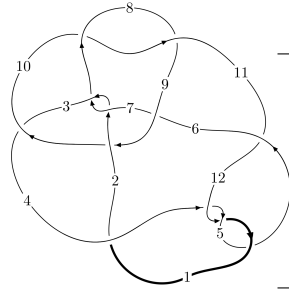
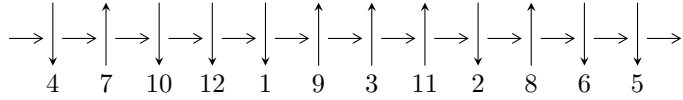


12a₁₀₈₃ (K12a₁₀₈₃)



A knot diagram¹

Linearized knot diagram



Solving Sequence

$$1, 6 \xrightarrow{c_5} 5 \xrightarrow{c_{12}} 12 \xrightarrow{c_4} 4 \xrightarrow{c_1} 2 \xrightarrow{c_{11}} 8, 11 \xrightarrow{c_8} 9 \xrightarrow{c_6} 7 \xrightarrow{c_{10}} 10 \xrightarrow{c_3} 3 \twoheadrightarrow c_2, c_7, c_9$$

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle -2.11665 \times 10^{47} u^{88} - 1.10564 \times 10^{47} u^{87} + \dots + 6.92682 \times 10^{46} b - 2.35140 \times 10^{47}, \\ 3.99720 \times 10^{45} u^{88} - 1.09937 \times 10^{45} u^{87} + \dots + 6.29711 \times 10^{45} a + 7.42531 \times 10^{45}, u^{89} + 2u^{88} + \dots - u + 1 \rangle \\ I_2^u = \langle 2u^4 - 12u^3 + 7b + 9u + 6, -u^4 - u^3 + 7a + 6u - 3, u^5 - u^4 - 2u^3 + u^2 + u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 94 representations.

¹The 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>).

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

I.

$$I_1^u = \langle -2.12 \times 10^{47} u^{88} - 1.11 \times 10^{47} u^{87} + \dots + 6.93 \times 10^{46} b - 2.35 \times 10^{47}, 4.00 \times 10^{45} u^{88} - 1.10 \times 10^{45} u^{87} + \dots + 6.30 \times 10^{45} a + 7.43 \times 10^{45}, u^{89} + 2u^{88} + \dots - u + 1 \rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^5 + 2u^3 - u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.634768u^{88} + 0.174583u^{87} + \dots + 7.02674u - 1.17916 \\ 3.05573u^{88} + 1.59617u^{87} + \dots - 5.89150u + 3.39464 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.126780u^{88} + 0.404435u^{87} + \dots + 8.42304u - 0.381113 \\ 1.69946u^{88} + 0.554035u^{87} + \dots - 3.03296u + 2.56541 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3.16567u^{88} + 2.81717u^{87} + \dots - 9.92028u + 0.927302 \\ -1.96936u^{88} - 2.61970u^{87} + \dots + 6.37800u - 2.57339 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.388476u^{88} + 0.166599u^{87} + \dots + 8.37411u - 0.515987 \\ 1.83579u^{88} + 0.737421u^{87} + \dots - 2.95142u + 2.51815 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -3.30265u^{88} - 3.44449u^{87} + \dots - 0.682398u - 2.18348 \\ 2.41903u^{88} + 3.69517u^{87} + \dots + 1.98227u + 0.0416273 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $-6.44685u^{88} - 7.91516u^{87} + \dots + 17.4108u + 0.723245$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{89} - 6u^{88} + \dots - 5907u + 847$
c_2, c_7	$u^{89} + 2u^{88} + \dots - u + 1$
c_3	$7(7u^{89} - 109u^{88} + \dots - 1197918u - 1021121)$
c_4, c_5, c_{12}	$u^{89} + 2u^{88} + \dots - u + 1$
c_6	$7(7u^{89} + 73u^{88} + \dots + 4.22849 \times 10^7 u + 4324097)$
c_8, c_{10}	$u^{89} + 6u^{88} + \dots + 1691u + 49$
c_9	$u^{89} - 3u^{88} + \dots + 59096u^2 - 1568$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{89} + 72y^{88} + \dots + 9580901y - 717409$
c_2, c_7	$y^{89} - 60y^{88} + \dots - 11y - 1$
c_3	49 $\cdot (49y^{89} - 7919y^{88} + \dots - 31244025855892y - 1042688096641)$
c_4, c_5, c_{12}	$y^{89} - 72y^{88} + \dots - 11y - 1$
c_6	49 $\cdot (49y^{89} - 12749y^{88} + \dots + 178083980700794y - 18697814865409)$
c_8, c_{10}	$y^{89} - 76y^{88} + \dots + 3133195y - 2401$
c_9	$y^{89} + 33y^{88} + \dots + 185325056y - 2458624$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.125382 + 0.878758I$ $a = -0.70658 + 2.95493I$ $b = -0.48390 + 2.47308I$	$12.57200 - 0.58676I$	$7.92936 + 0.I$
$u = 0.125382 - 0.878758I$ $a = -0.70658 - 2.95493I$ $b = -0.48390 - 2.47308I$	$12.57200 + 0.58676I$	$7.92936 + 0.I$
$u = -0.108009 + 0.878753I$ $a = 0.63992 + 3.41927I$ $b = 0.30080 + 2.77816I$	$8.44721 + 6.94338I$	$3.88118 - 5.23404I$
$u = -0.108009 - 0.878753I$ $a = 0.63992 - 3.41927I$ $b = 0.30080 - 2.77816I$	$8.44721 - 6.94338I$	$3.88118 + 5.23404I$
$u = 0.107640 + 0.869226I$ $a = -0.84277 + 3.64500I$ $b = -0.36192 + 3.00809I$	$13.1823 - 12.7067I$	$5.61691 + 6.76212I$
$u = 0.107640 - 0.869226I$ $a = -0.84277 - 3.64500I$ $b = -0.36192 - 3.00809I$	$13.1823 + 12.7067I$	$5.61691 - 6.76212I$
$u = -1.14112$ $a = -0.524359$ $b = -1.81639$	3.04390	0
$u = -0.018538 + 0.839308I$ $a = -0.04785 - 3.30693I$ $b = 0.26758 - 2.88148I$	$11.49580 + 2.45922I$	$9.88893 - 2.84321I$
$u = -0.018538 - 0.839308I$ $a = -0.04785 + 3.30693I$ $b = 0.26758 + 2.88148I$	$11.49580 - 2.45922I$	$9.88893 + 2.84321I$
$u = 0.061352 + 0.829162I$ $a = -0.545645 - 0.852361I$ $b = -0.955134 - 0.749592I$	$7.26203 - 6.26191I$	$5.35569 + 6.30354I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.061352 - 0.829162I$ $a = -0.545645 + 0.852361I$ $b = -0.955134 + 0.749592I$	$7.26203 + 6.26191I$	$5.35569 - 6.30354I$
$u = 0.014115 + 0.816635I$ $a = 1.52546 - 4.00461I$ $b = 0.82563 - 3.07082I$	$6.78894 - 1.20316I$	$1.70987 + 0.75534I$
$u = 0.014115 - 0.816635I$ $a = 1.52546 + 4.00461I$ $b = 0.82563 + 3.07082I$	$6.78894 + 1.20316I$	$1.70987 - 0.75534I$
$u = -0.061691 + 0.806346I$ $a = -0.245155 - 0.075307I$ $b = 0.214340 - 0.168825I$	$3.54962 + 2.89056I$	$-0.65715 - 3.47288I$
$u = -0.061691 - 0.806346I$ $a = -0.245155 + 0.075307I$ $b = 0.214340 + 0.168825I$	$3.54962 - 2.89056I$	$-0.65715 + 3.47288I$
$u = -0.517626 + 0.610535I$ $a = -1.32915 + 0.51384I$ $b = -0.251501 + 0.525803I$	$2.17162 + 2.14937I$	$6.30599 - 5.13356I$
$u = -0.517626 - 0.610535I$ $a = -1.32915 - 0.51384I$ $b = -0.251501 - 0.525803I$	$2.17162 - 2.14937I$	$6.30599 + 5.13356I$
$u = 0.034225 + 0.793430I$ $a = 2.62398 + 1.24253I$ $b = 1.60665 + 0.50390I$	$6.48290 - 0.18025I$	$6.74425 - 0.95194I$
$u = 0.034225 - 0.793430I$ $a = 2.62398 - 1.24253I$ $b = 1.60665 - 0.50390I$	$6.48290 + 0.18025I$	$6.74425 + 0.95194I$
$u = 1.22262$ $a = -0.570553$ $b = 2.43483$	-1.22444	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.140140 + 0.447012I$ $a = 1.56190 - 1.40744I$ $b = -0.75301 - 1.95426I$	$9.46007 - 4.15016I$	0
$u = 1.140140 - 0.447012I$ $a = 1.56190 + 1.40744I$ $b = -0.75301 + 1.95426I$	$9.46007 + 4.15016I$	0
$u = 1.221650 + 0.117112I$ $a = 0.542321 - 1.049280I$ $b = 0.744477 - 0.262187I$	$1.49288 - 3.55667I$	0
$u = 1.221650 - 0.117112I$ $a = 0.542321 + 1.049280I$ $b = 0.744477 + 0.262187I$	$1.49288 + 3.55667I$	0
$u = 0.537235 + 0.543423I$ $a = 1.43198 + 0.25042I$ $b = -0.017291 + 0.227081I$	$6.94642 + 4.33545I$	$4.08323 - 1.64396I$
$u = 0.537235 - 0.543423I$ $a = 1.43198 - 0.25042I$ $b = -0.017291 - 0.227081I$	$6.94642 - 4.33545I$	$4.08323 + 1.64396I$
$u = 1.160450 + 0.432770I$ $a = 1.78321 - 1.56494I$ $b = -0.68857 - 2.55744I$	$9.95317 + 8.04672I$	0
$u = 1.160450 - 0.432770I$ $a = 1.78321 + 1.56494I$ $b = -0.68857 + 2.55744I$	$9.95317 - 8.04672I$	0
$u = -1.161820 + 0.445584I$ $a = -1.73625 - 1.46920I$ $b = 0.57367 - 2.32260I$	$5.21394 - 2.21357I$	0
$u = -1.161820 - 0.445584I$ $a = -1.73625 + 1.46920I$ $b = 0.57367 + 2.32260I$	$5.21394 + 2.21357I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.24503$ $a = -0.621366$ $b = 0.809575$	-2.34521	0
$u = -1.254420 + 0.066692I$ $a = -0.296221 - 1.087230I$ $b = -0.450958 + 0.738893I$	$-2.36817 + 1.69929I$	0
$u = -1.254420 - 0.066692I$ $a = -0.296221 + 1.087230I$ $b = -0.450958 - 0.738893I$	$-2.36817 - 1.69929I$	0
$u = 0.473696 + 0.568911I$ $a = 1.032500 + 0.374017I$ $b = 0.033167 + 0.777124I$	$7.13183 - 8.33264I$	$3.55448 + 7.75216I$
$u = 0.473696 - 0.568911I$ $a = 1.032500 - 0.374017I$ $b = 0.033167 - 0.777124I$	$7.13183 + 8.33264I$	$3.55448 - 7.75216I$
$u = -1.215220 + 0.345432I$ $a = -0.321172 + 0.016545I$ $b = 0.022056 + 0.329477I$	$0.013033 + 1.266560I$	0
$u = -1.215220 - 0.345432I$ $a = -0.321172 - 0.016545I$ $b = 0.022056 - 0.329477I$	$0.013033 - 1.266560I$	0
$u = 1.210740 + 0.372378I$ $a = -0.344730 - 0.246031I$ $b = -0.644449 + 1.070780I$	$3.72918 + 1.93529I$	0
$u = 1.210740 - 0.372378I$ $a = -0.344730 + 0.246031I$ $b = -0.644449 - 1.070780I$	$3.72918 - 1.93529I$	0
$u = 1.28089$ $a = 8.66646$ $b = -13.2618$	-0.642402	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.276390 + 0.158096I$ $a = -0.699550 - 0.079722I$ $b = 0.948418 - 0.603694I$	$-2.68953 + 0.28084I$	0
$u = -1.276390 - 0.158096I$ $a = -0.699550 + 0.079722I$ $b = 0.948418 + 0.603694I$	$-2.68953 - 0.28084I$	0
$u = 1.244620 + 0.338635I$ $a = 1.97834 + 0.84588I$ $b = 1.92110 - 0.87909I$	$2.75165 - 3.89874I$	0
$u = 1.244620 - 0.338635I$ $a = 1.97834 - 0.84588I$ $b = 1.92110 + 0.87909I$	$2.75165 + 3.89874I$	0
$u = 1.257930 + 0.362564I$ $a = -1.49421 + 2.10833I$ $b = 1.46227 + 3.01516I$	$2.93653 - 3.03854I$	0
$u = 1.257930 - 0.362564I$ $a = -1.49421 - 2.10833I$ $b = 1.46227 - 3.01516I$	$2.93653 + 3.03854I$	0
$u = -1.253420 + 0.382637I$ $a = 1.69811 + 0.87469I$ $b = -0.39093 + 2.92458I$	$7.67284 + 1.92905I$	0
$u = -1.253420 - 0.382637I$ $a = 1.69811 - 0.87469I$ $b = -0.39093 - 2.92458I$	$7.67284 - 1.92905I$	0
$u = -1.280020 + 0.364382I$ $a = 2.70109 + 0.60013I$ $b = 0.23888 + 3.04951I$	$2.76333 + 5.45191I$	0
$u = -1.280020 - 0.364382I$ $a = 2.70109 - 0.60013I$ $b = 0.23888 - 3.04951I$	$2.76333 - 5.45191I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.330850 + 0.108907I$ $a = 0.295863 - 1.001570I$ $b = 0.320656 - 0.175813I$	$-3.20338 + 5.50473I$	0
$u = -1.330850 - 0.108907I$ $a = 0.295863 + 1.001570I$ $b = 0.320656 + 0.175813I$	$-3.20338 - 5.50473I$	0
$u = 1.283730 + 0.380785I$ $a = -1.98430 + 1.01020I$ $b = 0.85763 + 2.70580I$	$7.44375 - 6.84138I$	0
$u = 1.283730 - 0.380785I$ $a = -1.98430 - 1.01020I$ $b = 0.85763 - 2.70580I$	$7.44375 + 6.84138I$	0
$u = -1.293800 + 0.348698I$ $a = 0.47441 - 1.60670I$ $b = 1.41902 - 0.31806I$	$2.33908 + 4.29811I$	0
$u = -1.293800 - 0.348698I$ $a = 0.47441 + 1.60670I$ $b = 1.41902 + 0.31806I$	$2.33908 - 4.29811I$	0
$u = 1.347160 + 0.076029I$ $a = -0.278467 - 0.594511I$ $b = -0.511180 - 0.135896I$	$-6.28340 - 1.68453I$	0
$u = 1.347160 - 0.076029I$ $a = -0.278467 + 0.594511I$ $b = -0.511180 + 0.135896I$	$-6.28340 + 1.68453I$	0
$u = 1.311970 + 0.356969I$ $a = -0.344886 + 0.019411I$ $b = 0.331785 - 0.013612I$	$-0.74881 - 7.08396I$	0
$u = 1.311970 - 0.356969I$ $a = -0.344886 - 0.019411I$ $b = 0.331785 + 0.013612I$	$-0.74881 + 7.08396I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.312650 + 0.370540I$ $a = 0.534803 + 0.679320I$ $b = -1.136720 + 0.422168I$	$2.96518 + 10.57800I$	0
$u = -1.312650 - 0.370540I$ $a = 0.534803 - 0.679320I$ $b = -1.136720 - 0.422168I$	$2.96518 - 10.57800I$	0
$u = 1.357590 + 0.223656I$ $a = 0.330273 - 0.203402I$ $b = -0.775634 - 1.129410I$	$-4.54409 - 4.94988I$	0
$u = 1.357590 - 0.223656I$ $a = 0.330273 + 0.203402I$ $b = -0.775634 + 1.129410I$	$-4.54409 + 4.94988I$	0
$u = -0.186642 + 0.594881I$ $a = -0.295138 + 0.951089I$ $b = -0.158997 + 0.865207I$	$0.35216 + 1.94903I$	$-4.32842 - 5.49561I$
$u = -0.186642 - 0.594881I$ $a = -0.295138 - 0.951089I$ $b = -0.158997 - 0.865207I$	$0.35216 - 1.94903I$	$-4.32842 + 5.49561I$
$u = -1.345940 + 0.387551I$ $a = -2.27394 - 0.90136I$ $b = -0.00868 - 3.24488I$	$8.6182 + 17.2188I$	0
$u = -1.345940 - 0.387551I$ $a = -2.27394 + 0.90136I$ $b = -0.00868 + 3.24488I$	$8.6182 - 17.2188I$	0
$u = 1.347310 + 0.393319I$ $a = 2.03377 - 0.95300I$ $b = -0.02306 - 3.02165I$	$3.87884 - 11.50730I$	0
$u = 1.347310 - 0.393319I$ $a = 2.03377 + 0.95300I$ $b = -0.02306 + 3.02165I$	$3.87884 + 11.50730I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.405720 + 0.154129I$ $a = 0.251570 + 0.203801I$ $b = 0.89571 - 1.25156I$	$1.13145 + 10.72670I$	0
$u = -1.405720 - 0.154129I$ $a = 0.251570 - 0.203801I$ $b = 0.89571 + 1.25156I$	$1.13145 - 10.72670I$	0
$u = -1.35901 + 0.39173I$ $a = -1.72454 - 0.72153I$ $b = -0.16351 - 2.75815I$	$7.90464 + 5.14950I$	0
$u = -1.35901 - 0.39173I$ $a = -1.72454 + 0.72153I$ $b = -0.16351 + 2.75815I$	$7.90464 - 5.14950I$	0
$u = -1.43311 + 0.11920I$ $a = 0.661784 - 0.160501I$ $b = 0.860338 - 0.810277I$	$0.57536 - 2.22101I$	0
$u = -1.43311 - 0.11920I$ $a = 0.661784 + 0.160501I$ $b = 0.860338 + 0.810277I$	$0.57536 + 2.22101I$	0
$u = 1.44205 + 0.17876I$ $a = -0.285437 - 0.246969I$ $b = -1.03613 - 1.20108I$	$-4.15123 - 4.81054I$	0
$u = 1.44205 - 0.17876I$ $a = -0.285437 + 0.246969I$ $b = -1.03613 + 1.20108I$	$-4.15123 + 4.81054I$	0
$u = 0.339746 + 0.376517I$ $a = 1.33791 + 0.97783I$ $b = 0.341605 - 0.405834I$	$1.91765 - 3.87309I$	$0.55666 + 8.72458I$
$u = 0.339746 - 0.376517I$ $a = 1.33791 - 0.97783I$ $b = 0.341605 + 0.405834I$	$1.91765 + 3.87309I$	$0.55666 - 8.72458I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.408647 + 0.240058I$ $a = -1.027240 + 0.453445I$ $b = -0.221980 - 0.162291I$	$-0.921165 + 0.597911I$	$-8.15892 - 3.51104I$
$u = -0.408647 - 0.240058I$ $a = -1.027240 - 0.453445I$ $b = -0.221980 + 0.162291I$	$-0.921165 - 0.597911I$	$-8.15892 + 3.51104I$
$u = 0.302175 + 0.323229I$ $a = 0.239200 + 0.620710I$ $b = 0.740732 + 0.559642I$	$1.88095 + 1.39164I$	$0.13565 + 1.94806I$
$u = 0.302175 - 0.323229I$ $a = 0.239200 - 0.620710I$ $b = 0.740732 - 0.559642I$	$1.88095 - 1.39164I$	$0.13565 - 1.94806I$
$u = -0.120036 + 0.422476I$ $a = -0.68149 + 2.35518I$ $b = -0.466667 - 0.230513I$	$5.40434 + 1.61762I$	$8.06305 - 4.45368I$
$u = -0.120036 - 0.422476I$ $a = -0.68149 - 2.35518I$ $b = -0.466667 + 0.230513I$	$5.40434 - 1.61762I$	$8.06305 + 4.45368I$
$u = -0.335863$ $a = 0.323498$ $b = -1.74395$	3.97864	-10.7630
$u = 0.131901 + 0.259616I$ $a = 0.04663 + 1.73551I$ $b = 0.648286 - 0.639044I$	$1.69944 - 0.54221I$	$5.59861 - 1.83592I$
$u = 0.131901 - 0.259616I$ $a = 0.04663 - 1.73551I$ $b = 0.648286 + 0.639044I$	$1.69944 + 0.54221I$	$5.59861 + 1.83592I$

II.

$$I_2^u = \langle 2u^4 - 12u^3 + 7b + 9u + 6, -u^4 - u^3 + 7a + 6u - 3, u^5 - u^4 - 2u^3 + u^2 + u + 1 \rangle$$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^4 + u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{7}u^4 + \frac{1}{7}u^3 - \frac{6}{7}u + \frac{3}{7} \\ -\frac{2}{7}u^4 + \frac{12}{7}u^3 - \frac{9}{7}u - \frac{6}{7} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^3 + 2u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{7}u^4 - \frac{6}{7}u^3 + \frac{8}{7}u + \frac{3}{7} \\ -\frac{2}{7}u^4 + \frac{5}{7}u^3 - \frac{2}{7}u - \frac{6}{7} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.326531u^4 - 0.959184u^3 + \dots + 0.612245u + 1.26531 \\ -0.795918u^4 + 1.77551u^3 + \dots - 0.367347u - 0.959184 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{1}{7}u^4 - \frac{6}{7}u^3 + \frac{8}{7}u + \frac{3}{7} \\ -\frac{2}{7}u^4 + \frac{5}{7}u^3 - \frac{2}{7}u - \frac{6}{7} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.244898u^4 + 0.469388u^3 + \dots + 0.0408163u + 0.551020 \\ 1.34694u^4 - 1.08163u^3 + \dots - 0.224490u + 0.469388 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = $-\frac{143}{49}u^4 - \frac{122}{49}u^3 + \frac{44}{7}u^2 - \frac{17}{49}u + \frac{138}{49}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^5 - 3u^4 + 4u^3 - u^2 - u + 1$
c_2	$u^5 - u^4 + 2u^3 - u^2 + u - 1$
c_3	$7(7u^5 - 12u^4 + 2u^3 - 7u^2 - 1)$
c_4, c_5	$u^5 - u^4 - 2u^3 + u^2 + u + 1$
c_6	$7(7u^5 + 30u^4 + 41u^3 + 26u^2 + 8u + 1)$
c_7	$u^5 + u^4 + 2u^3 + u^2 + u + 1$
c_8	$(u + 1)^5$
c_9	u^5
c_{10}	$(u - 1)^5$
c_{12}	$u^5 + u^4 - 2u^3 - u^2 + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_2, c_7	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_3	$49(49y^5 - 116y^4 - 164y^3 - 73y^2 - 14y - 1)$
c_4, c_5, c_{12}	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_6	$49(49y^5 - 326y^4 + 233y^3 - 80y^2 + 12y - 1)$
c_8, c_{10}	$(y - 1)^5$
c_9	y^5

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.21774$ $a = 1.52851$ $b = -3.01533$	-0.756147	10.6380
$u = -0.309916 + 0.549911I$ $a = 0.719612 - 0.452376I$ $b = -0.006697 - 0.760662I$	$1.31583 + 1.53058I$	$1.21564 - 2.72429I$
$u = -0.309916 - 0.549911I$ $a = 0.719612 + 0.452376I$ $b = -0.006697 + 0.760662I$	$1.31583 - 1.53058I$	$1.21564 + 2.72429I$
$u = 1.41878 + 0.21917I$ $a = 0.087560 + 0.348847I$ $b = 0.87151 + 1.27076I$	$-4.22763 - 4.40083I$	$-2.06547 - 6.56835I$
$u = 1.41878 - 0.21917I$ $a = 0.087560 - 0.348847I$ $b = 0.87151 - 1.27076I$	$-4.22763 + 4.40083I$	$-2.06547 + 6.56835I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$(u^5 - 3u^4 + 4u^3 - u^2 - u + 1)(u^{89} - 6u^{88} + \dots - 5907u + 847)$
c_2	$(u^5 - u^4 + 2u^3 - u^2 + u - 1)(u^{89} + 2u^{88} + \dots - u + 1)$
c_3	$49(7u^5 - 12u^4 + 2u^3 - 7u^2 - 1)$ $\cdot (7u^{89} - 109u^{88} + \dots - 1197918u - 1021121)$
c_4, c_5	$(u^5 - u^4 - 2u^3 + u^2 + u + 1)(u^{89} + 2u^{88} + \dots - u + 1)$
c_6	$49(7u^5 + 30u^4 + 41u^3 + 26u^2 + 8u + 1)$ $\cdot (7u^{89} + 73u^{88} + \dots + 42284896u + 4324097)$
c_7	$(u^5 + u^4 + 2u^3 + u^2 + u + 1)(u^{89} + 2u^{88} + \dots - u + 1)$
c_8	$((u + 1)^5)(u^{89} + 6u^{88} + \dots + 1691u + 49)$
c_9	$u^5(u^{89} - 3u^{88} + \dots + 59096u^2 - 1568)$
c_{10}	$((u - 1)^5)(u^{89} + 6u^{88} + \dots + 1691u + 49)$
c_{12}	$(u^5 + u^4 - 2u^3 - u^2 + u - 1)(u^{89} + 2u^{88} + \dots - u + 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)$ $\cdot (y^{89} + 72y^{88} + \dots + 9580901y - 717409)$
c_2, c_7	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)(y^{89} - 60y^{88} + \dots - 11y - 1)$
c_3	$2401(49y^5 - 116y^4 - 164y^3 - 73y^2 - 14y - 1)$ $\cdot (49y^{89} - 7919y^{88} + \dots - 31244025855892y - 1042688096641)$
c_4, c_5, c_{12}	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)(y^{89} - 72y^{88} + \dots - 11y - 1)$
c_6	$2401(49y^5 - 326y^4 + 233y^3 - 80y^2 + 12y - 1)$ $\cdot (49y^{89} - 12749y^{88} + \dots + 178083980700794y - 18697814865409)$
c_8, c_{10}	$((y - 1)^5)(y^{89} - 76y^{88} + \dots + 3133195y - 2401)$
c_9	$y^5(y^{89} + 33y^{88} + \dots + 1.85325 \times 10^8 y - 2458624)$