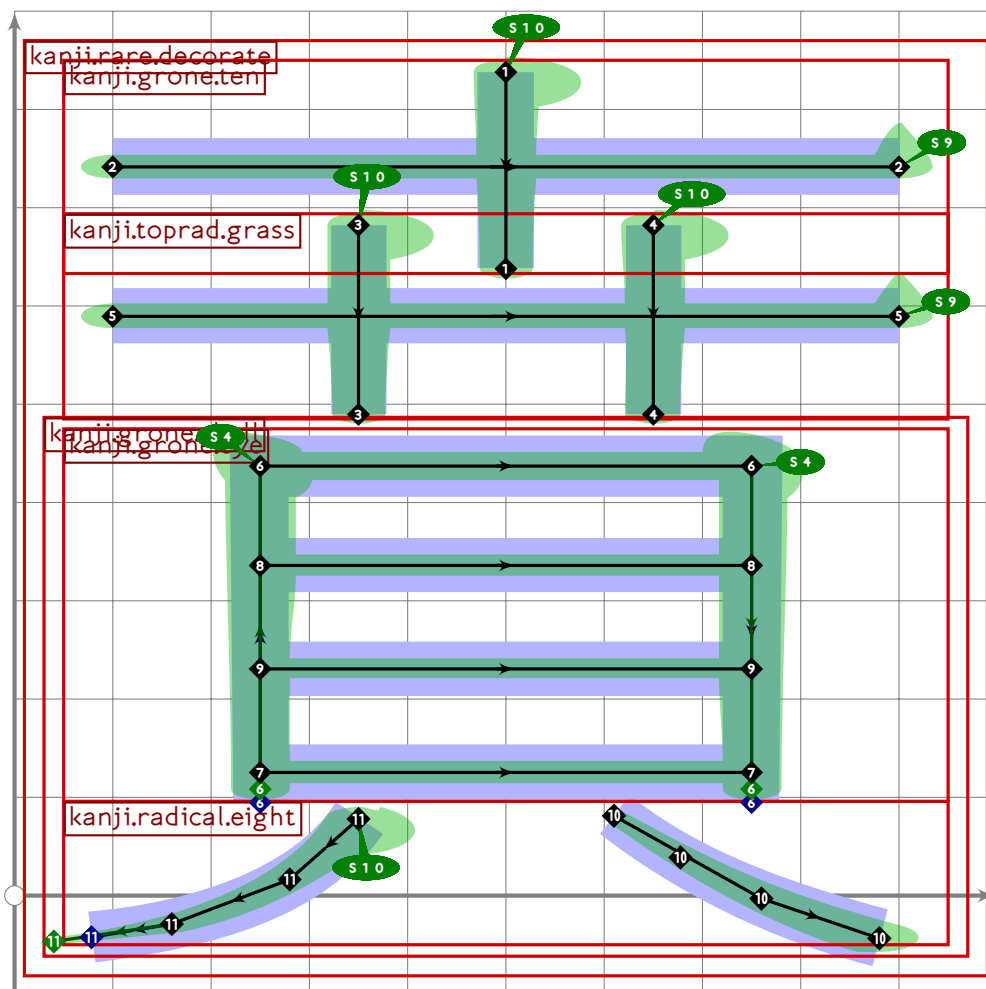


```

108
109 vardef kanji.rare.decide =
110   push_pbox__toexpand("kanji.rare.decide");
111   kanji.grfour.husband;
112   replace_strokep(-3)((210,610)-(760,610)-(760,360));
113   replace_strokeq(-3)((1.5,1.5)-(1.5,1.5)-(1.4,1.4));
114   set_boserif(-3,1,4);
115   set_botip(-3,1,1);
116   expand_pbox;
117 enddef;

```

RARE

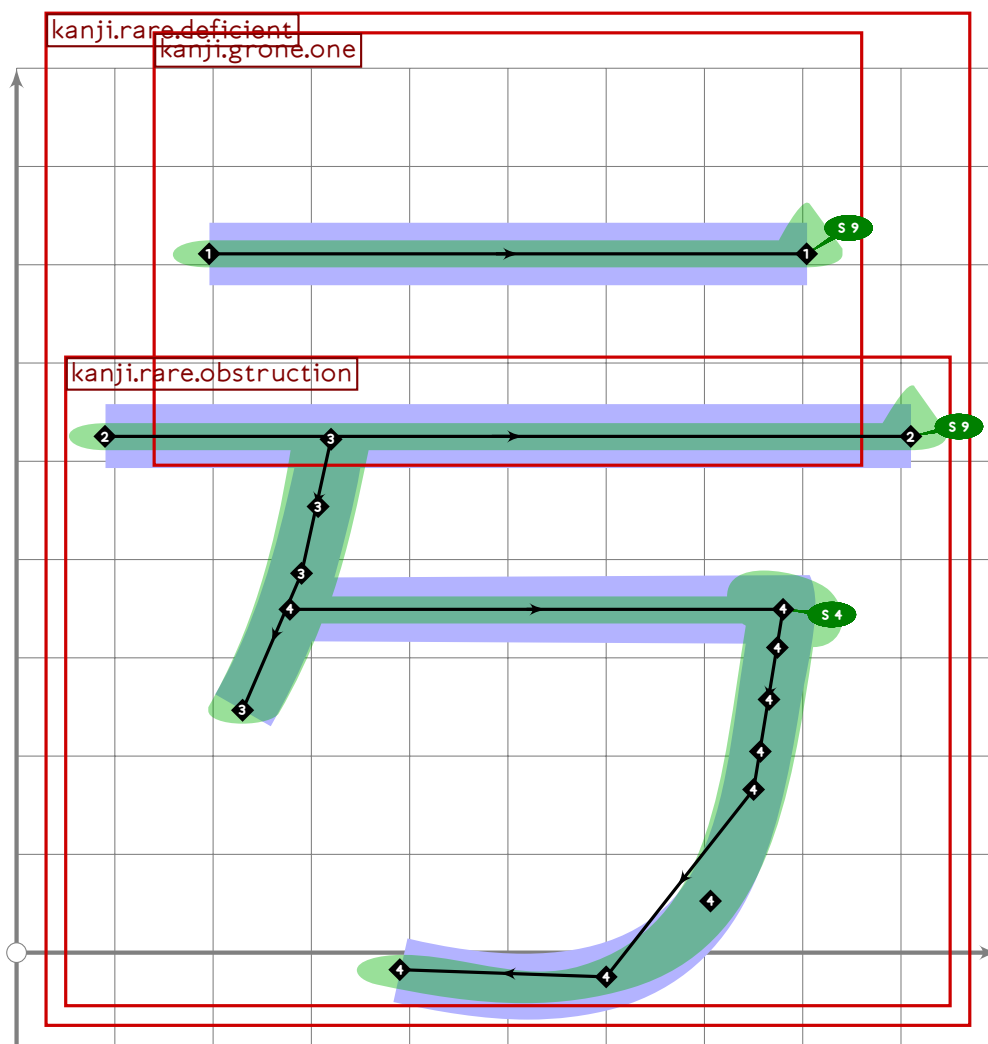


```

118
119 vardef kanji.rare.decorate =
120   push_pbox_toexpand("kanji.rare.decorate");
121   build_kanji.level(build_kanji.tb(480,-10)
122     (build_kanji.tb(390,150)
123       (kanji.grone.ten)
124       (kanji.toprad.grass))
125     (kanji.grone.shell));
126   expand_pbox;
127 enddef;

```

RARE



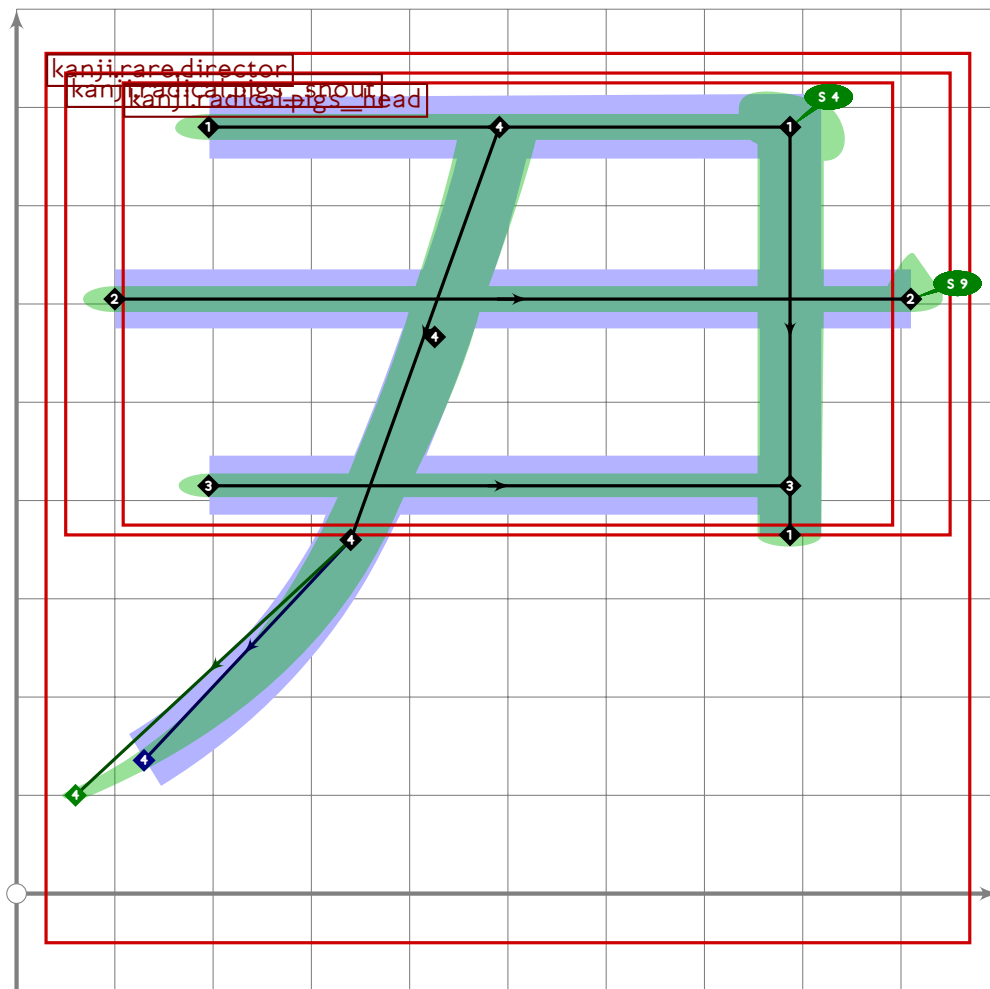
```

128
129 vardef kanji.rare.deficient =
130   push_pbox_toexpand("kanji.rare.deficient");
131   build_kanji.level(build_kanji.sscale(yscaled 1.1 shifted (0,40))
132     (build_kanji.tb(500,100)
133       (build_kanji.sscale(xscaled 0.8)(kanji.grone.one))
134       (kanji.rare.obstruction)));
135   expand_pbox;
136 enddef;

```

RARE

U+5C39
tsuku.uni5C39

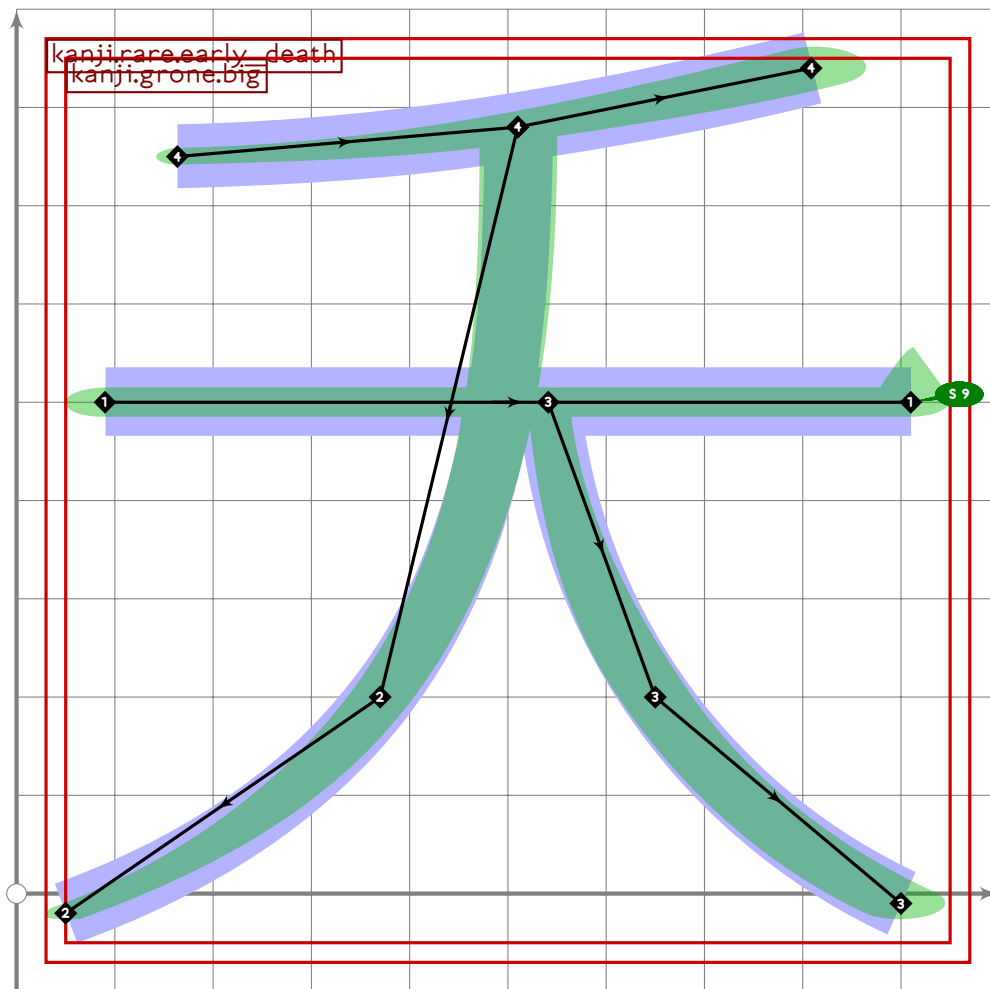


```

137
138 vardef kanji.rare.director =
139   push_pbox_toexpand("kanji.rare.director");
140   tsu_xform(identity yscaled 0.5 shifted (0,400))
141     (kanji.radical.pigs_snout);
142   push_stroke(
143     (point 0.5 of get_stroke(-2)).tension 14..(340,360)..(60,100),
144     (1.6,1.6)-(1.4,1.4)-(0.9,0.9));
145   expand_pbox;
146 enddef;

```

RARE



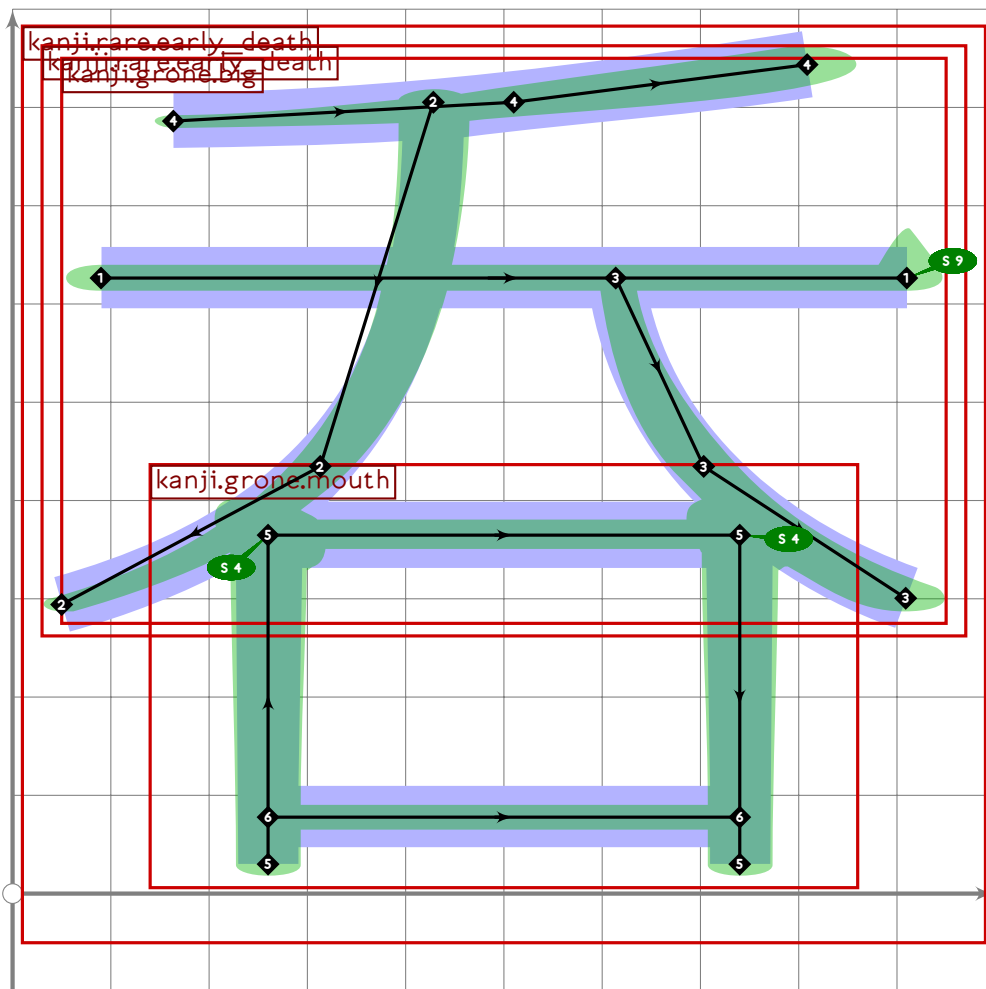
```

147
148 vardef kanji.rare.early_death =
149   push_pbox_toexpand("kanji.rare.early_death");
150   build_kanji.add_beret(kanji.grone.big);
151   expand_pbox;
152 enddef;

```

RARE

U+5451
tsuku.uni5451

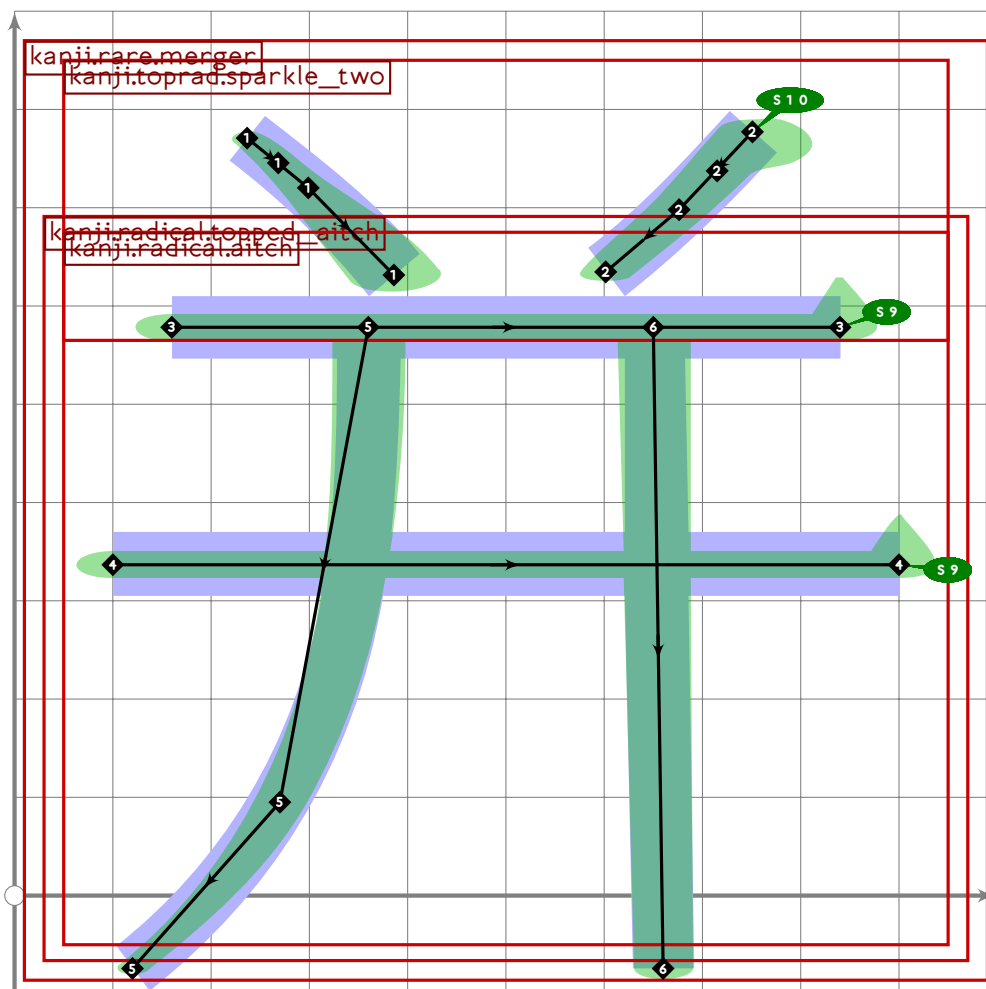


```

153
154 vardef kanji.rare.drink =
155     push_pbox_toexpand("kanji.rare.early_death");
156     build_kanji.level(build_kanji.tb(420,290)
157         (build_kanji.spread_legs(160)
158             (kanji.rare.early_death))
159         (build_kanji.sscale(xyscaled (0.8,0.7) shifted (0,-50))
160             (kanji.grone.mouth)));
161     expand_pbox;
162 enddef;

```

RARE



```

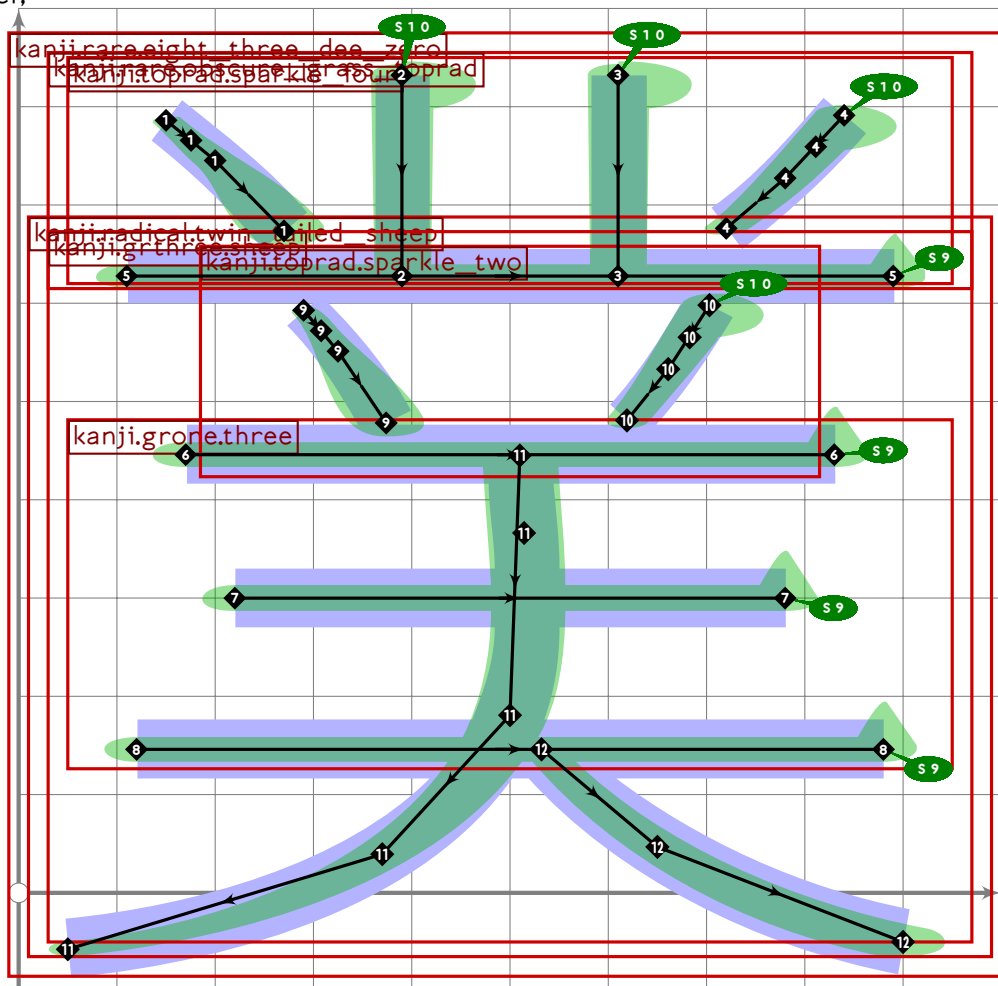
163
164 vardef kanji.rare.merger =
165   push_pbox_toexpand("kanji.rare.merger");
166   build_kanji.level(build_kanji.tb(620,110)
167     (build_kanji.spread_legs(-220)(kanji.toprad.sparkle_two))
168     (kanji.radical.topped_aitch));
169   expand_pbox;
170 enddef;
171
172 % This obscure form of the "grass" radical seems to be used only in U+83D0,
173 % an obscure kanji that doesn't seem to have a meaning of its own but forms
174 % the right-hand side of the fairly common kanji for the masculine
175 % first-person pronoun "boku," which we need in order to spell the type
176 % style name "Bokukko." It's not even clear that it really is a form of the
177 % "grass" radical at all, but that's how Unicode seems to classify it.
178
179 vardef kanji.rare.obscure_grass_toprad =
180   push_pbox_toexpand("kanji.rare.obscure_grass_toprad");
181   kanji.toprad.sparkle_four;
182   push_stroke((110,-20)-(890,-20),(1.6,1.6)-(1.6,1.6));
183   set_boserif(0,19);

```

RARE

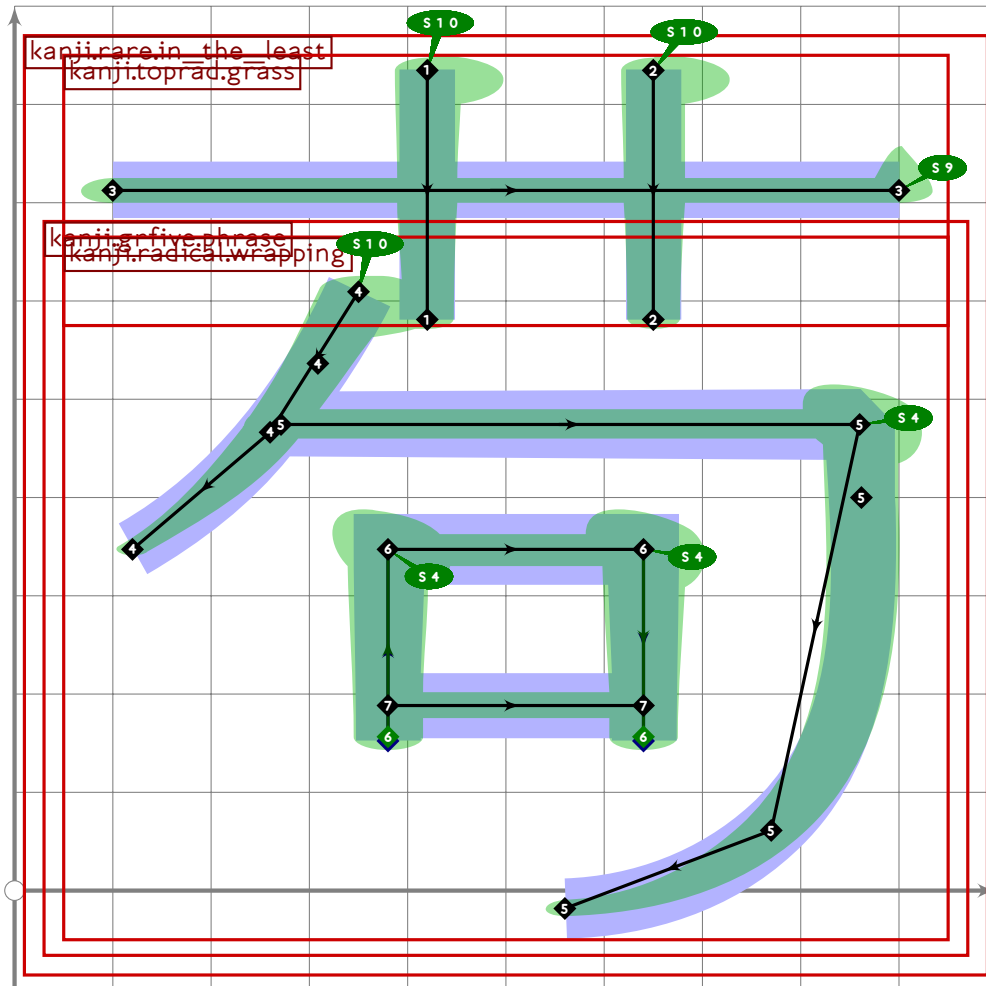
U+83D0
tsuku.uni83D0

```
184 expand_pbox;
185 enddef;
```



```
186
187 vardef kanji.rare.eight_three_dee_zero =
188   push_pbox_toexpand("kanji.rare.eight_three_dee_zero");
189   build_kanji.tb(620,0)
190     (kanji.rare.obscurer.grass.toprad)
191     (kanji.radical.twin_tailed_sheep);
192   expand_pbox;
193 enddef;
```

RARE



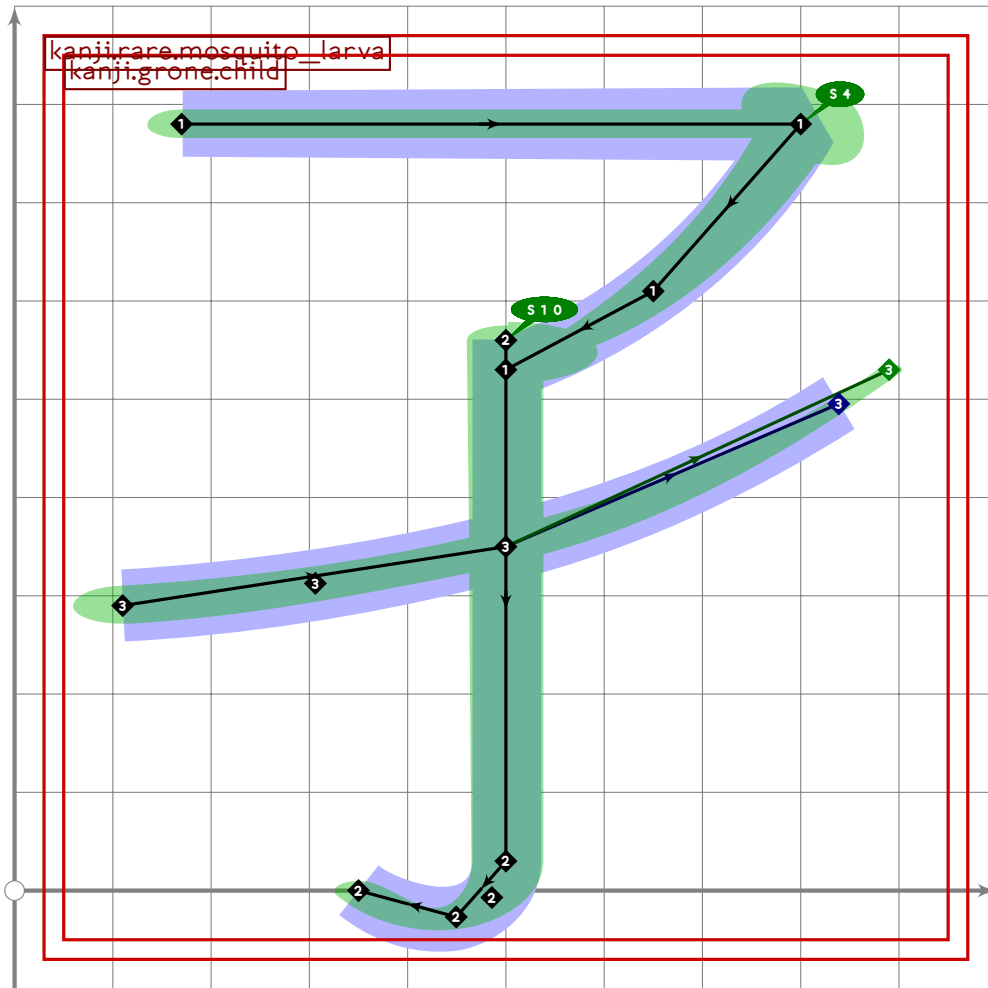
```

194
195 vardef kanji.rare.in_the_least =
196   push_pbox_toexpand("kanji.rare.in_the_least");
197   build_kanji.tb(620,90)
198     (kanji.toprad.grass;
199     replace_stroke(-2)(oldp shifted (70,0)))
200     (kanji.grfive.phrase);
201   expand_pbox;
202 enddef;

```

RARE

U+5B51
tsuku.uni5B51



```

203
204 vardef kanji.rare.mosquito_larva =
205   push_pbox_toexpand("kanji.rare.mosquito_larva");
206   kanji.grone.child;
207   replace_strokep(0)((110,290)..tension 1.2..(500,350)..(890,530));
208   replace_strokeq(0)((1.9,1.9)-(1.6,1.6)-(0.9,0.9));
209   set_boserif(0,1,whatever);
210   expand_pbox;
211 enddef;
212
213 vardef hook.mound_bottoms(expr left_i,right_i,bottom_i) =
214   if (obstacktype[left_i]=otstroke)
215     and (obstacktype[right_i]=otstroke)
216     and (obstacktype[bottom_i]=otstroke):
217     if (3=length obstackp[left_i])
218       and (2=length obstackp[right_i])
219       and (1=length obstackp[bottom_i]):
220       begingroup;
221       save x,y,p,e;
222       numeric x[],y[],e[];
223       path p[];

```

RARE

```

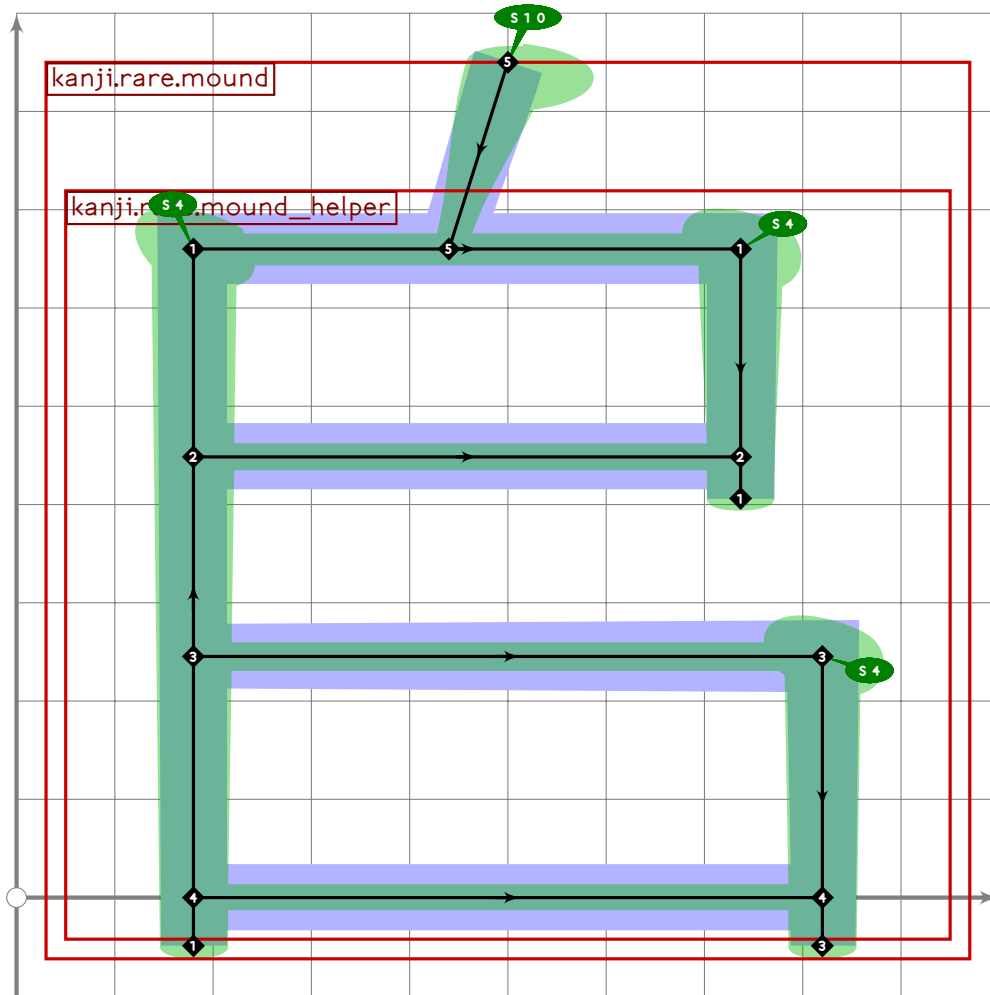
224
225     p1=obstackp[left_i];
226     p2=obstackp[bottom_i];
227     p3=obstackp[right_i];
228
229     z1=-(direction 0 of p1)/abs(direction 0 of p1);
230     z2=(direction 0.5 of p2)/abs(direction 0.5 of p2);
231     z3=(direction 2 of p3)/abs(direction 2 of p3);
232
233     e3=obstackna.bosize[bottom_i]*tsu_brush_max*tsu_brush_shape*0.5;
234     if abs(z1 dotprod z2)<0.1:
235         point 0 of p1=z4+e1*z1;
236         z4=(point 0.5 of p2)+whatever*z2;
237
238         if e1<e3:
239             p1:=(z4+e3*z1)-(subpath (1,3) of p1);
240             obstackp[left_i]:=p1;
241         fi;
242     fi;
243     if abs(z3 dotprod z2)<0.1:
244         point 0 of p1=z5+e2*z3;
245         z5=(point 0.5 of p2)+whatever*z2;
246
247         if e2<e3:
248             p3:=(subpath (0,1) of p2)-(z5+e3*z2);
249             obstackp[right_i]:=p3;
250         fi;
251     fi;
252     endgroup;
253 fi;
254 fi;
255 enddef;
256
257 vardef kanji.rare.mound_helper =
258     push_pbox_toexpand("kanji.rare.mound_helper");
259     begingroup
260         save x,y;
261         numeric x[],y[];
262
263         x1=x2=x5=x7=x10=180;
264         x3=x4=x6=0.87[x1,x8];
265         x8=x9=x11=1000-x1;
266
267         y1=y9=(-0.2)[y10,y7];
268         y2=y3=780;
269         y4=(-0.2)[y5,y2];
270         y5=y6=530;
271         y7=y8=290;

```

```

272 y10=y11=0;
273
274 push_stroke(z1-z2-z3-z4,(1.5,1.5)-(1.7,1.7)-(1.7,1.7)-(1.5,1.5));
275 set_botip(0,1);
276 set_botip(0,2,1);
277 set_boserif(0,1,4);
278 set_boserif(0,2,4);
279 push_stroke(z5-z6,(1.5,1.5)-(1.5,1.5));
280 push_stroke(z7-z8-z9,(1.5,1.5)-(1.6,1.6)-(1.5,1.5));
281 set_botip(0,1);
282 set_boserif(0,1,4);
283 push_stroke(z10-z11,(1.5,1.5)-(1.5,1.5));
284
285 push_hook(hsmain_render,
286     "hook.box_bottom("&(decimal find_stroke(-3))&"
287                     &(decimal find_stroke(-2))&");" );
288 push_hook(hsmain_render,
289     "hook.mound_bottoms("&(decimal find_stroke(-3))&"
290                        &(decimal find_stroke(-1))&"
291                        &(decimal find_stroke(0))&");" );
292 endgroup;
293 expand_pbox;
294 endif;

```



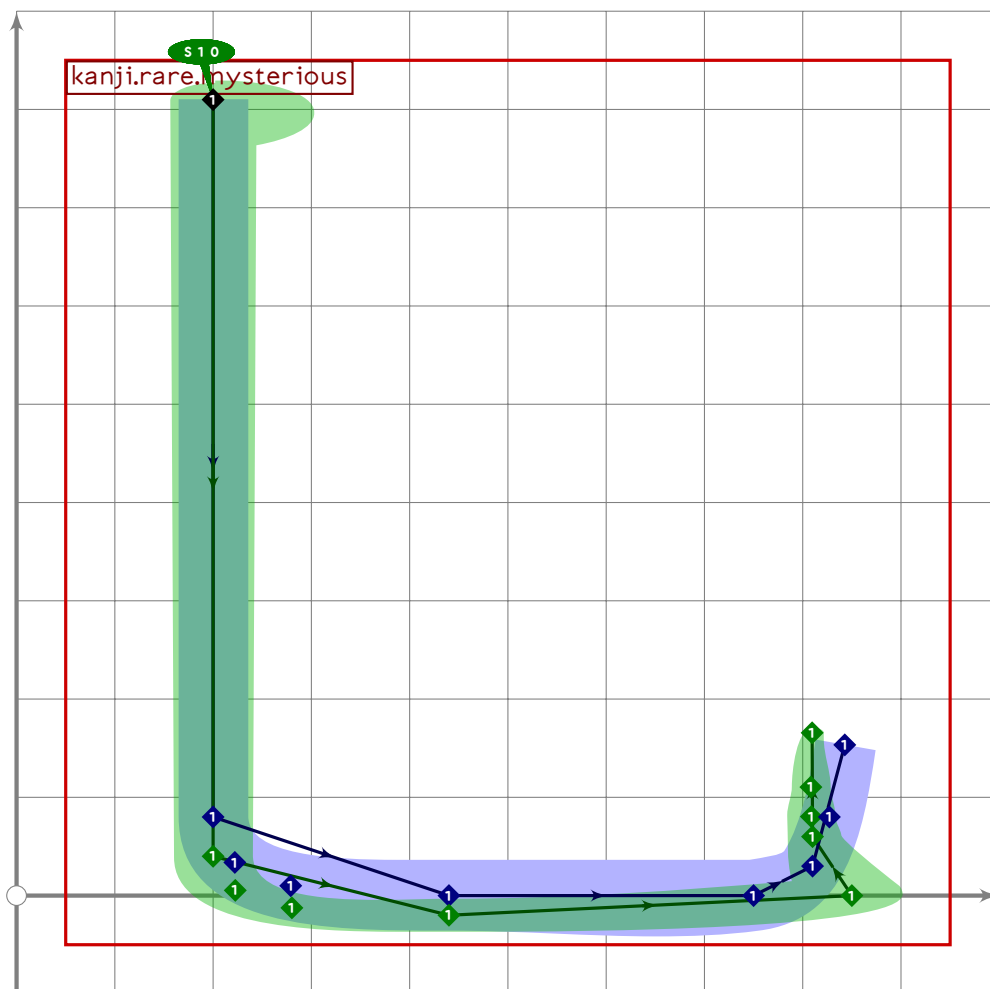
```

295
296 vardef kanji.rare.mound =
297   push_pbox_toexpand("kanji.rare.mound");
298   build_kanji.attach_tick(660)(kanji.rare.mound_helper);
299   expand_pbox;
300 enddef;

```

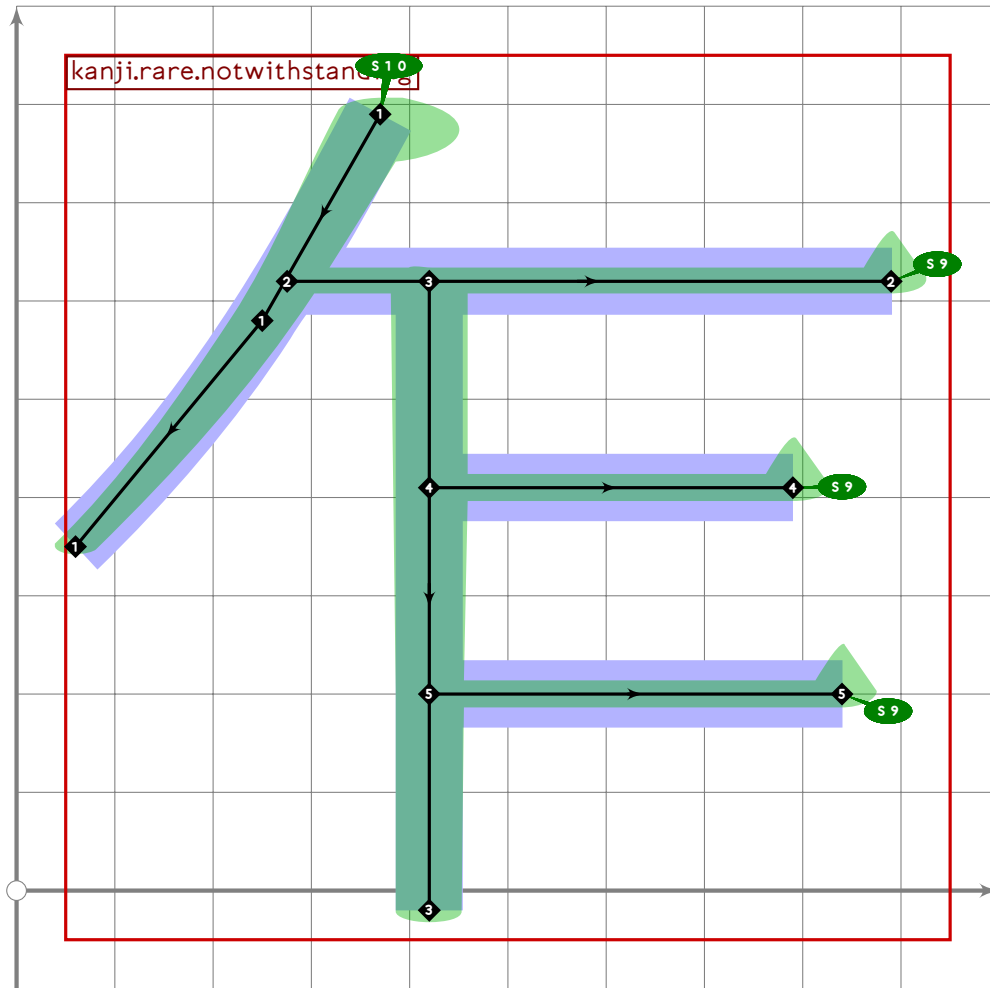
RARE

U+4E5A
tsuku.uni4E5A



```
301
302 vardef kanji.rare.mysterious =
303   push_pbox_toexpand("kanji.rare.mysterious");
304   push_stroke((200,810))((1,7,7));
305   build_kanji.add_ltail(0);
306   set_boserif(0,0,10);
307   expand_pbox;
308 enddef;
```

RARE

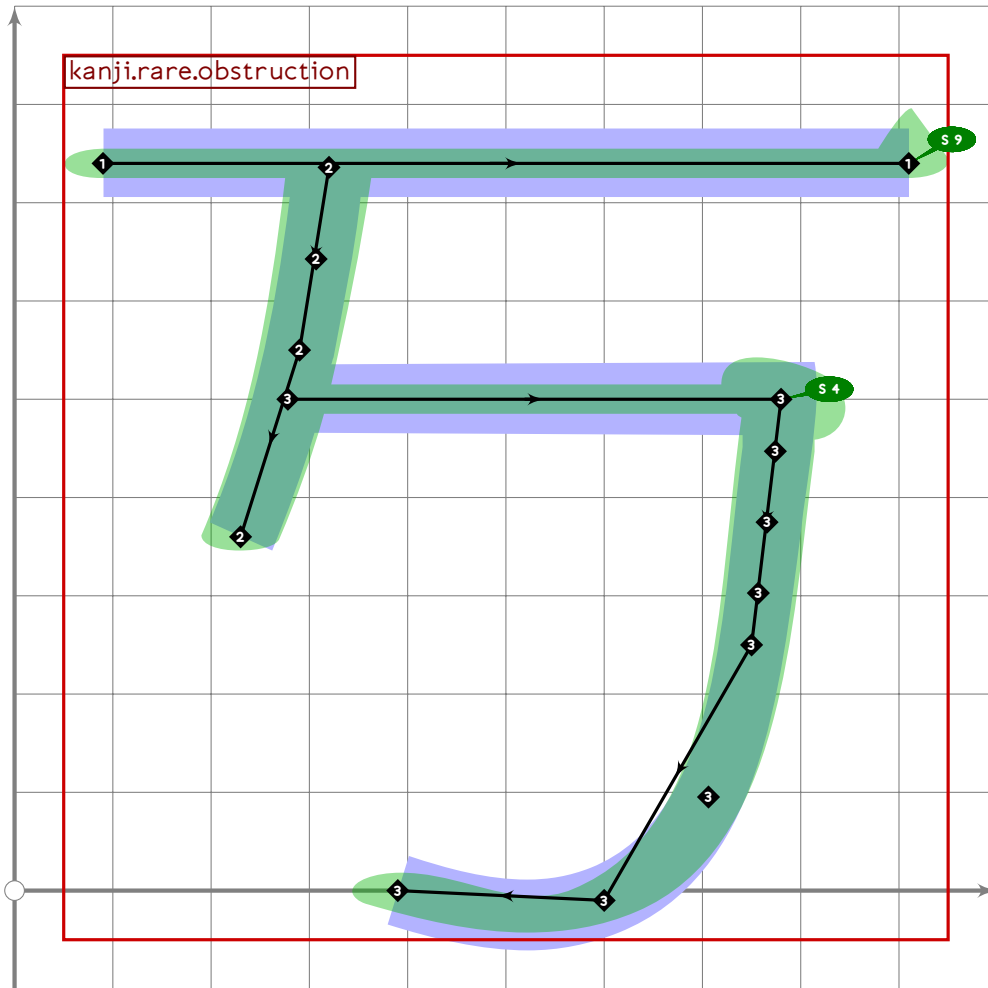


```

309
310 vardef kanji.rare.notwithstanding =
311   push_pbox_toexpand("kanji.rare.notwithstanding");
312   push_stroke((370,790){curl 0.1}..(250,580)..(60,350),
313     (1.7,1.7)–(1.4,1.4)–(1.1,1.1));
314   set_boserif(0,0,10);
315   push_stroke(
316     (((0,620)–(1000,620)) intersectionpoint get_strokep(0))–(890,620),
317     (1.4,1.4)–(1.5,1.5));
318   set_boserif(0,1,9);
319   push_stroke((420,620)–(420,-20),
320     (1.6,1.6)–(1.4,1.4));
321   push_stroke((420,410)–(790,410),
322     (1.5,1.5)–(1.5,1.5));
323   set_boserif(0,1,9);
324   push_stroke((420,200)–(840,200),
325     (1.5,1.5)–(1.5,1.5));
326   set_boserif(0,1,9);
327   expand_pbox;
328 enddef;

```

RARE

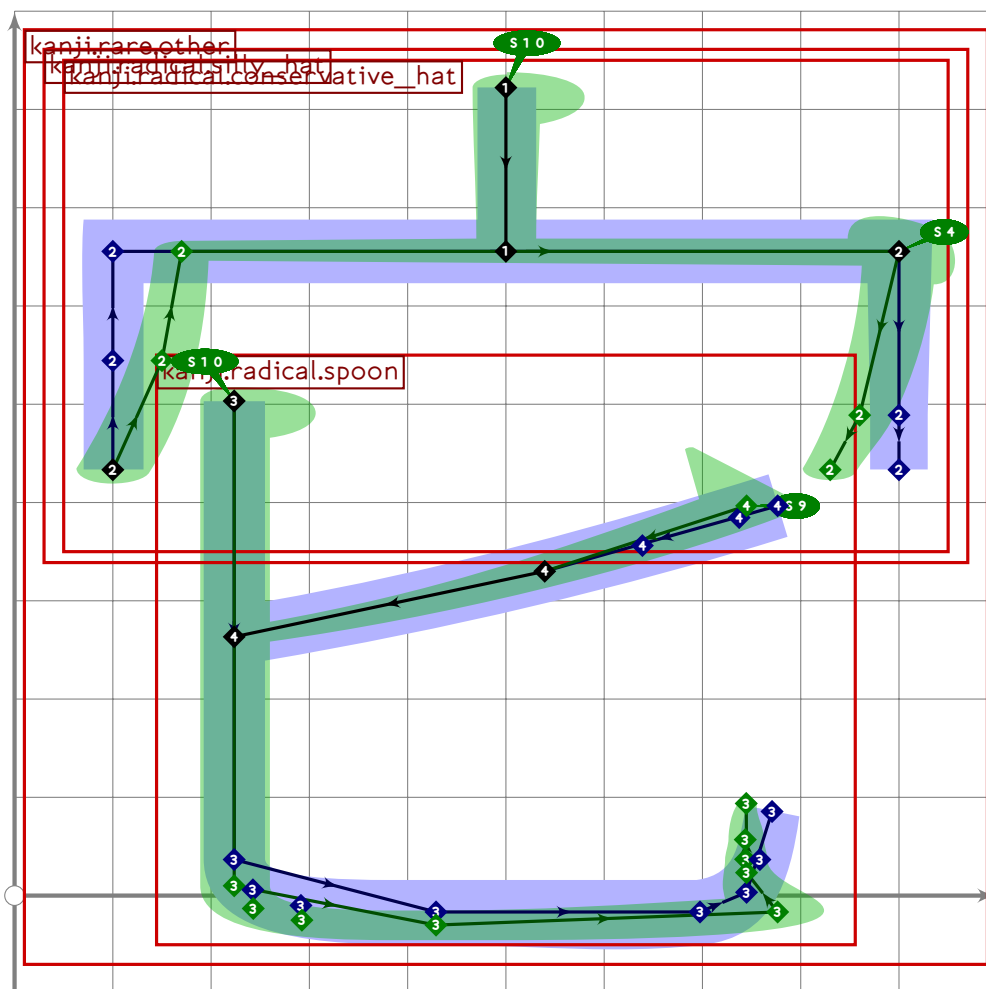


```

329
330 vardef kanji.rare.obstruction =
331   push_pbox__toexpand("kanji.rare.obstruction");
332   push_stroke((90,740)–(910,740),(1.6,1.6)–(1.6,1.6));
333   set_boserif(0,1,9);
334   push_stroke((320,736)..tension 1.2..(290,550)..(230,360),
335     (1.7,1.7)–(1.6,1.6)–(1.6,1.6));
336   push_stroke((get_strokep(0) intersectionpoint ((0,500)–(1000,500)))–
337     (780,500)..tension 1.7..(750,250)..(600,10)..{curl 0.1}(390,0),
338     (1.6,1.6)–(1.6,1.6)–(1.5,1.5)–(1.7,1.7)–(1.8,1.8));
339   set_botip(0,1,1);
340   set_boserif(0,1,4);
341   expand_pbox;
342 enddef;

```

RARE



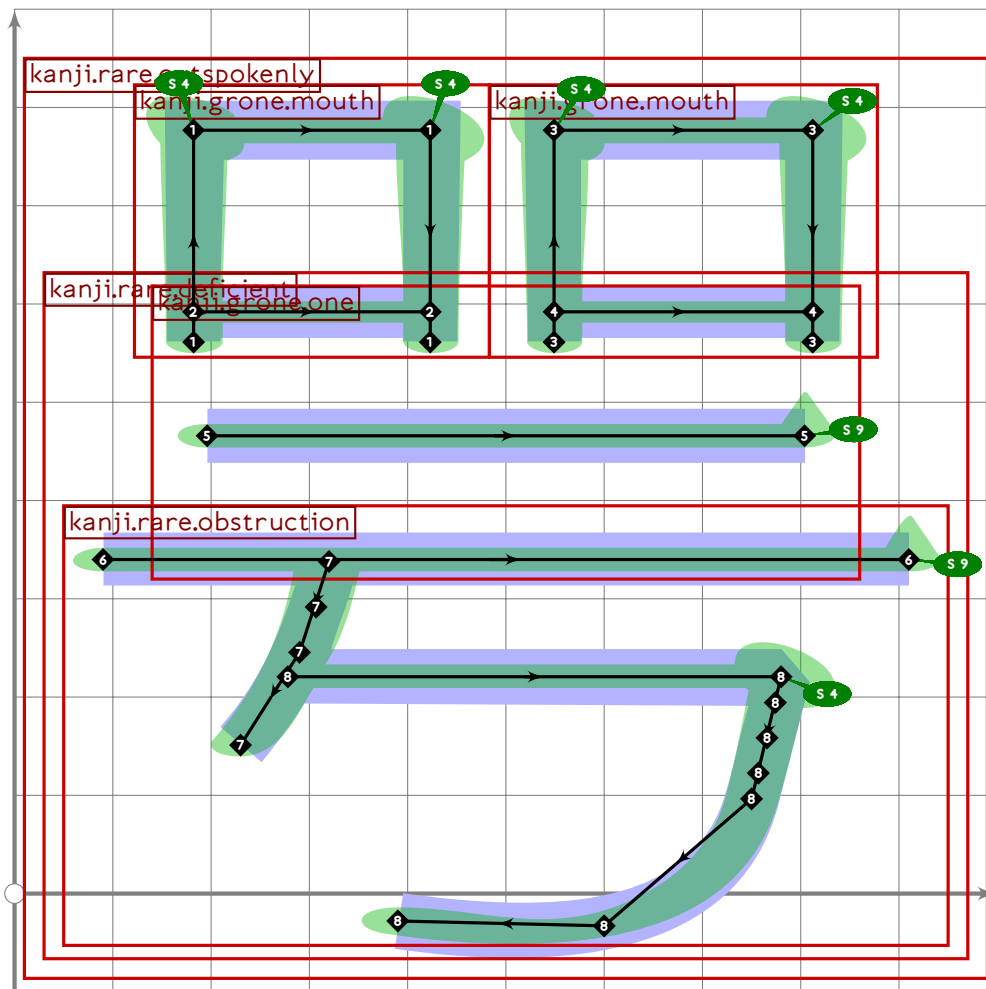
```

343
344 vardef kanji.rare.other =
345   push_pbox_toexpand("kanji.rare.other");
346   build_kanji.tb(450,200)
347     (kanji.radical.silly_hat)
348     (build_kanji.sscale(xscaled 0.79)
349       (kanji.radical.spoon));
350   expand_pbox;
351 enddef;

```

RARE

U+54A2
tsuku.uni54A2

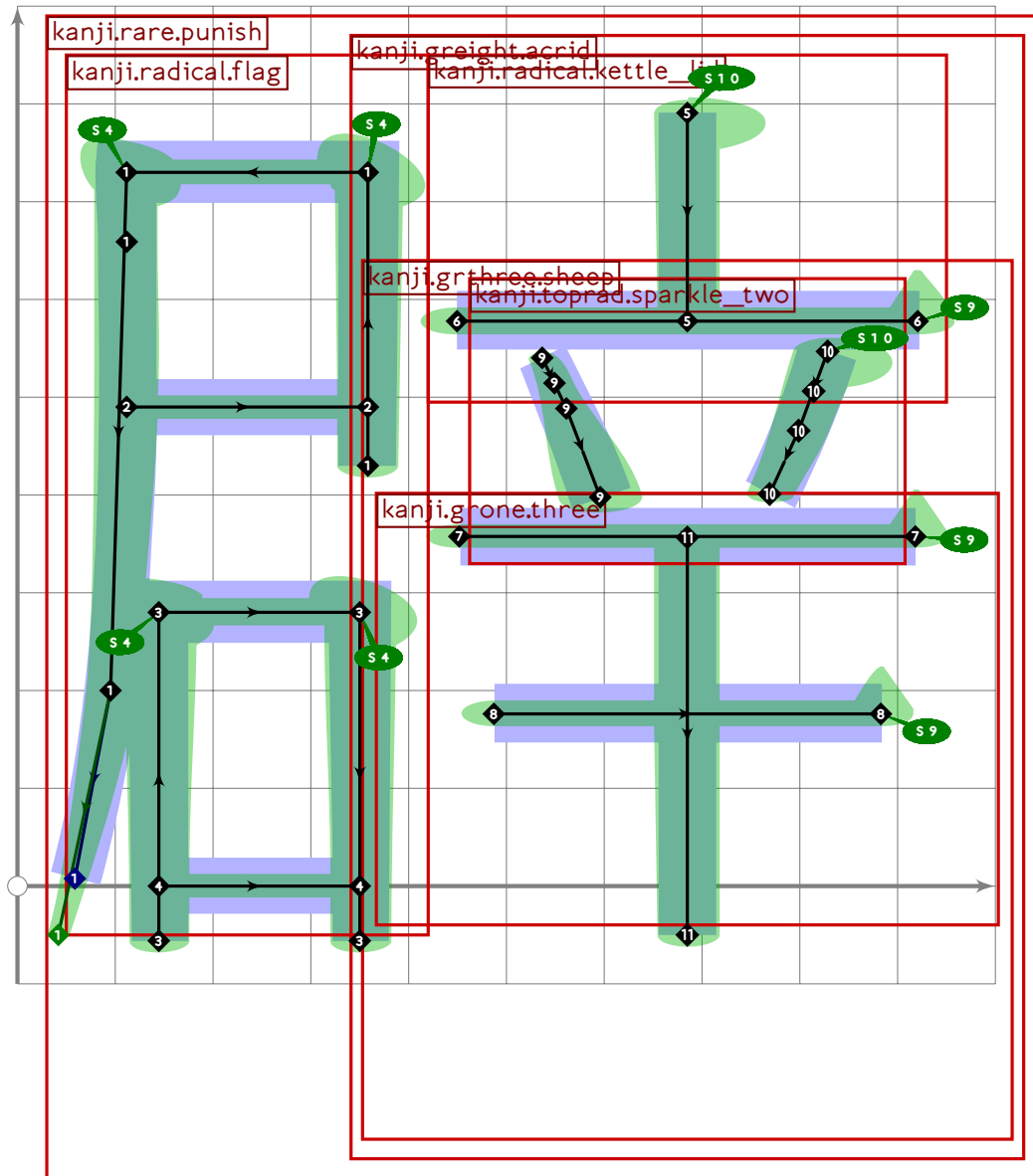


```

352
353 vardef kanji.rare.outspokenly =
354   push_pbox_toexpand("kanji.rare.outspokenly");
355   build_kanji.level(build_kanji.tb(540,40)
356     (build_kanji.sscale(scaled 0.84)(build_kanji.lr(480,0)
357       (kanji.grone.mouth)(kanji.grone.mouth)))
358     (kanji.rare.deficient));
359   expand_pbox;
360 enddef;

```

RARE



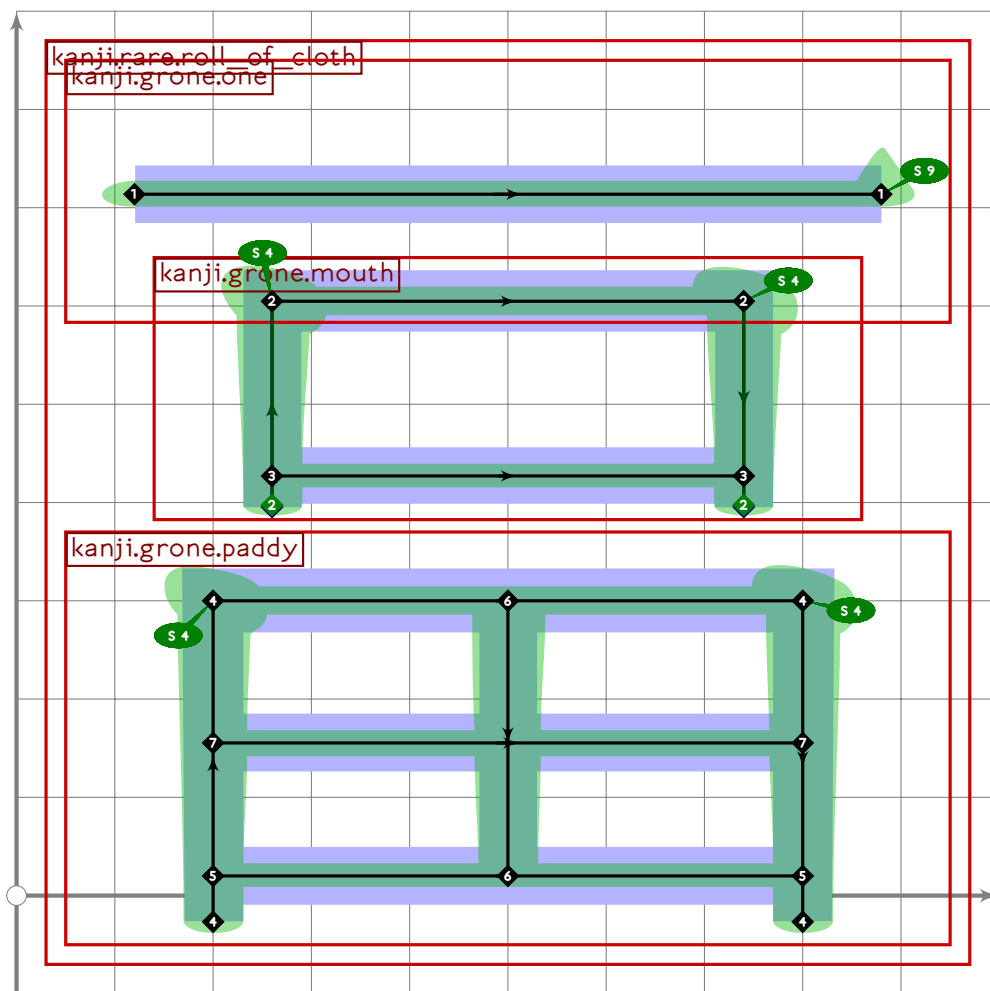
```

361
362 vardef kanji.rare.punish =
363   push_pbox_toexpand("kanji.rare.punish");
364   build_kanji.level(build_kanji.lr(420,0)
365     (kanji.radical.flag;
366       build_kanji.box((280,280),(780,0)))
367     (kanji.greight.acrid));
368   expand_pbox;
369 enddef;

```

RARE

U+7550
tsuku.uni7550

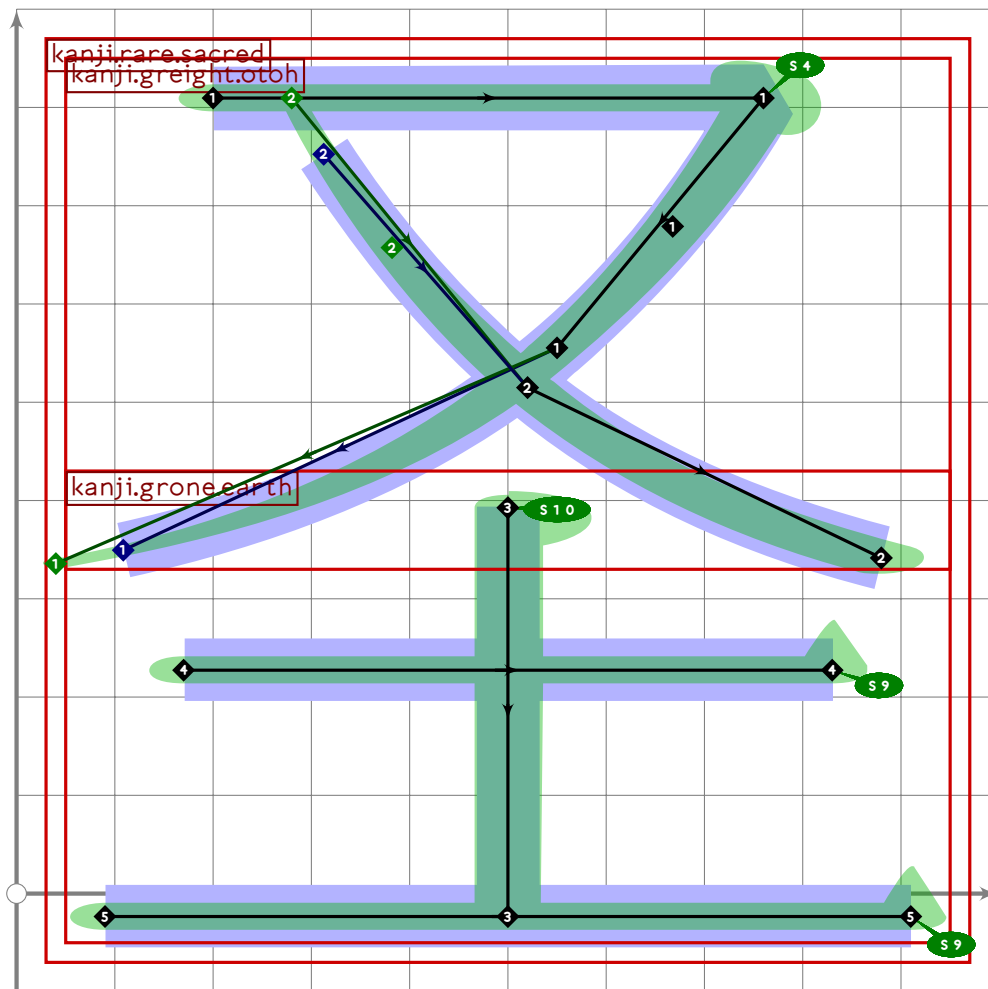


```

370
371 vardef kanji.rare.roll_of_cloth =
372   push_pbox_toexpand("kanji.rare.roll_of_cloth");
373   build_kanji.level(build_kanji.tb(360,20)
374     (build_kanji.tb(460,180)
375       (kanji.grone.one)
376       (build_kanji.sscale(scaled 0.8)(kanji.grone.mouth)))
377     (kanji.grone.paddy));
378   expand_pbox;
379 enddef;

```

RARE



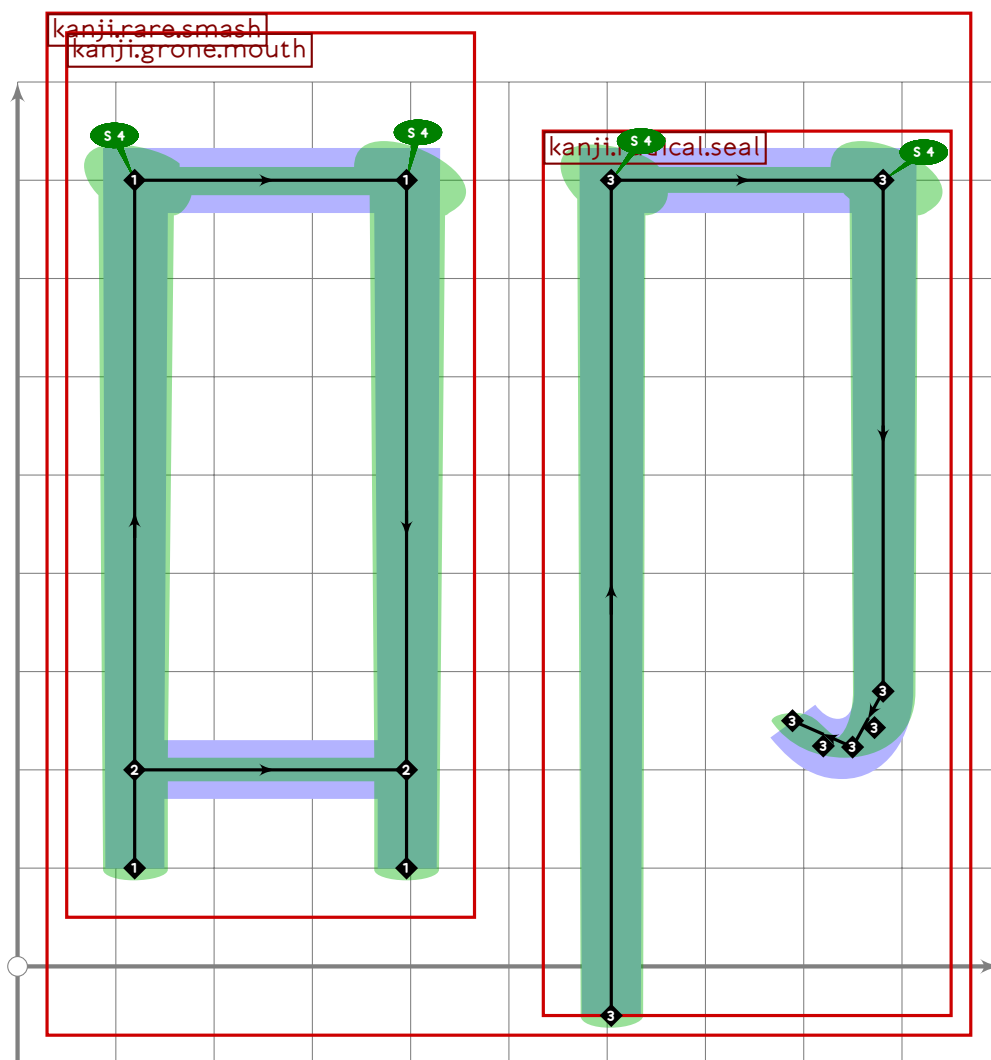
```

380
381 vardef kanji.rare.sacred =
382   push_pbox_toexpand("kanji.rare.sacred");
383   build_kanji.level(build_kanji.tb(380,100)
384     (kanji.greight.otoh)
385     (kanji.grone.earth));
386   expand_pbox;
387 enddef;

```

RARE

U+53E9
tsuku.uni53E9

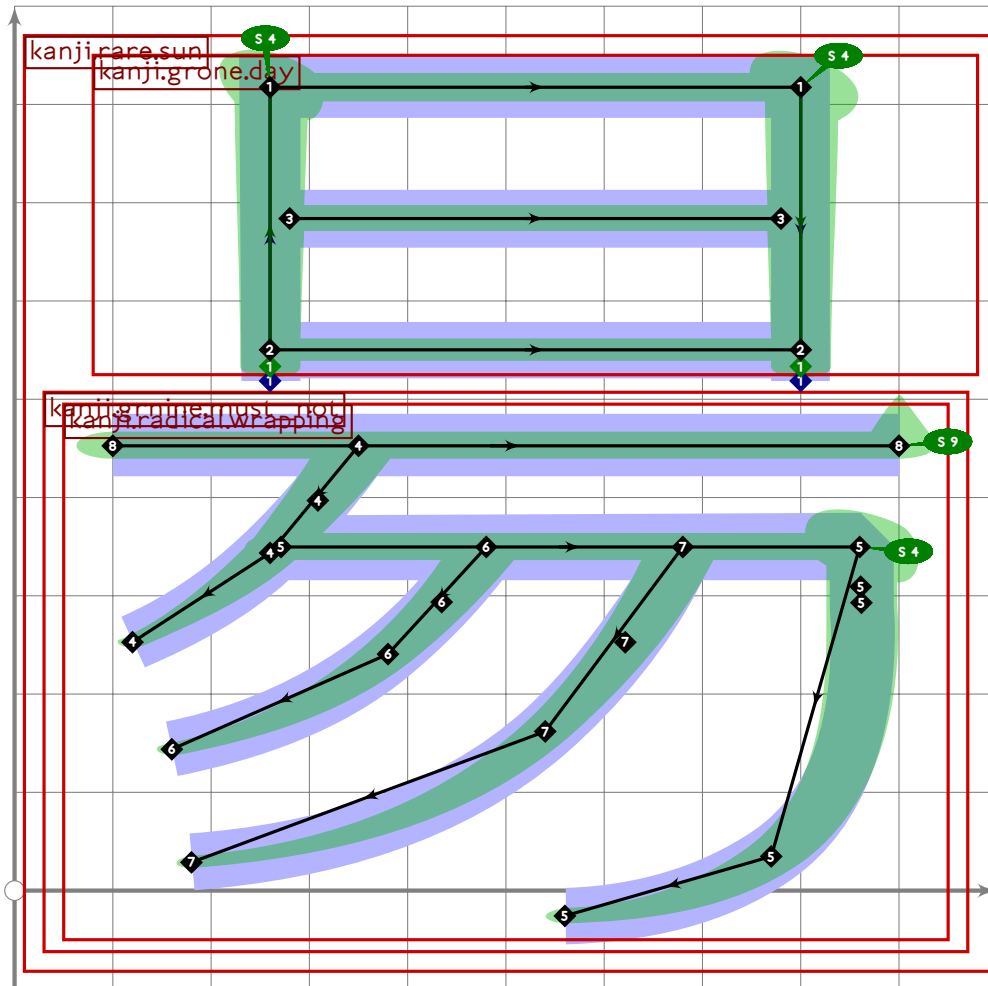


```

388
389 vardef kanji.rare.smash =
390   push_pbox_toexpand("kanji.rare.smash");
391   build_kanji.level(build_kanji.lr(500;70)
392     (tsu_xform(identity shifted (0,100))(kanji.grone.mouth))
393     (kanji.radical.seal));
394   expand_pbox;
395 enddef;

```

RARE



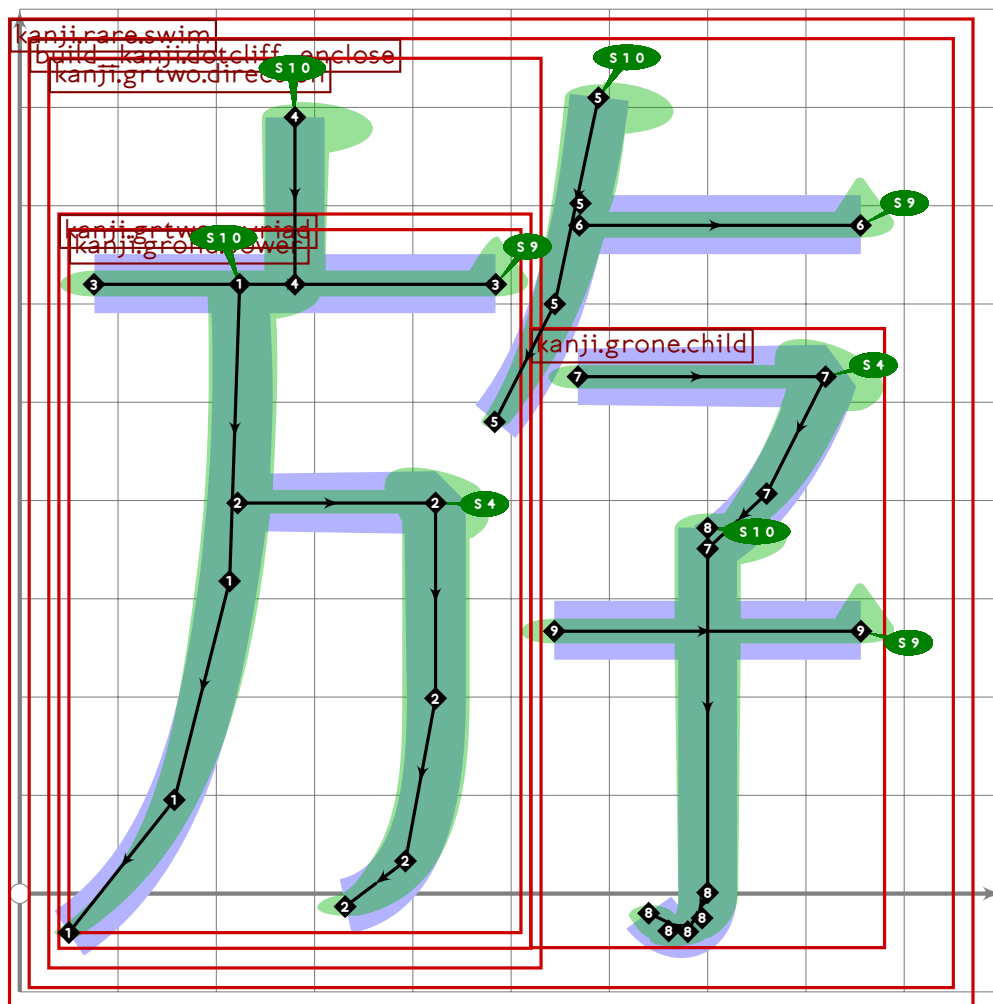
```

396
397 vardef kanji.rare.sun =
398   push_pbox_toexpand("kanji.rare.sun");
399   build_kanji.tb(510,-30)
400     (tsu_xform(identity shifted (30,0))(kanji.grone.day))
401     (kanji.grnine.must_not;
402       set_boserif(-3,0,whatever);
403       push_stroke((100,780)-(900,780),(1.6,1.6)-(1.6,1.6));
404       set_boserif(0,1,9));
405   expand_pbox;
406 enddef;

```

RARE

U+65BF
tsuku.uni65BF

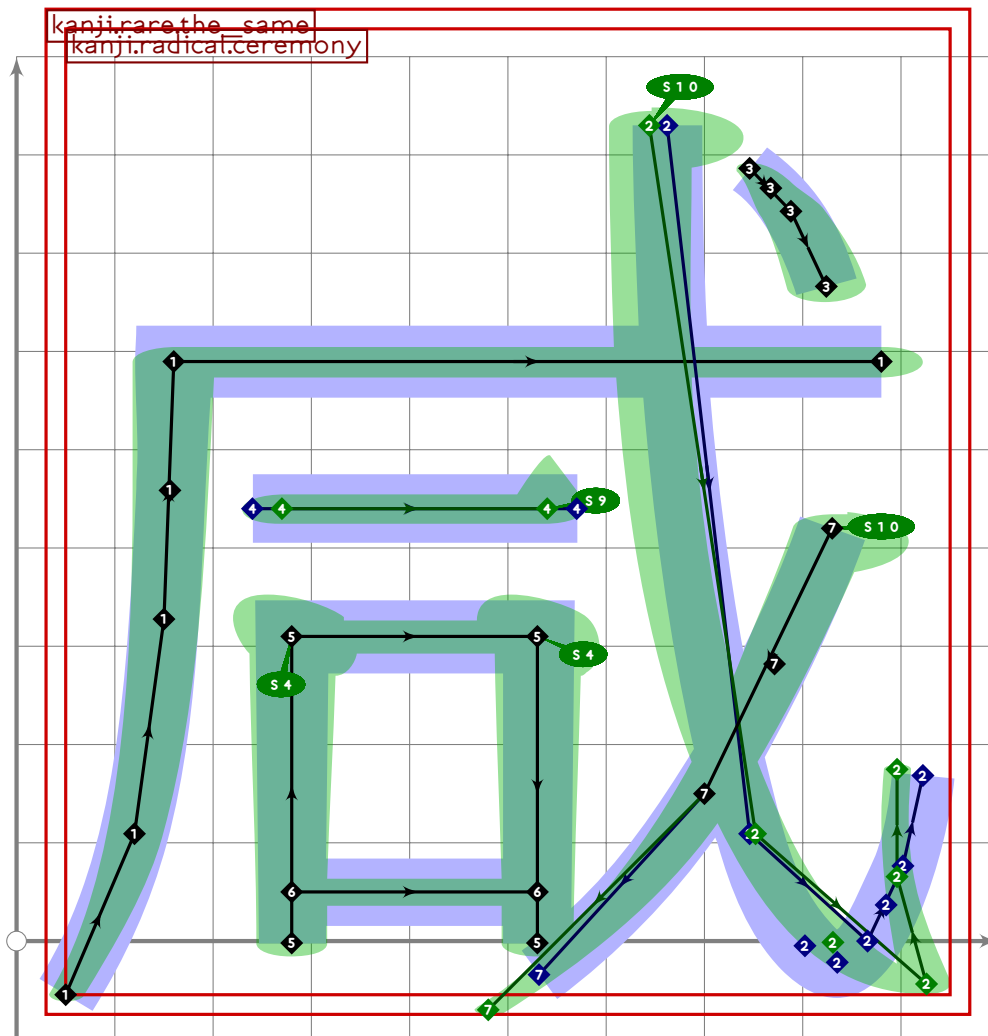


```

407
408 vardef kanji.rare.swim =
409   push_pbox_toexpand("kanji.rare.swim");
410   build_kanji.level(build_kanji.flag_enclose(0.72,0.7)
411     (kanji.grone.child));
412   expand_pbox;
413 enddef;

```

RARE



```

414
415 vardef kanji.rare.the.same =
416   push_pbox_toexpand("kanji.rare.the.same");
417   tsu_xform(identity yscaled (830/760))
418   (kanji.radical.ceremony;
419     replace_stroke(-2)
420       ((50,50)..(120,100)..(150,300)..tension 1.2..(160,540)-(880,540));
421     replace_stroke(-2)
422       ((1,1)-(1.3,1.3)-(1.5,1.5)-(1.6,1.6)-(1.6,1.6)));
423   set_botip(-2,3,1);
424   set_boserif(-2,1,whatever);
425   replace_stroke(-1)(oldp shifted (-950,0) xscaled 0.6 shifted (950,0));
426   replace_stroke(0)(oldp shifted (-950,0) xscaled 0.6 shifted (950,0));
427   push_stroke((if sharp_corners: 240 else: 270 fi,440)-
428     (if sharp_corners: 570 else: 540 fi,440),
429     (1.6,1.6)-(1.6,1.6));
430   set_boserif(0,1,9);
431   build_kanji.box((280,310),(530,50));
432   push_stroke((830,420)..tension 1.2..(700,150)..(480,70),
433     (1.6,1.6)-(1.4,1.4)-(0.9,0.9));

```

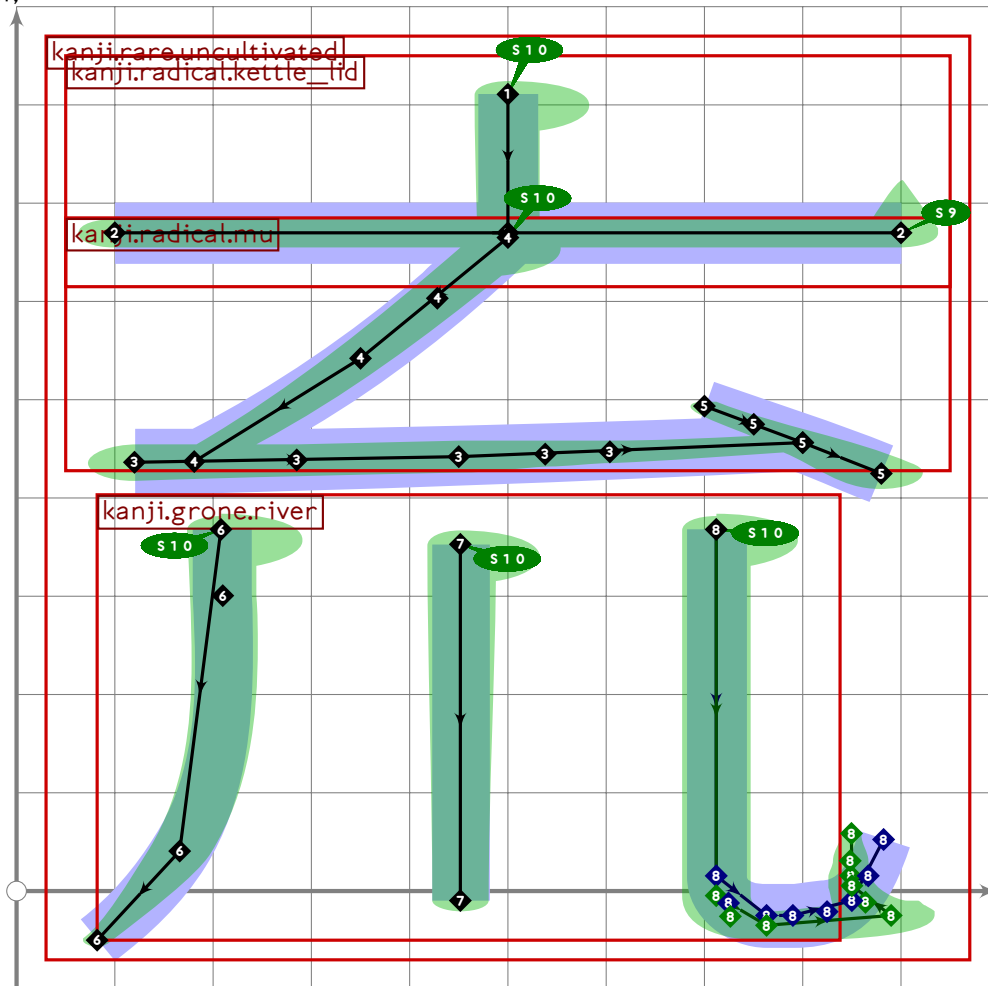
RARE

U+342C
tsuku.uni342C

```

434 set_boserif(0,0,10);
435 expand_pbox;
436 enddef;

```

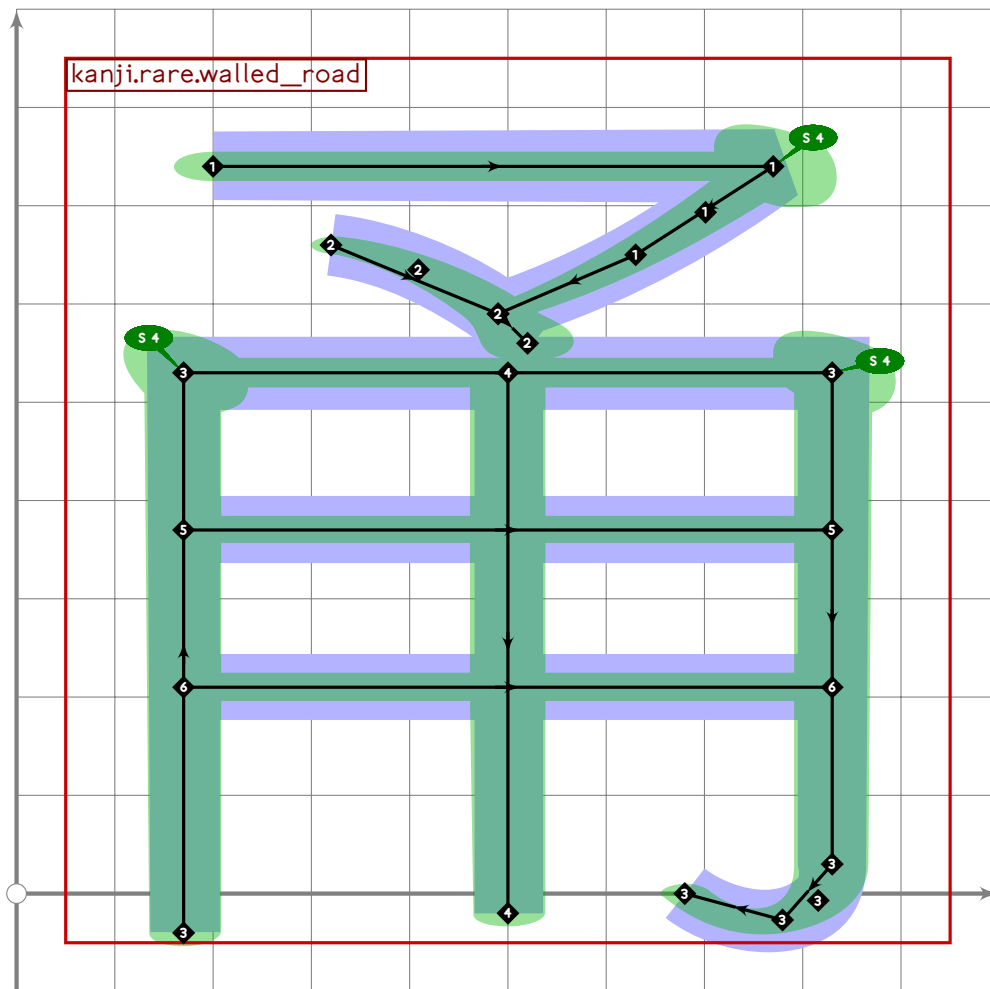


```

437
438 vardef kanji.rare.uncultivated =
439   push_pbox_toexpand("kanji.rare.uncultivated");
440   build_kanji.level(build_kanji.tb(650,70)
441     (kanji.radical.kettle_lid)
442     (build_kanji.tb(520,30)
443       (kanji.radical.mu)
444       (tsu_xform(identity shifted (40,0))
445         (tsu_xform(identity xscaled 0.84)(kanji.grone.river);
446         replace_strokep(0)((point 0 of oldp));
447         replace_strokeq(0)((point 0 of oldq));
448         build_kanji.add_ltail(0))));
449   expand_pbox;
450 enddef;

```

RARE



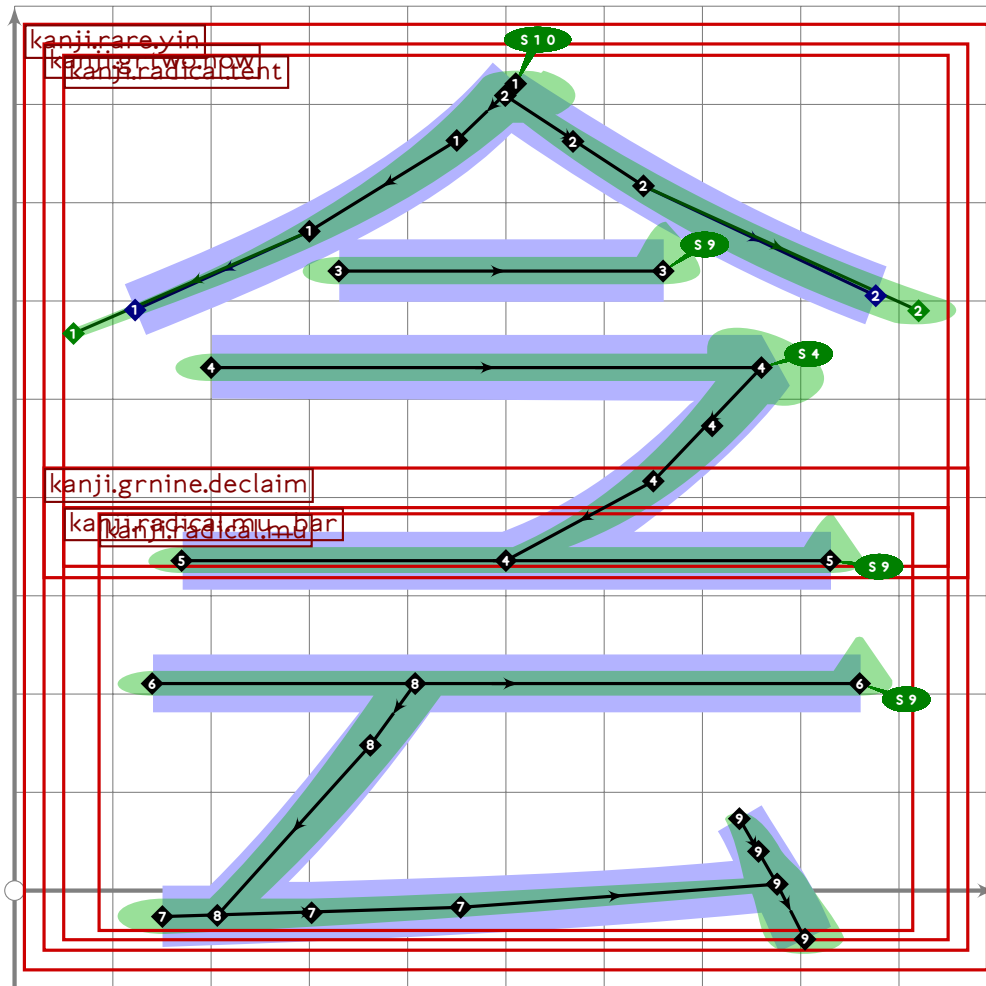
```

451
452 vardef kanji.rare.walled_road =
453   push_pbox_toexpand("kanji.rare.walled_road");
454   push_stroke((200,740)-(770,740)..tension 1.2..(630,650)..(490,590),
455     (1.6,1.6)-(1.6,1.6)-(1.4,1.4)-(1.1,1.1));
456   set_botip(0,1,0);
457   set_boserif(0,1,4);
458   push_stroke((320,660)..tension 1.2..(490,590)..(520,560),
459     (1.1,1.1)-(1.5,1.5)-(1.8,1.8));
460   push_stroke((170,-40)-(170,530)-(830,530),
461     (1.5,1.5)-(1.6,1.6)-(1.6,1.6));
462   build_kanji.add_jtail(0);
463   set_botip(0,1,1);
464   set_botip(0,2,1);
465   set_boserif(0,1,4);
466   set_boserif(0,2,4);
467   push_stroke((500,530)-(500,-20),(1.6,1.6)-(1.5,1.5));
468   push_stroke((170,370)-(830,370),(1.5,1.5)-(1.5,1.5));
469   push_stroke((170,210)-(830,210),(1.5,1.5)-(1.5,1.5));
470   expand_pbox;
471 enddef;

```

RARE

U+4F8C
tsuku.uni4F8C



```

472
473 vardef kanji.rare.yin =
474   push_pbox_toexpand("kanji.rare.yin");
475   build_kanji.tb(380,100)
476     (kanji.grtwo.now)
477     (kanji.grnine.declaim);
478   expand_pbox;
479 enddef;

```

RARE