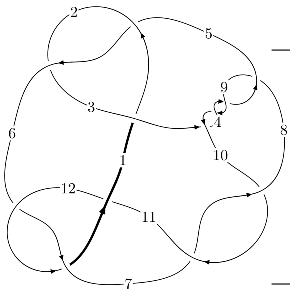
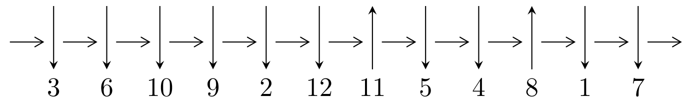
$12a_{0444}$ $(K12a_{0444})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -u^{23} - 2u^{22} + \cdots + b - 1,\ u^{24} + 3u^{23} + \cdots + 2a + 8u,\ u^{25} + 3u^{24} + \cdots + 8u + 2\rangle$$
$$I_2^u = \langle 2u^{20}a - 2u^{20} + \cdots + b + 1,\ -2u^{20}a + 2u^{20} + \cdots - 2a + 1,\ u^{21} - u^{20} + \cdots - u + 1\rangle$$
$$I_3^u = \langle b - u - 1,\ 2a + u,\ u^2 + 2\rangle$$

$$I_1^v = \langle a,\ b + 1,\ v + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 70 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.

$$\boldsymbol{I_1^u = \langle -u^{23}-2u^{22}+\cdots+b-1,\ u^{24}+3u^{23}+\cdots+2a+8u,\ u^{25}+3u^{24}+\cdots+8u+2\rangle}$$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$

$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-\frac{1}{2}u^{24}-\frac{3}{2}u^{23}+\cdots-6u^2-4u\\u^{23}+2u^{22}+\cdots+3u+1\end{pmatrix}$$

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

$$a_6 = \begin{pmatrix}-\frac{1}{2}u^{24}-\frac{1}{2}u^{23}+\cdots-u+1\\-u^{23}-2u^{22}+\cdots-3u-1\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-u\\u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}u^2+1\\-u^2\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-\frac{3}{2}u^{24}-\frac{9}{2}u^{23}+\cdots-14u-3\\2u^{23}+5u^{22}+\cdots+9u+3\end{pmatrix}$$

$$a_8 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}u^5+2u^3-u\\u^7+3u^5+2u^3+u\end{pmatrix}$$

$$a_7 = \begin{pmatrix}u^9+4u^7+3u^5-2u^3+u\\u^{11}+5u^9+8u^7+5u^5+3u^3+u\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}\frac{1}{2}u^{24}+\frac{3}{2}u^{23}+\cdots+3u+1\\-u^{23}-2u^{22}+\cdots-2u-1\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -8u^{24}-18u^{23}-126u^{22}-242u^{21}-840u^{20}-1374u^{19}-3088u^{18}-4262u^{17}-6822u^{16}-7792u^{15}-9236u^{14}-8416u^{13}-7450u^{12}-5034u^{11}-3220u^{10}-1314u^{9}-430u^{8}+106u^{7}+170u^{6}+114u^{5}-24u^{4}-78u^{3}-80u^{2}-54u-24$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{25} + 13u^{24} + \cdots + 7u + 1$
c_2, c_5, c_6 c_{12}	$u^{25} + u^{24} + \cdots + u + 1$
c_3, c_4, c_8 c_9	$u^{25} + 3u^{24} + \cdots + 8u + 2$
c_7, c_{10}	$u^{25} + 3u^{24} + \cdots - 96u^2 + 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{25} + 3y^{24} + \cdots + 15y - 1$
c_2, c_5, c_6 c_{12}	$y^{25} - 13y^{24} + \cdots + 7y - 1$
c_3, c_4, c_8 c_9	$y^{25} + 27y^{24} + \cdots + 8y - 4$
c_7, c_{10}	$y^{25} + 19y^{24} + \cdots + 3072y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.651480+0.569397I$ $a=-1.31726-1.62418I$ $b=-0.115293+0.307631I$	$-8.03966+11.38840I$	$-12.3901-9.1803I$
$u=-0.651480-0.569397I$ $a=-1.31726+1.62418I$ $b=-0.115293-0.307631I$	$-8.03966-11.38840I$	$-12.3901+9.1803I$
$u=-0.683025+0.436288I$ $a=\ \ 0.878062+0.233968I$ $b=-0.828869-0.938936I$	$-8.43694-6.90173I$	$-13.44025+3.63036I$
$u=-0.683025-0.436288I$ $a=\ \ 0.878062-0.233968I$ $b=-0.828869+0.938936I$	$-8.43694+6.90173I$	$-13.44025-3.63036I$
$u=\ \ 0.412040+0.685850I$ $a=-0.47621+1.83448I$ $b=\ \ 0.072745-0.306443I$	$-0.17864-6.77079I$	$-7.18283+10.35931I$
$u=\ \ 0.412040-0.685850I$ $a=-0.47621-1.83448I$ $b=\ \ 0.072745+0.306443I$	$-0.17864+6.77079I$	$-7.18283-10.35931I$
$u=-0.558289+0.498098I$ $a=\ \ 0.708276+0.173203I$ $b=\ \ 0.206889+0.374837I$	$-1.41690+1.92070I$	$-6.23376-3.47212I$
$u=-0.558289-0.498098I$ $a=\ \ 0.708276-0.173203I$ $b=\ \ 0.206889-0.374837I$	$-1.41690-1.92070I$	$-6.23376+3.47212I$
$u=\ \ 0.023881+0.737446I$ $a=\ \ 0.622644-0.953292I$ $b=\ \ 0.315147+0.069716I$	$1.88598+1.45733I$	$-1.26812-4.21250I$
$u=\ \ 0.023881-0.737446I$ $a=\ \ 0.622644+0.953292I$ $b=\ \ 0.315147-0.069716I$	$1.88598-1.45733I$	$-1.26812+4.21250I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.054153 + 1.332330I$ $a = -0.077174 - 0.173973I$ $b = 0.971993 + 0.051958I$	$2.62061 + 1.17903I$	$-5.07770 - 5.84448I$
$u = 0.054153 - 1.332330I$ $a = -0.077174 + 0.173973I$ $b = 0.971993 - 0.051958I$	$2.62061 - 1.17903I$	$-5.07770 + 5.84448I$
$u = 0.573959 + 0.177466I$ $a = 0.874794 - 0.104864I$ $b = -0.619515 + 0.565743I$	$-1.76413 + 3.37976I$	$-11.30285 - 5.40492I$
$u = 0.573959 - 0.177466I$ $a = 0.874794 + 0.104864I$ $b = -0.619515 - 0.565743I$	$-1.76413 - 3.37976I$	$-11.30285 + 5.40492I$
$u = -0.21436 + 1.46119I$ $a = 0.144093 + 0.127422I$ $b = 0.970978 + 0.088622I$	$-2.31754 - 3.68038I$	$-10.19471 + 3.82630I$
$u = -0.21436 - 1.46119I$ $a = 0.144093 - 0.127422I$ $b = 0.970978 - 0.088622I$	$-2.31754 + 3.68038I$	$-10.19471 - 3.82630I$
$u = -0.16059 + 1.52773I$ $a = -0.753431 - 0.916816I$ $b = 1.12967 + 1.67442I$	$5.30944 + 4.47743I$	$-2.55629 - 2.34174I$
$u = -0.16059 - 1.52773I$ $a = -0.753431 + 0.916816I$ $b = 1.12967 - 1.67442I$	$5.30944 - 4.47743I$	$-2.55629 + 2.34174I$
$u = -0.20643 + 1.54713I$ $a = 0.25239 + 1.93004I$ $b = -0.58907 - 4.16682I$	$-1.0459 + 14.5269I$	$-8.91507 - 8.56336I$
$u = -0.20643 - 1.54713I$ $a = 0.25239 - 1.93004I$ $b = -0.58907 + 4.16682I$	$-1.0459 - 14.5269I$	$-8.91507 + 8.56336I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.01772 + 1.57526I$ $a = -0.91307 + 1.41013I$ $b = 1.55989 - 2.89337I$	$9.63847 + 1.22771I$	$-0.35980 - 3.25847I$
$u = 0.01772 - 1.57526I$ $a = -0.91307 - 1.41013I$ $b = 1.55989 + 2.89337I$	$9.63847 - 1.22771I$	$-0.35980 + 3.25847I$
$u = 0.10120 + 1.57793I$ $a = -0.39162 - 1.95619I$ $b = 0.60654 + 4.12616I$	$7.45823 - 8.58001I$	$-4.35516 + 8.14193I$
$u = 0.10120 - 1.57793I$ $a = -0.39162 + 1.95619I$ $b = 0.60654 - 4.12616I$	$7.45823 + 8.58001I$	$-4.35516 - 8.14193I$
$u = -0.417568$ $a = 0.897008$ $b = -0.362213$	-0.846371	-11.4470

II. $\boldsymbol{I_2^u =}$
$\boldsymbol{\langle 2u^{20}a - 2u^{20} + \cdots + b + 1,\ -2u^{20}a + 2u^{20} + \cdots - 2a + 1,\ u^{21} - u^{20} + \cdots - u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ -2u^{20}a + 2u^{20} + \cdots - 3u - 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -2u^{20}a + 2u^{20} + \cdots + a - 1 \\ 2u^{20}a - 2u^{20} + \cdots + 3u + 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -2u^{20}a + 2u^{20} + \cdots + a - 1 \\ -2u^{20}a + 2u^{20} + \cdots - u - 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^5 + 2u^3 - u \\ u^7 + 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^9 + 4u^7 + 3u^5 - 2u^3 + u \\ u^{11} + 5u^9 + 8u^7 + 5u^5 + 3u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -2u^{20}a + 2u^{20} + \cdots + a - 1 \\ -u^{17}a - 9u^{15}a + \cdots + 2u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{20} - 4u^{19} + 48u^{18} - 40u^{17} + 232u^{16} - 156u^{15} + 572u^{14} - 292u^{13} + 756u^{12} - 256u^{11} + 552u^{10} - 88u^9 + 316u^8 - 24u^7 + 204u^6 - 8u^5 + 48u^4 + 20u^3 + 16u^2 + 16u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{42} + 25u^{41} + \cdots + 52u + 9$
c_2, c_5, c_6 c_{12}	$u^{42} + u^{41} + \cdots + 8u + 3$
c_3, c_4, c_8 c_9	$(u^{21} - u^{20} + \cdots - u + 1)^2$
c_7, c_{10}	$(u^{21} + 3u^{20} + \cdots + 5u + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{42} - 17y^{41} + \cdots - 868y + 81$
c_2, c_5, c_6 c_{12}	$y^{42} - 25y^{41} + \cdots - 52y + 9$
c_3, c_4, c_8 c_9	$(y^{21} + 23y^{20} + \cdots - 5y - 1)^2$
c_7, c_{10}	$(y^{21} + 19y^{20} + \cdots + 7y - 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.613284 + 0.552606I$ $a = 0.663670 - 0.167306I$ $b = 0.258836 - 0.415847I$	$-4.68217 - 6.45770I$	$-9.45356 + 6.39068I$
$u = 0.613284 + 0.552606I$ $a = -1.31427 + 1.76259I$ $b = -0.095105 - 0.288417I$	$-4.68217 - 6.45770I$	$-9.45356 + 6.39068I$
$u = 0.613284 - 0.552606I$ $a = 0.663670 + 0.167306I$ $b = 0.258836 + 0.415847I$	$-4.68217 + 6.45770I$	$-9.45356 - 6.39068I$
$u = 0.613284 - 0.552606I$ $a = -1.31427 - 1.76259I$ $b = -0.095105 + 0.288417I$	$-4.68217 + 6.45770I$	$-9.45356 - 6.39068I$
$u = -0.621912 + 0.497822I$ $a = 0.918873 + 0.252143I$ $b = -0.963307 - 0.936491I$	$-8.79207 + 2.11040I$	$-13.9124 - 3.3898I$
$u = -0.621912 + 0.497822I$ $a = -1.51743 - 1.81016I$ $b = -0.112550 + 0.257173I$	$-8.79207 + 2.11040I$	$-13.9124 - 3.3898I$
$u = -0.621912 - 0.497822I$ $a = 0.918873 - 0.252143I$ $b = -0.963307 + 0.936491I$	$-8.79207 - 2.11040I$	$-13.9124 + 3.3898I$
$u = -0.621912 - 0.497822I$ $a = -1.51743 + 1.81016I$ $b = -0.112550 - 0.257173I$	$-8.79207 - 2.11040I$	$-13.9124 + 3.3898I$
$u = 0.630060 + 0.435502I$ $a = 0.902520 - 0.223812I$ $b = -0.882881 + 0.878598I$	$-5.02710 + 2.23968I$	$-10.49766 - 0.17506I$
$u = 0.630060 + 0.435502I$ $a = 0.706600 - 0.119856I$ $b = 0.159229 - 0.443860I$	$-5.02710 + 2.23968I$	$-10.49766 - 0.17506I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.630060 - 0.435502I$ $a = 0.902520 + 0.223812I$ $b = -0.882881 - 0.878598I$	$-5.02710 - 2.23968I$	$-10.49766 + 0.17506I$
$u = 0.630060 - 0.435502I$ $a = 0.706600 + 0.119856I$ $b = 0.159229 + 0.443860I$	$-5.02710 - 2.23968I$	$-10.49766 + 0.17506I$
$u = -0.264535 + 0.686798I$ $a = 0.696463 + 0.484067I$ $b = 0.329117 + 0.122623I$	$1.27822 + 2.45481I$	$-3.17392 - 5.13736I$
$u = -0.264535 + 0.686798I$ $a = 0.08311 - 1.80534I$ $b = 0.158741 + 0.236037I$	$1.27822 + 2.45481I$	$-3.17392 - 5.13736I$
$u = -0.264535 - 0.686798I$ $a = 0.696463 - 0.484067I$ $b = 0.329117 - 0.122623I$	$1.27822 - 2.45481I$	$-3.17392 + 5.13736I$
$u = -0.264535 - 0.686798I$ $a = 0.08311 + 1.80534I$ $b = 0.158741 - 0.236037I$	$1.27822 - 2.45481I$	$-3.17392 + 5.13736I$
$u = 0.17161 + 1.47674I$ $a = -0.734220 + 0.822924I$ $b = 1.13685 - 1.39375I$	$1.167780 - 0.589478I$	$-6.95446 - 0.27365I$
$u = 0.17161 + 1.47674I$ $a = 0.126348 - 0.107181I$ $b = 0.987004 - 0.067695I$	$1.167780 - 0.589478I$	$-6.95446 - 0.27365I$
$u = 0.17161 - 1.47674I$ $a = -0.734220 - 0.822924I$ $b = 1.13685 + 1.39375I$	$1.167780 + 0.589478I$	$-6.95446 + 0.27365I$
$u = 0.17161 - 1.47674I$ $a = 0.126348 + 0.107181I$ $b = 0.987004 + 0.067695I$	$1.167780 + 0.589478I$	$-6.95446 + 0.27365I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.03893 + 1.51037I$ $a = 0.0956698 - 0.0258264I$ $b = 1.020350 - 0.014142I$	$3.29266 - 1.66521I$	$-6.44233 + 3.90994I$
$u = 0.03893 + 1.51037I$ $a = -1.43429 - 2.27893I$ $b = 2.73302 + 4.65122I$	$3.29266 - 1.66521I$	$-6.44233 + 3.90994I$
$u = 0.03893 - 1.51037I$ $a = 0.0956698 + 0.0258264I$ $b = 1.020350 + 0.014142I$	$3.29266 + 1.66521I$	$-6.44233 - 3.90994I$
$u = 0.03893 - 1.51037I$ $a = -1.43429 + 2.27893I$ $b = 2.73302 - 4.65122I$	$3.29266 + 1.66521I$	$-6.44233 - 3.90994I$
$u = -0.18541 + 1.51409I$ $a = 0.144635 + 0.094757I$ $b = 1.004590 + 0.080707I$	$-2.18398 + 5.00460I$	$-10.15348 - 3.34739I$
$u = -0.18541 + 1.51409I$ $a = 0.31289 + 2.15828I$ $b = -0.68662 - 4.58559I$	$-2.18398 + 5.00460I$	$-10.15348 - 3.34739I$
$u = -0.18541 - 1.51409I$ $a = 0.144635 - 0.094757I$ $b = 1.004590 - 0.080707I$	$-2.18398 - 5.00460I$	$-10.15348 + 3.34739I$
$u = -0.18541 - 1.51409I$ $a = 0.31289 - 2.15828I$ $b = -0.68662 + 4.58559I$	$-2.18398 - 5.00460I$	$-10.15348 + 3.34739I$
$u = 0.224591 + 0.416086I$ $a = 1.057800 - 0.095161I$ $b = -1.241430 + 0.325944I$	$-3.19863 - 0.86446I$	$-9.82793 + 8.05526I$
$u = 0.224591 + 0.416086I$ $a = 0.94469 + 4.04424I$ $b = 0.0521710 - 0.1030170I$	$-3.19863 - 0.86446I$	$-9.82793 + 8.05526I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.224591 - 0.416086I$ $a = 1.057800 + 0.095161I$ $b = -1.241430 - 0.325944I$	$-3.19863 + 0.86446I$	$-9.82793 - 8.05526I$
$u = 0.224591 - 0.416086I$ $a = 0.94469 - 4.04424I$ $b = 0.0521710 + 0.1030170I$	$-3.19863 + 0.86446I$	$-9.82793 - 8.05526I$
$u = -0.463882$ $a = 0.882798 + 0.014771I$ $b = -0.402171 - 0.224592I$	-0.823381	-10.2590
$u = -0.463882$ $a = 0.882798 - 0.014771I$ $b = -0.402171 + 0.224592I$	-0.823381	-10.2590
$u = 0.18830 + 1.54115I$ $a = -0.703578 + 0.924146I$ $b = 0.97403 - 1.67776I$	$2.24917 - 9.37044I$	$-5.88057 + 5.65030I$
$u = 0.18830 + 1.54115I$ $a = 0.20144 - 2.02236I$ $b = -0.49031 + 4.33008I$	$2.24917 - 9.37044I$	$-5.88057 + 5.65030I$
$u = 0.18830 - 1.54115I$ $a = -0.703578 - 0.924146I$ $b = 0.97403 + 1.67776I$	$2.24917 + 9.37044I$	$-5.88057 - 5.65030I$
$u = 0.18830 - 1.54115I$ $a = 0.20144 + 2.02236I$ $b = -0.49031 - 4.33008I$	$2.24917 + 9.37044I$	$-5.88057 - 5.65030I$
$u = -0.06297 + 1.57333I$ $a = -0.87578 - 1.19347I$ $b = 1.44224 + 2.40342I$	$8.90560 + 3.59224I$	$-1.57394 - 3.20950I$
$u = -0.06297 + 1.57333I$ $a = -0.65794 + 1.88952I$ $b = 1.11820 - 3.94658I$	$8.90560 + 3.59224I$	$-1.57394 - 3.20950I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.06297 - 1.57333I$ $a = -0.87578 + 1.19347I$ $b = 1.44224 - 2.40342I$	$8.90560 - 3.59224I$	$-1.57394 + 3.20950I$
$u = -0.06297 - 1.57333I$ $a = -0.65794 - 1.88952I$ $b = 1.11820 + 3.94658I$	$8.90560 - 3.59224I$	$-1.57394 + 3.20950I$

III. $I_3^u = \langle b - u - 1,\ 2a + u,\ u^2 + 2\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.414210I$		
$a =$	$-0.707107I$	1.64493	-12.0000
$b =$	$1.00000 + 1.41421I$		
$u =$	$-1.414210I$		
$a =$	$0.707107I$	1.64493	-12.0000
$b =$	$1.00000 - 1.41421I$		

IV. $\boldsymbol{I_1^v = \langle a,\ b+1,\ v+1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-1\\0\end{pmatrix}$$
$$a_2 = \begin{pmatrix}0\\-1\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1\\1\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-1\\0\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-1\\-1\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-1\\0\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-2\\-1\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_6 c_{11}	$u - 1$
c_3, c_4, c_7 c_8, c_9, c_{10}	u
c_5, c_{12}	$u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6, c_{11}, c_{12}	$y - 1$
c_3, c_4, c_7 c_8, c_9, c_{10}	y

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = -1.00000$	-3.28987	-12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$((u-1)^3)(u^{25}+13u^{24}+\cdots+7u+1)(u^{42}+25u^{41}+\cdots+52u+9)$
c_2, c_6	$(u-1)(u+1)^2(u^{25}+u^{24}+\cdots+u+1)(u^{42}+u^{41}+\cdots+8u+3)$
c_3, c_4, c_8 c_9	$u(u^2+2)(u^{21}-u^{20}+\cdots-u+1)^2(u^{25}+3u^{24}+\cdots+8u+2)$
c_5, c_{12}	$((u-1)^2)(u+1)(u^{25}+u^{24}+\cdots+u+1)(u^{42}+u^{41}+\cdots+8u+3)$
c_7, c_{10}	$u^3(u^{21}+3u^{20}+\cdots+5u+3)^2(u^{25}+3u^{24}+\cdots-96u^2+16)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$((y-1)^3)(y^{25}+3y^{24}+\cdots+15y-1)(y^{42}-17y^{41}+\cdots-868y+81)$
c_2, c_5, c_6 c_{12}	$((y-1)^3)(y^{25}-13y^{24}+\cdots+7y-1)(y^{42}-25y^{41}+\cdots-52y+9)$
c_3, c_4, c_8 c_9	$y(y+2)^2(y^{21}+23y^{20}+\cdots-5y-1)^2(y^{25}+27y^{24}+\cdots+8y-4)$
c_7, c_{10}	$y^3(y^{21}+19y^{20}+\cdots+7y-9)^2(y^{25}+19y^{24}+\cdots+3072y-256)$