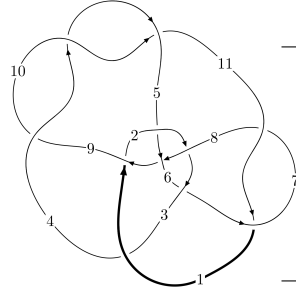
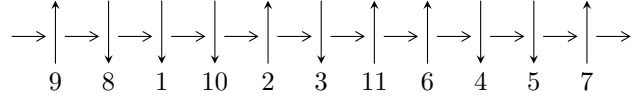


11a<sub>268</sub> (K11a<sub>268</sub>)



A knot diagram<sup>1</sup>

**Linearized knot diagram**



**Solving Sequence**

$$7, 11 \xrightarrow{c_7} 8 \xrightarrow{c_{11}} 1, 3 \xrightarrow{c_3} 4 \xrightarrow{c_2} 2 \xrightarrow{c_6} 6 \xrightarrow{c_8} 9 \xrightarrow{c_5} 5 \xrightarrow{c_{10}} 10 \twoheadrightarrow c_1, c_4, c_9$$

**Ideals for irreducible components<sup>2</sup> of  $X_{\text{par}}$**

$$I_1^u = \langle -2.49863 \times 10^{257} u^{88} + 5.28339 \times 10^{257} u^{87} + \dots + 2.06470 \times 10^{257} b + 1.62471 \times 10^{259}, \\ -1.46587 \times 10^{259} u^{88} + 5.63526 \times 10^{259} u^{87} + \dots + 1.21817 \times 10^{259} a + 2.14864 \times 10^{261}, \\ u^{89} - u^{88} + \dots + 48u + 59 \rangle$$

$$I_2^u = \langle u^{18} - 2u^{17} + \dots + b - 1, 2810u^{19} - 4920u^{18} + \dots + 107a - 1193, u^{20} - 2u^{19} + \dots + u - 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 109 representations.

<sup>1</sup>The image of knot diagram is generated by the software “**Draw programme**” developed by Andrew Bartholomew (<http://www.layer8.co.uk/maths/draw/index.htm#Running-draw>), where we modified some parts for our purpose (<https://github.com/CATsTAILs/LinksPainter>).

<sup>2</sup>All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

$$\mathbf{I. } I_1^u = \langle -2.50 \times 10^{257} u^{88} + 5.28 \times 10^{257} u^{87} + \dots + 2.06 \times 10^{257} b + 1.62 \times 10^{259}, -1.47 \times 10^{259} u^{88} + 5.64 \times 10^{259} u^{87} + \dots + 1.22 \times 10^{259} a + 2.15 \times 10^{261}, u^{89} - u^{88} + \dots + 48u + 59 \rangle$$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1.20333u^{88} - 4.62599u^{87} + \dots - 65.4798u - 176.382 \\ 1.21016u^{88} - 2.55892u^{87} + \dots - 4.73499u - 78.6901 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.19352u^{88} - 2.15965u^{87} + \dots + 34.4706u - 54.0216 \\ 1.20035u^{88} - 0.0925750u^{87} + \dots + 95.2154u + 43.6703 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.866135u^{88} - 1.82355u^{87} + \dots + 23.0760u - 53.1353 \\ 0.669502u^{88} + 0.854257u^{87} + \dots + 93.7021u + 66.7594 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.85198u^{88} + 1.84275u^{87} + \dots - 99.2054u + 21.2049 \\ -1.38144u^{88} + 0.574780u^{87} + \dots - 104.158u - 29.9703 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.161350u^{88} - 1.91766u^{87} + \dots - 107.928u - 102.769 \\ 1.27346u^{88} - 2.34459u^{87} + \dots + 9.19607u - 60.8438 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.27022u^{88} + 0.255281u^{87} + \dots - 89.4254u - 49.1154 \\ -1.92719u^{88} + 0.959452u^{87} + \dots - 136.691u - 46.0116 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.293092u^{88} - 0.892600u^{87} + \dots - 95.2003u - 56.2570 \\ 0.191137u^{88} + 1.45973u^{87} + \dots + 91.9737u + 92.2085 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.293092u^{88} - 0.892600u^{87} + \dots - 95.2003u - 56.2570 \\ 0.191137u^{88} + 1.45973u^{87} + \dots + 91.9737u + 92.2085 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes =  $0.667960u^{88} + 1.19445u^{87} + \dots + 98.6923u + 70.3629$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^{89} - 4u^{88} + \dots - 121118u - 30299$
$c_2$	$u^{89} - u^{88} + \dots + 74u - 3$
$c_3$	$u^{89} + 6u^{88} + \dots + 9173u - 3187$
$c_4, c_9, c_{10}$	$u^{89} - 45u^{87} + \dots - 29u + 1$
$c_5$	$u^{89} + 5u^{87} + \dots - 1510u - 191$
$c_6$	$u^{89} + u^{88} + \dots + 84u - 2543$
$c_7, c_{11}$	$u^{89} + u^{88} + \dots + 48u - 59$
$c_8$	$u^{89} + 8u^{88} + \dots + 21u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1$	$y^{89} + 22y^{88} + \dots - 31326433006y - 918029401$
$c_2$	$y^{89} - 7y^{88} + \dots + 1222y - 9$
$c_3$	$y^{89} - 40y^{88} + \dots + 740124139y - 10156969$
$c_4, c_9, c_{10}$	$y^{89} - 90y^{88} + \dots + 123y - 1$
$c_5$	$y^{89} + 10y^{88} + \dots - 1020380y - 36481$
$c_6$	$y^{89} - 17y^{88} + \dots + 242227806y - 6466849$
$c_7, c_{11}$	$y^{89} + 57y^{88} + \dots - 106492y - 3481$
$c_8$	$y^{89} + 12y^{88} + \dots + 29y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.087265 + 0.982767I$ $a = -0.04086 - 1.58758I$ $b = -0.19737 - 2.33544I$	$-0.50502 + 3.23925I$	0
$u = 0.087265 - 0.982767I$ $a = -0.04086 + 1.58758I$ $b = -0.19737 + 2.33544I$	$-0.50502 - 3.23925I$	0
$u = 0.046780 + 1.013680I$ $a = 0.416851 - 0.354974I$ $b = -0.111187 + 1.159690I$	$-3.50317 + 2.78548I$	0
$u = 0.046780 - 1.013680I$ $a = 0.416851 + 0.354974I$ $b = -0.111187 - 1.159690I$	$-3.50317 - 2.78548I$	0
$u = -0.446021 + 0.914047I$ $a = -2.48559 + 0.54321I$ $b = -0.571797 - 0.795448I$	$-5.19564 - 7.48572I$	0
$u = -0.446021 - 0.914047I$ $a = -2.48559 - 0.54321I$ $b = -0.571797 + 0.795448I$	$-5.19564 + 7.48572I$	0
$u = 0.260416 + 1.013500I$ $a = 2.27900 - 0.32057I$ $b = 0.659896 - 0.535201I$	$-0.59074 + 5.03975I$	0
$u = 0.260416 - 1.013500I$ $a = 2.27900 + 0.32057I$ $b = 0.659896 + 0.535201I$	$-0.59074 - 5.03975I$	0
$u = 1.064020 + 0.063310I$ $a = 0.045029 - 0.215883I$ $b = -0.911465 - 0.659115I$	$-0.03232 - 7.23979I$	0
$u = 1.064020 - 0.063310I$ $a = 0.045029 + 0.215883I$ $b = -0.911465 + 0.659115I$	$-0.03232 + 7.23979I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.039185 + 1.073690I$ $a = -1.47979 - 1.15466I$ $b = -0.627270 - 0.234640I$	$-3.66917 - 2.24819I$	0
$u = 0.039185 - 1.073690I$ $a = -1.47979 + 1.15466I$ $b = -0.627270 + 0.234640I$	$-3.66917 + 2.24819I$	0
$u = 0.497647 + 0.954960I$ $a = 1.28701 + 0.60287I$ $b = 0.477386 + 0.066075I$	$-4.69329 + 4.27856I$	0
$u = 0.497647 - 0.954960I$ $a = 1.28701 - 0.60287I$ $b = 0.477386 - 0.066075I$	$-4.69329 - 4.27856I$	0
$u = 0.039765 + 1.076270I$ $a = 1.46166 + 0.75014I$ $b = 1.017060 - 0.460738I$	$-4.07004 + 0.47327I$	0
$u = 0.039765 - 1.076270I$ $a = 1.46166 - 0.75014I$ $b = 1.017060 + 0.460738I$	$-4.07004 - 0.47327I$	0
$u = -0.615419 + 0.671458I$ $a = 0.189017 - 0.505603I$ $b = -0.560076 + 1.171310I$	$-4.51518 + 3.24714I$	0
$u = -0.615419 - 0.671458I$ $a = 0.189017 + 0.505603I$ $b = -0.560076 - 1.171310I$	$-4.51518 - 3.24714I$	0
$u = -0.121420 + 1.106610I$ $a = 1.31626 + 0.66629I$ $b = 1.031160 + 0.909995I$	$-1.75568 - 2.78654I$	0
$u = -0.121420 - 1.106610I$ $a = 1.31626 - 0.66629I$ $b = 1.031160 - 0.909995I$	$-1.75568 + 2.78654I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.875117 + 0.034580I$ $a = -0.386985 - 0.034842I$ $b = -0.155945 - 0.596885I$	$2.36715 - 0.35769I$	0
$u = -0.875117 - 0.034580I$ $a = -0.386985 + 0.034842I$ $b = -0.155945 + 0.596885I$	$2.36715 + 0.35769I$	0
$u = 1.007920 + 0.535449I$ $a = 0.336385 - 0.013362I$ $b = 0.531325 + 0.593484I$	$-2.70373 + 0.98079I$	0
$u = 1.007920 - 0.535449I$ $a = 0.336385 + 0.013362I$ $b = 0.531325 - 0.593484I$	$-2.70373 - 0.98079I$	0
$u = 0.506291 + 1.032270I$ $a = 0.866930 + 0.935334I$ $b = 1.191080 - 0.080568I$	$-3.66544 + 1.93275I$	0
$u = 0.506291 - 1.032270I$ $a = 0.866930 - 0.935334I$ $b = 1.191080 + 0.080568I$	$-3.66544 - 1.93275I$	0
$u = -0.236142 + 1.129110I$ $a = 0.330233 - 1.155500I$ $b = 0.70775 - 2.08057I$	$-7.96934 - 7.75557I$	0
$u = -0.236142 - 1.129110I$ $a = 0.330233 + 1.155500I$ $b = 0.70775 + 2.08057I$	$-7.96934 + 7.75557I$	0
$u = -0.328525 + 0.779440I$ $a = -0.807758 + 0.527555I$ $b = -0.410749 + 0.471628I$	$-0.12055 - 1.56154I$	0
$u = -0.328525 - 0.779440I$ $a = -0.807758 - 0.527555I$ $b = -0.410749 - 0.471628I$	$-0.12055 + 1.56154I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.788124 + 0.303926I$ $a = -0.387345 + 0.099692I$ $b = 0.619681 + 0.601987I$	$0.06582 - 2.81820I$	0
$u = -0.788124 - 0.303926I$ $a = -0.387345 - 0.099692I$ $b = 0.619681 - 0.601987I$	$0.06582 + 2.81820I$	0
$u = 0.445920 + 1.083550I$ $a = 1.87113 + 0.43186I$ $b = 1.44730 - 0.78897I$	$-3.75095 + 4.98969I$	0
$u = 0.445920 - 1.083550I$ $a = 1.87113 - 0.43186I$ $b = 1.44730 + 0.78897I$	$-3.75095 - 4.98969I$	0
$u = 0.678170 + 0.961510I$ $a = 1.51669 + 0.65840I$ $b = 1.117050 - 0.384555I$	$-4.26488 + 4.97917I$	0
$u = 0.678170 - 0.961510I$ $a = 1.51669 - 0.65840I$ $b = 1.117050 + 0.384555I$	$-4.26488 - 4.97917I$	0
$u = 0.126780 + 1.184510I$ $a = -1.284540 + 0.461804I$ $b = -1.001690 - 0.662057I$	$-9.69819 + 3.33662I$	0
$u = 0.126780 - 1.184510I$ $a = -1.284540 - 0.461804I$ $b = -1.001690 + 0.662057I$	$-9.69819 - 3.33662I$	0
$u = -1.24771$ $a = -0.301097$ $b = -0.418317$	2.46420	0
$u = -0.244543 + 1.228290I$ $a = -1.23179 + 0.86747I$ $b = -0.793130 - 0.382921I$	$-4.75803 - 4.24642I$	0



Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.244543 - 1.228290I$ $a = -1.23179 - 0.86747I$ $b = -0.793130 + 0.382921I$	$-4.75803 + 4.24642I$	0
$u = -0.677969 + 0.254536I$ $a = 0.409907 + 1.157920I$ $b = -1.069570 - 0.571323I$	$-7.15487 - 2.90968I$	$-8.77339 + 3.39857I$
$u = -0.677969 - 0.254536I$ $a = 0.409907 - 1.157920I$ $b = -1.069570 + 0.571323I$	$-7.15487 + 2.90968I$	$-8.77339 - 3.39857I$
$u = -1.277250 + 0.127509I$ $a = 0.0389394 - 0.1322070I$ $b = 1.044920 - 0.622691I$	$-6.62392 + 10.71350I$	0
$u = -1.277250 - 0.127509I$ $a = 0.0389394 + 0.1322070I$ $b = 1.044920 + 0.622691I$	$-6.62392 - 10.71350I$	0
$u = 0.069180 + 0.695826I$ $a = -2.02727 + 1.35133I$ $b = -0.960722 + 0.879130I$	$0.09907 - 1.94759I$	$1.047268 - 0.082305I$
$u = 0.069180 - 0.695826I$ $a = -2.02727 - 1.35133I$ $b = -0.960722 - 0.879130I$	$0.09907 + 1.94759I$	$1.047268 + 0.082305I$
$u = -0.398390 + 1.249610I$ $a = -1.70242 + 0.10142I$ $b = -1.44678 - 1.39596I$	$-11.29010 - 6.82846I$	0
$u = -0.398390 - 1.249610I$ $a = -1.70242 - 0.10142I$ $b = -1.44678 + 1.39596I$	$-11.29010 + 6.82846I$	0
$u = 0.683363$ $a = 0.835726$ $b = 0.596379$	$-2.43815$	$-4.51530$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.435092 + 0.490628I$ $a = -0.98737 + 1.36578I$ $b = -0.993481 + 0.278310I$	$-0.11272 - 1.93319I$	$1.42858 + 4.41047I$
$u = -0.435092 - 0.490628I$ $a = -0.98737 - 1.36578I$ $b = -0.993481 - 0.278310I$	$-0.11272 + 1.93319I$	$1.42858 - 4.41047I$
$u = 0.151916 + 0.595849I$ $a = -0.441550 - 0.656585I$ $b = 0.352124 + 1.046440I$	$0.84180 - 2.66745I$	$5.74905 - 1.98095I$
$u = 0.151916 - 0.595849I$ $a = -0.441550 + 0.656585I$ $b = 0.352124 - 1.046440I$	$0.84180 + 2.66745I$	$5.74905 + 1.98095I$
$u = -0.414299 + 1.325530I$ $a = 1.59253 + 0.08221I$ $b = 1.46438 + 0.92926I$	$-4.63913 - 7.16183I$	0
$u = -0.414299 - 1.325530I$ $a = 1.59253 - 0.08221I$ $b = 1.46438 - 0.92926I$	$-4.63913 + 7.16183I$	0
$u = -0.644934 + 1.230390I$ $a = -0.736732 + 0.726576I$ $b = -1.44148 + 0.01984I$	$-9.62472 - 2.50943I$	0
$u = -0.644934 - 1.230390I$ $a = -0.736732 - 0.726576I$ $b = -1.44148 - 0.01984I$	$-9.62472 + 2.50943I$	0
$u = 0.246352 + 1.373650I$ $a = 1.15659 + 0.88248I$ $b = 0.695662 - 0.461228I$	$-11.08240 + 7.06191I$	0
$u = 0.246352 - 1.373650I$ $a = 1.15659 - 0.88248I$ $b = 0.695662 + 0.461228I$	$-11.08240 - 7.06191I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.530049 + 1.305380I$ $a = -1.45314 + 0.19683I$ $b = -1.052980 - 0.528704I$	$-1.83963 - 5.67513I$	0
$u = -0.530049 - 1.305380I$ $a = -1.45314 - 0.19683I$ $b = -1.052980 + 0.528704I$	$-1.83963 + 5.67513I$	0
$u = 0.49937 + 1.32808I$ $a = -0.488895 - 0.527064I$ $b = -0.686607 + 0.222863I$	$-4.57148 - 1.94462I$	0
$u = 0.49937 - 1.32808I$ $a = -0.488895 + 0.527064I$ $b = -0.686607 - 0.222863I$	$-4.57148 + 1.94462I$	0
$u = -0.215639 + 0.534209I$ $a = -1.16518 + 2.62450I$ $b = -1.021100 - 0.309250I$	$-7.02333 - 2.79209I$	$-10.65282 + 2.82685I$
$u = -0.215639 - 0.534209I$ $a = -1.16518 - 2.62450I$ $b = -1.021100 + 0.309250I$	$-7.02333 + 2.79209I$	$-10.65282 - 2.82685I$
$u = 0.54058 + 1.33341I$ $a = -1.57123 - 0.12787I$ $b = -1.42757 + 0.93579I$	$-4.02189 + 12.94080I$	0
$u = 0.54058 - 1.33341I$ $a = -1.57123 + 0.12787I$ $b = -1.42757 - 0.93579I$	$-4.02189 - 12.94080I$	0
$u = 0.513373 + 0.147678I$ $a = -0.753590 + 0.248252I$ $b = 0.800692 + 0.560525I$	$-1.23216 - 1.17836I$	$-4.88311 + 4.54684I$
$u = 0.513373 - 0.147678I$ $a = -0.753590 - 0.248252I$ $b = 0.800692 - 0.560525I$	$-1.23216 + 1.17836I$	$-4.88311 - 4.54684I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.25454 + 1.44381I$ $a = -1.336270 + 0.250303I$ $b = -1.46023 + 0.90075I$	$-12.93760 + 3.41499I$	0
$u = 0.25454 - 1.44381I$ $a = -1.336270 - 0.250303I$ $b = -1.46023 - 0.90075I$	$-12.93760 - 3.41499I$	0
$u = -0.62479 + 1.38493I$ $a = 1.47088 - 0.22892I$ $b = 1.40808 + 0.97394I$	$-10.6453 - 17.3382I$	0
$u = -0.62479 - 1.38493I$ $a = 1.47088 + 0.22892I$ $b = 1.40808 - 0.97394I$	$-10.6453 + 17.3382I$	0
$u = 1.52669$ $a = 0.294467$ $b = 0.782757$	$-2.00885$	0
$u = 1.41052 + 0.59034I$ $a = 0.0916655 - 0.0956405I$ $b = -0.641469 + 0.112408I$	$-5.83989 - 1.30562I$	0
$u = 1.41052 - 0.59034I$ $a = 0.0916655 + 0.0956405I$ $b = -0.641469 - 0.112408I$	$-5.83989 + 1.30562I$	0
$u = 0.67751 + 1.43400I$ $a = -0.795814 - 0.141330I$ $b = -0.920623 + 0.747247I$	$-9.42451 + 9.01167I$	0
$u = 0.67751 - 1.43400I$ $a = -0.795814 + 0.141330I$ $b = -0.920623 - 0.747247I$	$-9.42451 - 9.01167I$	0
$u = -0.55611 + 1.48766I$ $a = 0.601362 - 0.005171I$ $b = 0.692230 + 0.691299I$	$-2.70633 - 4.15001I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.55611 - 1.48766I$		
$a = 0.601362 + 0.005171I$	$-2.70633 + 4.15001I$	0
$b = 0.692230 - 0.691299I$		
$u = 0.54992 + 1.52692I$		
$a = 1.225460 + 0.136232I$	$-7.35822 + 7.24063I$	0
$b = 1.130120 - 0.483941I$		
$u = 0.54992 - 1.52692I$		
$a = 1.225460 - 0.136232I$	$-7.35822 - 7.24063I$	0
$b = 1.130120 + 0.483941I$		
$u = -0.180594 + 0.309779I$		
$a = 5.14197 + 1.52978I$	$-5.46219 + 5.61812I$	$-2.79757 - 0.10435I$
$b = 0.775482 + 0.702564I$		
$u = -0.180594 - 0.309779I$		
$a = 5.14197 - 1.52978I$	$-5.46219 - 5.61812I$	$-2.79757 + 0.10435I$
$b = 0.775482 - 0.702564I$		
$u = 0.252949 + 0.250663I$		
$a = 1.47113 - 0.57500I$	$1.14260 + 3.25401I$	$3.95954 - 7.62313I$
$b = 0.288716 - 1.130940I$		
$u = 0.252949 - 0.250663I$		
$a = 1.47113 + 0.57500I$	$1.14260 - 3.25401I$	$3.95954 + 7.62313I$
$b = 0.288716 + 1.130940I$		
$u = -0.33710 + 1.61859I$		
$a = 0.795660 - 0.350100I$	$-12.68790 + 4.35097I$	0
$b = 1.030800 + 0.166941I$		
$u = -0.33710 - 1.61859I$		
$a = 0.795660 + 0.350100I$	$-12.68790 - 4.35097I$	0
$b = 1.030800 - 0.166941I$		

$$\text{II. } I_2^u = \langle u^{18} - 2u^{17} + \dots + b - 1, 2810u^{19} - 4920u^{18} + \dots + 107a - 1193, u^{20} - 2u^{19} + \dots + u - 1 \rangle$$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -26.2617u^{19} + 45.9813u^{18} + \dots + 23.3364u + 11.1495 \\ -u^{18} + 2u^{17} + \dots + 9u^2 + 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -11.8131u^{19} + 19.2991u^{18} + \dots + 2.61682u + 5.60748 \\ 14.4486u^{19} - 27.6822u^{18} + \dots - 20.7196u - 4.54206 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -11.8131u^{19} + 19.2991u^{18} + \dots + 3.61682u + 5.60748 \\ 6.62617u^{19} - 13.5981u^{18} + \dots - 12.2336u - 1.21495 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 14.8411u^{19} - 54.6542u^{18} + \dots - 77.2243u + 52.2336 \\ 6u^{19} - 12u^{18} + \dots + 6u^2 - 7u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -13.8972u^{19} + 38.3645u^{18} + \dots + 25.4393u - 13.9159 \\ -9.35514u^{19} + 13.8318u^{18} + \dots - 10.9720u + 20.3458 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -3.65421u^{19} + 7.95327u^{18} + \dots + 31.8411u + 1.37383 \\ -0.635514u^{19} + 19.3832u^{18} + \dots + 57.1028u - 49.0654 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -4.98131u^{19} + 25.4299u^{18} + \dots + 45.2617u - 39.4393 \\ 0.644860u^{19} - 8.16822u^{18} + \dots - 26.9720u + 29.3458 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -4.98131u^{19} + 25.4299u^{18} + \dots + 45.2617u - 39.4393 \\ 0.644860u^{19} - 8.16822u^{18} + \dots - 26.9720u + 29.3458 \end{pmatrix}$$

(ii) Obstruction class = 1

$$\text{(iii) Cusp Shapes} = \frac{11858}{107}u^{19} - \frac{34035}{107}u^{18} + \dots - \frac{56013}{107}u + \frac{24789}{107}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^{20} + u^{19} + \dots - u - 1$
$c_2$	$u^{20} - u^{18} + \dots - u - 1$
$c_3$	$u^{20} + 7u^{19} + \dots + 26u^2 - 1$
$c_4$	$u^{20} - u^{19} + \dots + 2u + 1$
$c_5$	$u^{20} + 3u^{19} + \dots - u - 1$
$c_6$	$u^{20} + 4u^{18} + \dots + 3u - 1$
$c_7$	$u^{20} - 2u^{19} + \dots + u - 1$
$c_8$	$u^{20} - 3u^{19} + \dots - 3u^2 + 1$
$c_9, c_{10}$	$u^{20} + u^{19} + \dots - 2u + 1$
$c_{11}$	$u^{20} + 2u^{19} + \dots - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1$	$y^{20} - 9y^{19} + \dots + y + 1$
$c_2$	$y^{20} - 2y^{19} + \dots + y + 1$
$c_3$	$y^{20} - 3y^{19} + \dots - 52y + 1$
$c_4, c_9, c_{10}$	$y^{20} - 21y^{19} + \dots - 28y + 1$
$c_5$	$y^{20} + 3y^{19} + \dots + 11y + 1$
$c_6$	$y^{20} + 8y^{19} + \dots - 11y + 1$
$c_7, c_{11}$	$y^{20} + 10y^{19} + \dots + 19y + 1$
$c_8$	$y^{20} + y^{19} + \dots - 6y + 1$



(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.023098 + 0.755612I$ $a = 0.77533 + 1.84505I$ $b = 0.19540 + 1.74306I$	$0.16874 + 2.77142I$	$2.49688 - 6.12151I$
$u = 0.023098 - 0.755612I$ $a = 0.77533 - 1.84505I$ $b = 0.19540 - 1.74306I$	$0.16874 - 2.77142I$	$2.49688 + 6.12151I$
$u = 0.541044 + 1.141770I$ $a = 1.81236 + 0.36763I$ $b = 0.920204 - 0.446036I$	$-5.23739 + 5.55861I$	$-8.63842 - 8.06052I$
$u = 0.541044 - 1.141770I$ $a = 1.81236 - 0.36763I$ $b = 0.920204 + 0.446036I$	$-5.23739 - 5.55861I$	$-8.63842 + 8.06052I$
$u = -0.416386 + 1.198530I$ $a = -1.62703 + 0.06947I$ $b = -1.019980 - 0.686033I$	$-2.35880 - 5.00950I$	$-4.53218 + 5.02781I$
$u = -0.416386 - 1.198530I$ $a = -1.62703 - 0.06947I$ $b = -1.019980 + 0.686033I$	$-2.35880 + 5.00950I$	$-4.53218 - 5.02781I$
$u = 1.27522$ $a = 0.595699$ $b = 0.485579$	$-1.31038$	$6.20020$
$u = 1.057510 + 0.728926I$ $a = -0.295893 + 0.357385I$ $b = 0.572386 - 0.096735I$	$-5.62801 - 1.51138I$	$-5.02190 + 9.76370I$
$u = 1.057510 - 0.728926I$ $a = -0.295893 - 0.357385I$ $b = 0.572386 + 0.096735I$	$-5.62801 + 1.51138I$	$-5.02190 - 9.76370I$
$u = -1.29712$ $a = -0.226506$ $b = -0.483546$	$2.35090$	$-37.5790$

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.053636 + 0.686332I$ $a = 0.477848 + 0.259027I$ $b = -0.274254 + 1.252550I$	$0.41433 + 2.93710I$	$-8.44025 - 5.37355I$
$u = -0.053636 - 0.686332I$ $a = 0.477848 - 0.259027I$ $b = -0.274254 - 1.252550I$	$0.41433 - 2.93710I$	$-8.44025 + 5.37355I$
$u = -0.172612 + 0.633647I$ $a = -2.39427 + 2.55984I$ $b = -0.558207 + 0.814180I$	$-5.94321 - 6.14570I$	$-10.52858 + 8.02706I$
$u = -0.172612 - 0.633647I$ $a = -2.39427 - 2.55984I$ $b = -0.558207 - 0.814180I$	$-5.94321 + 6.14570I$	$-10.52858 - 8.02706I$
$u = -0.391244 + 1.285840I$ $a = -0.905832 - 0.019168I$ $b = -0.869606 - 0.821260I$	$-2.62899 - 3.66788I$	$-5.57286 + 1.70794I$
$u = -0.391244 - 1.285840I$ $a = -0.905832 + 0.019168I$ $b = -0.869606 + 0.821260I$	$-2.62899 + 3.66788I$	$-5.57286 - 1.70794I$
$u = 0.319597 + 1.353040I$ $a = 1.048790 + 0.126841I$ $b = 0.732984 - 0.987021I$	$-9.99863 + 6.70009I$	$-6.33266 - 4.76825I$
$u = 0.319597 - 1.353040I$ $a = 1.048790 - 0.126841I$ $b = 0.732984 + 0.987021I$	$-9.99863 - 6.70009I$	$-6.33266 + 4.76825I$
$u = 0.103581 + 0.582151I$ $a = -0.57589 - 2.05632I$ $b = 0.300055 + 0.812653I$	$-2.20697 - 2.35727I$	$0.75955 + 2.29179I$
$u = 0.103581 - 0.582151I$ $a = -0.57589 + 2.05632I$ $b = 0.300055 - 0.812653I$	$-2.20697 + 2.35727I$	$0.75955 - 2.29179I$

### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^{20} + u^{19} + \dots - u - 1)(u^{89} - 4u^{88} + \dots - 121118u - 30299)$
$c_2$	$(u^{20} - u^{18} + \dots - u - 1)(u^{89} - u^{88} + \dots + 74u - 3)$
$c_3$	$(u^{20} + 7u^{19} + \dots + 26u^2 - 1)(u^{89} + 6u^{88} + \dots + 9173u - 3187)$
$c_4$	$(u^{20} - u^{19} + \dots + 2u + 1)(u^{89} - 45u^{87} + \dots - 29u + 1)$
$c_5$	$(u^{20} + 3u^{19} + \dots - u - 1)(u^{89} + 5u^{87} + \dots - 1510u - 191)$
$c_6$	$(u^{20} + 4u^{18} + \dots + 3u - 1)(u^{89} + u^{88} + \dots + 84u - 2543)$
$c_7$	$(u^{20} - 2u^{19} + \dots + u - 1)(u^{89} + u^{88} + \dots + 48u - 59)$
$c_8$	$(u^{20} - 3u^{19} + \dots - 3u^2 + 1)(u^{89} + 8u^{88} + \dots + 21u + 1)$
$c_9, c_{10}$	$(u^{20} + u^{19} + \dots - 2u + 1)(u^{89} - 45u^{87} + \dots - 29u + 1)$
$c_{11}$	$(u^{20} + 2u^{19} + \dots - u - 1)(u^{89} + u^{88} + \dots + 48u - 59)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1$	$(y^{20} - 9y^{19} + \dots + y + 1)$ $\cdot (y^{89} + 22y^{88} + \dots - 31326433006y - 918029401)$
$c_2$	$(y^{20} - 2y^{19} + \dots + y + 1)(y^{89} - 7y^{88} + \dots + 1222y - 9)$
$c_3$	$(y^{20} - 3y^{19} + \dots - 52y + 1)$ $\cdot (y^{89} - 40y^{88} + \dots + 740124139y - 10156969)$
$c_4, c_9, c_{10}$	$(y^{20} - 21y^{19} + \dots - 28y + 1)(y^{89} - 90y^{88} + \dots + 123y - 1)$
$c_5$	$(y^{20} + 3y^{19} + \dots + 11y + 1)(y^{89} + 10y^{88} + \dots - 1020380y - 36481)$
$c_6$	$(y^{20} + 8y^{19} + \dots - 11y + 1)$ $\cdot (y^{89} - 17y^{88} + \dots + 242227806y - 6466849)$
$c_7, c_{11}$	$(y^{20} + 10y^{19} + \dots + 19y + 1)(y^{89} + 57y^{88} + \dots - 106492y - 3481)$
$c_8$	$(y^{20} + y^{19} + \dots - 6y + 1)(y^{89} + 12y^{88} + \dots + 29y - 1)$