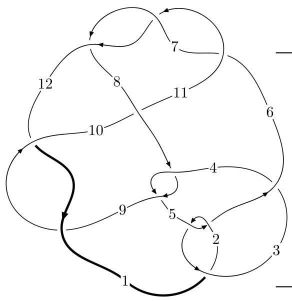
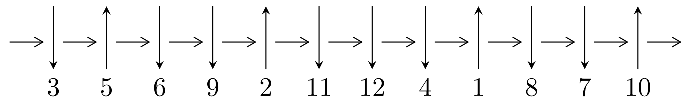
$12a_{0024}$ $(K12a_{0024})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

Ideals for irreducible components[2] of $X_{\mathbf{par}}$

$$I_1^u = \langle 17u^{89} - 27u^{88} + \cdots + 2b + 10,\ 11u^{89} - 17u^{88} + \cdots + 2a + 9,\ u^{90} - 3u^{89} + \cdots - 2u - 1\rangle$$
$$I_2^u = \langle -u^2a + b,\ u^4a + u^3a - u^2a + a^2 - au + u^2 + u - 1,\ u^5 + u^4 - 2u^3 - u^2 + u - 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 100 representations.

[1] 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`).

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

I. $I^u_1 =$
$\langle 17u^{89}-27u^{88}+\cdots+2b+10,\ 11u^{89}-17u^{88}+\cdots+2a+9,\ u^{90}-3u^{89}+\cdots-2u-1\rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-\frac{11}{2}u^{89}+\frac{17}{2}u^{88}+\cdots-\frac{13}{2}u-\frac{9}{2}\\-\frac{17}{2}u^{89}+\frac{27}{2}u^{88}+\cdots-\frac{27}{2}u-5\end{pmatrix}$$

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

$$a_9 = \begin{pmatrix}-u^{11}+6u^9-12u^7+8u^5-u^3+2u\\-u^{13}+5u^{11}-7u^9+2u^5+3u^3+u\end{pmatrix}$$

$$a_5 = \begin{pmatrix}\frac{3}{2}u^{89}-\frac{1}{2}u^{88}+\cdots+\frac{15}{2}u+\frac{1}{2}\\\frac{9}{2}u^{89}-\frac{9}{2}u^{88}+\cdots+\frac{15}{2}u+3\end{pmatrix}$$

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

$$a_6 = \begin{pmatrix}-u^2+1\\-u^2\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-2u^{89}+4u^{88}+\cdots+2u-\frac{3}{2}\\-2u^{89}+4u^{88}+\cdots-\frac{5}{2}u-1\end{pmatrix}$$

$$a_2 = \begin{pmatrix}\frac{1}{2}u^{86}-\frac{1}{2}u^{85}+\cdots+5u-\frac{3}{2}\\-u^{89}+2u^{88}+\cdots-\frac{1}{2}u-1\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-u^3+2u\\-u^5+u^3+u\end{pmatrix}$$

$$a_1 = \begin{pmatrix}u^7-4u^5+4u^3\\u^9-3u^7+u^5+2u^3+u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{5}{2}u^{89}-\frac{7}{2}u^{88}+\cdots+\frac{35}{2}u+\frac{3}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{90} + 46u^{89} + \cdots + 5u + 1$
c_2, c_5	$u^{90} + 6u^{89} + \cdots + 7u + 1$
c_3	$u^{90} - 6u^{89} + \cdots - 21049u + 2857$
c_4, c_8	$u^{90} - u^{89} + \cdots - 1024u - 1024$
c_6, c_7, c_{11}	$u^{90} + 3u^{89} + \cdots + 2u - 1$
c_9, c_{12}	$u^{90} + 13u^{89} + \cdots + 250u - 7$
c_{10}	$u^{90} - 9u^{89} + \cdots - 5322u + 1237$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{90} + 2y^{89} + \cdots - 19y + 1$
c_2, c_5	$y^{90} + 46y^{89} + \cdots + 5y + 1$
c_3	$y^{90} - 42y^{89} + \cdots + 178045685y + 8162449$
c_4, c_8	$y^{90} - 55y^{89} + \cdots - 16777216y + 1048576$
c_6, c_7, c_{11}	$y^{90} - 85y^{89} + \cdots - 2y + 1$
c_9, c_{12}	$y^{90} + 79y^{89} + \cdots - 113894y + 49$
c_{10}	$y^{90} - 33y^{89} + \cdots - 33961930y + 1530169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.035540 + 0.147829I$ $a = -1.178990 + 0.129145I$ $b = -2.35944 + 0.04325I$	$-4.04276 + 3.69637I$	0
$u = 1.035540 - 0.147829I$ $a = -1.178990 - 0.129145I$ $b = -2.35944 - 0.04325I$	$-4.04276 - 3.69637I$	0
$u = 1.159310 + 0.090200I$ $a = 0.799616 - 0.379304I$ $b = 1.82834 - 0.69618I$	$-1.75007 - 0.25828I$	0
$u = 1.159310 - 0.090200I$ $a = 0.799616 + 0.379304I$ $b = 1.82834 + 0.69618I$	$-1.75007 + 0.25828I$	0
$u = -0.437999 + 0.686714I$ $a = 0.33190 - 1.91263I$ $b = 0.196118 - 0.060111I$	$-9.70066 + 3.66881I$	$-11.15932 - 3.34519I$
$u = -0.437999 - 0.686714I$ $a = 0.33190 + 1.91263I$ $b = 0.196118 + 0.060111I$	$-9.70066 - 3.66881I$	$-11.15932 + 3.34519I$
$u = -0.408798 + 0.704111I$ $a = 0.19713 - 2.43169I$ $b = -0.1107110 + 0.0409626I$	$-7.6515 + 12.5202I$	$-8.50844 - 9.24171I$
$u = -0.408798 - 0.704111I$ $a = 0.19713 + 2.43169I$ $b = -0.1107110 - 0.0409626I$	$-7.6515 - 12.5202I$	$-8.50844 + 9.24171I$
$u = -0.519185 + 0.621006I$ $a = -0.639891 + 0.342871I$ $b = -1.157860 + 0.042784I$	$-10.00680 + 0.68806I$	$-11.88470 - 2.78683I$
$u = -0.519185 - 0.621006I$ $a = -0.639891 - 0.342871I$ $b = -1.157860 - 0.042784I$	$-10.00680 - 0.68806I$	$-11.88470 + 2.78683I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.551816 + 0.587844I$ $a = -0.721885 - 0.251112I$ $b = -1.50250 - 0.11783I$	$-8.18869 - 8.18776I$	$-9.87272 + 3.39708I$
$u = -0.551816 - 0.587844I$ $a = -0.721885 + 0.251112I$ $b = -1.50250 + 0.11783I$	$-8.18869 + 8.18776I$	$-9.87272 - 3.39708I$
$u = -0.411438 + 0.688379I$ $a = -0.04849 + 2.23057I$ $b = -0.0163093 - 0.1154220I$	$-4.87794 + 7.26864I$	$-5.96969 - 5.95912I$
$u = -0.411438 - 0.688379I$ $a = -0.04849 - 2.23057I$ $b = -0.0163093 + 0.1154220I$	$-4.87794 - 7.26864I$	$-5.96969 + 5.95912I$
$u = -0.527543 + 0.586369I$ $a = 0.466491 + 0.096694I$ $b = 1.329780 + 0.182524I$	$-5.33184 - 3.01556I$	$-7.21234 - 0.07113I$
$u = -0.527543 - 0.586369I$ $a = 0.466491 - 0.096694I$ $b = 1.329780 - 0.182524I$	$-5.33184 + 3.01556I$	$-7.21234 + 0.07113I$
$u = 0.426107 + 0.647594I$ $a = 1.24151 - 1.36025I$ $b = 0.698493 - 0.178607I$	$-4.09139 - 5.96624I$	$-8.21287 + 6.74869I$
$u = 0.426107 - 0.647594I$ $a = 1.24151 + 1.36025I$ $b = 0.698493 + 0.178607I$	$-4.09139 + 5.96624I$	$-8.21287 - 6.74869I$
$u = 0.469022 + 0.601759I$ $a = 0.73660 - 1.53917I$ $b = 0.609093 - 0.543821I$	$-4.28017 + 1.86136I$	$-8.94738 - 0.21875I$
$u = 0.469022 - 0.601759I$ $a = 0.73660 + 1.53917I$ $b = 0.609093 + 0.543821I$	$-4.28017 - 1.86136I$	$-8.94738 + 0.21875I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.730493 + 0.189798I$ $a = -0.774454 - 0.466152I$ $b = -1.39580 - 0.61388I$	$-4.18196 - 3.80025I$	$-10.98096 + 4.73672I$
$u = 0.730493 - 0.189798I$ $a = -0.774454 + 0.466152I$ $b = -1.39580 + 0.61388I$	$-4.18196 + 3.80025I$	$-10.98096 - 4.73672I$
$u = -0.413257 + 0.622880I$ $a = 0.73526 + 1.38556I$ $b = -0.463774 - 0.507608I$	$-1.76351 + 4.66487I$	$-7.53917 - 7.21944I$
$u = -0.413257 - 0.622880I$ $a = 0.73526 - 1.38556I$ $b = -0.463774 + 0.507608I$	$-1.76351 - 4.66487I$	$-7.53917 + 7.21944I$
$u = -0.433709 + 0.592654I$ $a = -0.735605 - 0.677095I$ $b = 0.768130 + 0.537666I$	$-1.87712 - 0.73957I$	$-8.41694 - 0.27201I$
$u = -0.433709 - 0.592654I$ $a = -0.735605 + 0.677095I$ $b = 0.768130 - 0.537666I$	$-1.87712 + 0.73957I$	$-8.41694 + 0.27201I$
$u = 1.261540 + 0.134061I$ $a = 0.602278 - 0.940882I$ $b = 1.76416 - 1.98860I$	$-1.67033 - 1.06008I$	0
$u = 1.261540 - 0.134061I$ $a = 0.602278 + 0.940882I$ $b = 1.76416 + 1.98860I$	$-1.67033 + 1.06008I$	0
$u = 0.409031 + 0.601690I$ $a = -0.89429 + 1.09608I$ $b = -0.448688 + 0.262318I$	$-1.22702 - 1.91248I$	$-3.96230 + 3.55807I$
$u = 0.409031 - 0.601690I$ $a = -0.89429 - 1.09608I$ $b = -0.448688 - 0.262318I$	$-1.22702 + 1.91248I$	$-3.96230 - 3.55807I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.276300 + 0.096082I$ $a = 1.40005 + 1.66428I$ $b = 2.00156 + 2.73492I$	$-2.65099 - 0.98383I$	0
$u = -1.276300 - 0.096082I$ $a = 1.40005 - 1.66428I$ $b = 2.00156 - 2.73492I$	$-2.65099 + 0.98383I$	0
$u = -1.274020 + 0.144176I$ $a = -0.82202 - 1.79830I$ $b = -1.22136 - 3.06947I$	$-1.80283 + 3.89148I$	0
$u = -1.274020 - 0.144176I$ $a = -0.82202 + 1.79830I$ $b = -1.22136 + 3.06947I$	$-1.80283 - 3.89148I$	0
$u = 0.203863 + 0.668626I$ $a = 1.87283 + 0.93707I$ $b = 0.0335509 + 0.1254080I$	$-2.25258 + 0.41899I$	$-7.65968 + 0.68972I$
$u = 0.203863 - 0.668626I$ $a = 1.87283 - 0.93707I$ $b = 0.0335509 - 0.1254080I$	$-2.25258 - 0.41899I$	$-7.65968 - 0.68972I$
$u = 0.119191 + 0.683033I$ $a = 1.96671 + 1.78497I$ $b = -0.0552694 - 0.0778810I$	$-1.33539 - 7.02339I$	$-4.65258 + 7.68511I$
$u = 0.119191 - 0.683033I$ $a = 1.96671 - 1.78497I$ $b = -0.0552694 + 0.0778810I$	$-1.33539 + 7.02339I$	$-4.65258 - 7.68511I$
$u = 0.308931 + 0.619062I$ $a = -1.193670 + 0.120245I$ $b = -0.235643 - 0.064548I$	$-0.48363 - 2.34563I$	$-5.80863 + 1.86911I$
$u = 0.308931 - 0.619062I$ $a = -1.193670 - 0.120245I$ $b = -0.235643 + 0.064548I$	$-0.48363 + 2.34563I$	$-5.80863 - 1.86911I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 1.307800 + 0.159281I$ $a = -0.482256 + 1.274220I$ $b = -1.78724 + 2.77159I$	$-3.40681 - 5.45128I$	0
$u = \ \ 1.307800 - 0.159281I$ $a = -0.482256 - 1.274220I$ $b = -1.78724 - 2.77159I$	$-3.40681 + 5.45128I$	0
$u = -1.299790 + 0.224911I$ $a = -0.01884 - 1.71554I$ $b = -0.02023 - 3.28053I$	$-3.29956 + 5.65949I$	0
$u = -1.299790 - 0.224911I$ $a = -0.01884 + 1.71554I$ $b = -0.02023 + 3.28053I$	$-3.29956 - 5.65949I$	0
$u = -1.297930 + 0.254453I$ $a = -0.23628 + 1.82699I$ $b = -0.33307 + 3.61523I$	$-5.74518 + 10.42230I$	0
$u = -1.297930 - 0.254453I$ $a = -0.23628 - 1.82699I$ $b = -0.33307 - 3.61523I$	$-5.74518 - 10.42230I$	0
$u = \ \ 1.343220 + 0.065105I$ $a = -0.086124 + 0.903621I$ $b = -0.56348 + 2.46276I$	$-5.00570 + 0.83074I$	0
$u = \ \ 1.343220 - 0.065105I$ $a = -0.086124 - 0.903621I$ $b = -0.56348 - 2.46276I$	$-5.00570 - 0.83074I$	0
$u = \ \ 0.114121 + 0.632819I$ $a = -1.51121 - 1.76847I$ $b = -0.0735512 + 0.0732549I$	$1.09432 - 2.53863I$	$-0.39286 + 4.64184I$
$u = \ \ 0.114121 - 0.632819I$ $a = -1.51121 + 1.76847I$ $b = -0.0735512 - 0.0732549I$	$1.09432 + 2.53863I$	$-0.39286 - 4.64184I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.360390+0.243110I$ $a=-0.350565+1.164240I$ $b=-0.87333+2.45780I$	$-7.18925+2.87956I$	0
$u=-1.360390-0.243110I$ $a=-0.350565-1.164240I$ $b=-0.87333-2.45780I$	$-7.18925-2.87956I$	0
$u=-1.41779$ $a=\ 0.815249$ $b=\ 0.429776$	-7.33492	0
$u=\ 0.398019+0.418448I$ $a=-0.083964+1.026110I$ $b=\ 0.176209+0.457399I$	$-1.15580-0.94935I$	$-8.91971+4.56142I$
$u=\ 0.398019-0.418448I$ $a=-0.083964-1.026110I$ $b=\ 0.176209-0.457399I$	$-1.15580+0.94935I$	$-8.91971-4.56142I$
$u=-1.41162+0.17588I$ $a=\ 0.399227+0.654735I$ $b=\ 0.45610+1.60564I$	$-6.84094+3.22476I$	0
$u=-1.41162-0.17588I$ $a=\ 0.399227-0.654735I$ $b=\ 0.45610-1.60564I$	$-6.84094-3.22476I$	0
$u=-1.41987+0.23861I$ $a=\ 0.560750-0.298797I$ $b=\ 1.43017-0.55315I$	$-6.02002+5.49310I$	0
$u=-1.41987-0.23861I$ $a=\ 0.560750+0.298797I$ $b=\ 1.43017+0.55315I$	$-6.02002-5.49310I$	0
$u=\ 0.559261$ $a=\ 0.232713$ $b=\ 0.959638$	-1.28839	-8.06550

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.44510 + 0.02573I$ $a = -0.626593 - 0.164956I$ $b = 0.040468 - 0.468518I$	$-10.78930 + 4.28605I$	0
$u = -1.44510 - 0.02573I$ $a = -0.626593 + 0.164956I$ $b = 0.040468 + 0.468518I$	$-10.78930 - 4.28605I$	0
$u = 0.009036 + 0.549222I$ $a = -0.76604 - 2.41165I$ $b = -0.340171 + 0.150886I$	$2.08637 - 1.40419I$	$2.94065 + 3.79757I$
$u = 0.009036 - 0.549222I$ $a = -0.76604 + 2.41165I$ $b = -0.340171 - 0.150886I$	$2.08637 + 1.40419I$	$2.94065 - 3.79757I$
$u = -1.45603 + 0.22571I$ $a = 0.786694 + 0.252582I$ $b = 1.90775 + 1.02183I$	$-7.22826 + 4.96225I$	0
$u = -1.45603 - 0.22571I$ $a = 0.786694 - 0.252582I$ $b = 1.90775 - 1.02183I$	$-7.22826 - 4.96225I$	0
$u = 1.46085 + 0.21961I$ $a = 1.51400 - 0.77409I$ $b = 2.57466 - 0.64144I$	$-7.96927 - 2.24977I$	0
$u = 1.46085 - 0.21961I$ $a = 1.51400 + 0.77409I$ $b = 2.57466 + 0.64144I$	$-7.96927 + 2.24977I$	0
$u = 1.45954 + 0.23127I$ $a = -1.53208 + 1.18300I$ $b = -2.88668 + 1.62021I$	$-7.79425 - 7.80059I$	0
$u = 1.45954 - 0.23127I$ $a = -1.53208 - 1.18300I$ $b = -2.88668 - 1.62021I$	$-7.79425 + 7.80059I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.077839+0.509254I$ $a=\ \ 0.35241+2.82775I$ $b=\ \ 0.559949-0.149409I$	$0.90059+3.01272I$	$0.99662-2.60175I$
$u=-0.077839-0.509254I$ $a=\ \ 0.35241-2.82775I$ $b=\ \ 0.559949+0.149409I$	$0.90059-3.01272I$	$0.99662+2.60175I$
$u=-1.46697+0.23745I$ $a=-0.974601-0.264270I$ $b=-2.50201-1.11654I$	$-10.19580+9.20433I$	0
$u=-1.46697-0.23745I$ $a=-0.974601+0.264270I$ $b=-2.50201+1.11654I$	$-10.19580-9.20433I$	0
$u=-1.47202+0.21480I$ $a=-0.814653-0.449704I$ $b=-1.89943-1.68245I$	$-10.53570+1.12123I$	0
$u=-1.47202-0.21480I$ $a=-0.814653+0.449704I$ $b=-1.89943+1.68245I$	$-10.53570-1.12123I$	0
$u=\ \ 1.46760+0.25488I$ $a=-1.12234+1.71367I$ $b=-2.30620+3.30911I$	$-10.9366-10.7133I$	0
$u=\ \ 1.46760-0.25488I$ $a=-1.12234-1.71367I$ $b=-2.30620-3.30911I$	$-10.9366+10.7133I$	0
$u=\ \ 1.46890+0.26154I$ $a=\ \ 1.04664-1.82928I$ $b=\ \ 2.22403-3.69552I$	$-13.7057-16.0444I$	0
$u=\ \ 1.46890-0.26154I$ $a=\ \ 1.04664+1.82928I$ $b=\ \ 2.22403+3.69552I$	$-13.7057+16.0444I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.48501 + 0.19499I$ $a = 0.705338 - 0.300694I$ $b = 0.343196 + 0.209852I$	$-11.83800 + 0.20054I$	0
$u = 1.48501 - 0.19499I$ $a = 0.705338 + 0.300694I$ $b = 0.343196 - 0.209852I$	$-11.83800 - 0.20054I$	0
$u = 1.47754 + 0.24955I$ $a = 0.95232 - 1.53885I$ $b = 1.68583 - 2.99988I$	$-15.8899 - 7.0859I$	0
$u = 1.47754 - 0.24955I$ $a = 0.95232 + 1.53885I$ $b = 1.68583 + 2.99988I$	$-15.8899 + 7.0859I$	0
$u = 1.49233 + 0.18793I$ $a = -0.522585 + 0.225682I$ $b = 0.153616 - 0.382005I$	$-14.8163 + 5.4132I$	0
$u = 1.49233 - 0.18793I$ $a = -0.522585 - 0.225682I$ $b = 0.153616 + 0.382005I$	$-14.8163 - 5.4132I$	0
$u = 1.49184 + 0.20747I$ $a = -0.642233 + 0.591756I$ $b = -0.252785 + 0.589048I$	$-16.5297 - 3.6839I$	0
$u = 1.49184 - 0.20747I$ $a = -0.642233 - 0.591756I$ $b = -0.252785 - 0.589048I$	$-16.5297 + 3.6839I$	0
$u = -0.207923 + 0.145493I$ $a = -0.41209 + 2.80249I$ $b = 0.329617 + 0.565743I$	$-0.31997 - 1.73362I$	$-2.68908 + 4.51513I$
$u = -0.207923 - 0.145493I$ $a = -0.41209 - 2.80249I$ $b = 0.329617 - 0.565743I$	$-0.31997 + 1.73362I$	$-2.68908 - 4.51513I$

II.

$$\boldsymbol{I^u_2 = \langle -u^2a+b,\ u^4a+u^3a-u^2a+a^2-au+u^2+u-1,\ u^5+u^4-2u^3-u^2+u-1\rangle}$$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}a\\u^2a\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}a\\u^2a\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-u^2+1\\-u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^3a+2au\\u^4a-u^3a-u^2a+2au-a\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-u^3a+u^4+u^3+2au-u^2-u\\u^4a-u^3a+u^4-u^2a+2au-u^2-a+u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-u^3+2u\\u^4-u^3-u^2+2u-1\end{pmatrix}$$
$$a_1 = \begin{pmatrix}u^2-1\\u^2\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^4a-u^3a-9u^2a-4u^3+2au-u^2+7u-9$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.21774$ $a = -0.652039 + 1.129360I$ $b = -0.96690 + 1.67471I$	$-2.40108 + 2.02988I$	$-6.62546 - 4.42764I$
$u = 1.21774$ $a = -0.652039 - 1.129360I$ $b = -0.96690 - 1.67471I$	$-2.40108 - 2.02988I$	$-6.62546 + 4.42764I$
$u = 0.309916 + 0.549911I$ $a = 1.114310 + 0.148503I$ $b = -0.280560 + 0.349171I$	$-0.32910 - 3.56046I$	$-5.04069 + 7.43801I$
$u = 0.309916 + 0.549911I$ $a = -0.685764 + 0.890773I$ $b = -0.162111 - 0.417558I$	$-0.329100 + 0.499304I$	$-2.53179 + 1.09027I$
$u = 0.309916 - 0.549911I$ $a = 1.114310 - 0.148503I$ $b = -0.280560 - 0.349171I$	$-0.32910 + 3.56046I$	$-5.04069 - 7.43801I$
$u = 0.309916 - 0.549911I$ $a = -0.685764 - 0.890773I$ $b = -0.162111 + 0.417558I$	$-0.329100 - 0.499304I$	$-2.53179 - 1.09027I$
$u = -1.41878 + 0.21917I$ $a = 0.492416 + 0.603584I$ $b = 1.34292 + 0.87976I$	$-5.87256 + 6.43072I$	$-9.19707 - 7.98272I$
$u = -1.41878 + 0.21917I$ $a = -0.768927 + 0.124653I$ $b = -1.43335 + 0.72312I$	$-5.87256 + 2.37095I$	$-6.60498 + 0.29447I$
$u = -1.41878 - 0.21917I$ $a = 0.492416 - 0.603584I$ $b = 1.34292 - 0.87976I$	$-5.87256 - 6.43072I$	$-9.19707 + 7.98272I$
$u = -1.41878 - 0.21917I$ $a = -0.768927 - 0.124653I$ $b = -1.43335 - 0.72312I$	$-5.87256 - 2.37095I$	$-6.60498 - 0.29447I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^5)(u^{90}+46u^{89}+\cdots+5u+1)$
c_2	$((u^2+u+1)^5)(u^{90}+6u^{89}+\cdots+7u+1)$
c_3	$((u^2-u+1)^5)(u^{90}-6u^{89}+\cdots-21049u+2857)$
c_4, c_8	$u^{10}(u^{90}-u^{89}+\cdots-1024u-1024)$
c_5	$((u^2-u+1)^5)(u^{90}+6u^{89}+\cdots+7u+1)$
c_6, c_7	$((u^5+u^4-2u^3-u^2+u-1)^2)(u^{90}+3u^{89}+\cdots+2u-1)$
c_9	$((u^5-u^4+2u^3-u^2+u-1)^2)(u^{90}+13u^{89}+\cdots+250u-7)$
c_{10}	$((u^5+3u^4+4u^3+u^2-u-1)^2)(u^{90}-9u^{89}+\cdots-5322u+1237)$
c_{11}	$((u^5-u^4-2u^3+u^2+u+1)^2)(u^{90}+3u^{89}+\cdots+2u-1)$
c_{12}	$((u^5+u^4+2u^3+u^2+u+1)^2)(u^{90}+13u^{89}+\cdots+250u-7)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^5)(y^{90}+2y^{89}+\cdots-19y+1)$
c_2, c_5	$((y^2+y+1)^5)(y^{90}+46y^{89}+\cdots+5y+1)$
c_3	$((y^2+y+1)^5)(y^{90}-42y^{89}+\cdots+1.78046\times 10^8 y+8162449)$
c_4, c_8	$y^{10}(y^{90}-55y^{89}+\cdots-1.67772\times 10^7 y+1048576)$
c_6, c_7, c_{11}	$((y^5-5y^4+8y^3-3y^2-y-1)^2)(y^{90}-85y^{89}+\cdots-2y+1)$
c_9, c_{12}	$((y^5+3y^4+4y^3+y^2-y-1)^2)(y^{90}+79y^{89}+\cdots-113894y+49)$
c_{10}	$(y^5-y^4+8y^3-3y^2+3y-1)^2$ $\cdot\,(y^{90}-33y^{89}+\cdots-33961930y+1530169)$