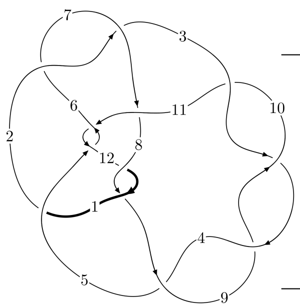
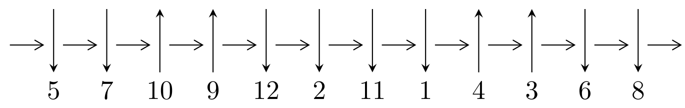
$12a_{1266}$ $(K12a_{1266})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 2.12438 \times 10^{16} u^{26} + 3.39034 \times 10^{16} u^{25} + \cdots + 3.51214 \times 10^{17} b - 1.86185 \times 10^{17}, \\
& - 3.21225 \times 10^{16} u^{26} + 8.75841 \times 10^{17} u^{25} + \cdots + 7.02429 \times 10^{18} a - 4.49004 \times 10^{18},\ u^{27} - u^{26} + \cdots + 9u + \\
I_2^u = \langle & 2.28254 \times 10^{43} u^{41} - 8.69949 \times 10^{42} u^{40} + \cdots + 2.41192 \times 10^{44} b - 1.19984 \times 10^{44}, \\
& - 7.56007 \times 10^{44} u^{41} + 5.11353 \times 10^{44} u^{40} + \cdots + 1.20596 \times 10^{45} a + 2.17680 \times 10^{45},\ u^{42} - u^{41} + \cdots + 2u - \\
I_3^u = \langle & b + u,\ 4a^2 - 4au + 2a - u - 2,\ u^2 + 1 \rangle \\
I_4^u = \langle & b,\ a + 1,\ u + 1 \rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 74 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.

$\boldsymbol{I_1^u = \langle 2.12\times10^{16}u^{26}+3.39\times10^{16}u^{25}+\cdots+3.51\times10^{17}b-1.86\times10^{17},\ -3.21\times10^{16}u^{26}+8.76\times10^{17}u^{25}+\cdots+7.02\times10^{18}a-4.49\times10^{18},\ u^{27}-u^{26}+\cdots+9u+5\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00457306u^{26} - 0.124688u^{25} + \cdots + 3.79809u + 0.639216 \\ -0.0604868u^{26} - 0.0965321u^{25} + \cdots + 1.90841u + 0.530119 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0206853u^{26} + 0.0614281u^{25} + \cdots + 0.192050u + 0.879629 \\ 0.0369043u^{26} + 0.0238101u^{25} + \cdots - 0.476441u - 0.325299 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0650598u^{26} - 0.0281555u^{25} + \cdots + 1.88969u + 0.109097 \\ -0.0604868u^{26} - 0.0965321u^{25} + \cdots + 1.90841u + 0.530119 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0140907u^{26} - 0.0116527u^{25} + \cdots - 0.150722u + 0.977059 \\ 0.0259519u^{26} - 0.0340007u^{25} + \cdots + 0.326726u + 0.353353 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0243171u^{26} + 0.00525786u^{25} + \cdots + 0.823890u + 0.00567092 \\ -0.121201u^{26} - 0.108891u^{25} + \cdots + 2.56585u + 0.714641 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00888964u^{26} + 0.0799914u^{25} + \cdots - 0.0211326u + 0.758044 \\ -0.193188u^{26} + 0.0645916u^{25} + \cdots + 1.32901u + 0.280707 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0413949u^{26} - 0.0691682u^{25} + \cdots + 0.0713333u + 0.446077 \\ 0.0832991u^{26} - 0.0769045u^{25} + \cdots - 0.735872u - 0.238212 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0565987u^{26} - 0.0352749u^{25} + \cdots + 3.17189u + 0.271852 \\ 0.0225032u^{26} - 0.0446485u^{25} + \cdots + 1.00153u + 0.190291 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{93486209329993615}{351214301166382432}u^{26} + \frac{160253811475151391}{175607150583191216}u^{25} + \cdots - \frac{1621899456495377937}{87803575291595608}u - \frac{3975960787929459125}{351214301166382432}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$16(16u^{27} + 32u^{26} + \cdots + 25u + 11)$
c_2, c_6, c_8 c_{12}	$u^{27} - u^{26} + \cdots + 9u + 5$
c_3, c_4, c_9 c_{10}	$u^{27} + 3u^{26} + \cdots - 70u - 10$
c_5, c_{11}	$u^{27} - 3u^{26} + \cdots + 18u - 58$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$256(256y^{27} - 3968y^{26} + \cdots + 977y - 121)$
c_2, c_6, c_8 c_{12}	$y^{27} - 15y^{26} + \cdots - 59y - 25$
c_3, c_4, c_9 c_{10}	$y^{27} + 33y^{26} + \cdots - 160y - 100$
c_5, c_{11}	$y^{27} + 15y^{26} + \cdots - 67768y - 3364$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.364874 + 0.825098I$ $a = -0.238313 + 0.397025I$ $b = 0.112921 - 1.126640I$	$3.64402 - 0.53435I$	$4.34399 + 2.80873I$
$u = 0.364874 - 0.825098I$ $a = -0.238313 - 0.397025I$ $b = 0.112921 + 1.126640I$	$3.64402 + 0.53435I$	$4.34399 - 2.80873I$
$u = -1.161210 + 0.177318I$ $a = -1.55299 + 0.71207I$ $b = -1.02417 + 1.45743I$	$-4.02024 + 2.79292I$	$-13.1385 - 5.9846I$
$u = -1.161210 - 0.177318I$ $a = -1.55299 - 0.71207I$ $b = -1.02417 - 1.45743I$	$-4.02024 - 2.79292I$	$-13.1385 + 5.9846I$
$u = -1.19546$ $a = 1.84775$ $b = 1.71581$	-5.68324	-17.5310
$u = -0.682757 + 0.364207I$ $a = 0.789005 - 0.357352I$ $b = 0.022604 - 1.395470I$	$-0.14501 + 1.44728I$	$-5.76179 - 4.68277I$
$u = -0.682757 - 0.364207I$ $a = 0.789005 + 0.357352I$ $b = 0.022604 + 1.395470I$	$-0.14501 - 1.44728I$	$-5.76179 + 4.68277I$
$u = 1.235400 + 0.089712I$ $a = 0.774713 - 0.907018I$ $b = 0.67807 - 1.77115I$	$-13.27050 - 1.98767I$	$-16.4839 + 3.0792I$
$u = 1.235400 - 0.089712I$ $a = 0.774713 + 0.907018I$ $b = 0.67807 + 1.77115I$	$-13.27050 + 1.98767I$	$-16.4839 - 3.0792I$
$u = 1.214930 + 0.391524I$ $a = 1.60058 + 0.31754I$ $b = 0.80643 + 1.29561I$	$-2.26047 - 8.25333I$	$-7.35249 + 7.59279I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.214930 - 0.391524I$ $a = 1.60058 - 0.31754I$ $b = 0.80643 - 1.29561I$	$-2.26047 + 8.25333I$	$-7.35249 - 7.59279I$
$u = 1.272470 + 0.241748I$ $a = -1.45426 + 0.39776I$ $b = -1.380070 + 0.244451I$	$-9.23965 - 5.78427I$	$-13.7128 + 6.1785I$
$u = 1.272470 - 0.241748I$ $a = -1.45426 - 0.39776I$ $b = -1.380070 - 0.244451I$	$-9.23965 + 5.78427I$	$-13.7128 - 6.1785I$
$u = -0.290377 + 1.268100I$ $a = -0.032432 + 0.388759I$ $b = -0.230064 - 0.925197I$	$1.90694 - 0.98903I$	$-9.51739 + 7.74908I$
$u = -0.290377 - 1.268100I$ $a = -0.032432 - 0.388759I$ $b = -0.230064 + 0.925197I$	$1.90694 + 0.98903I$	$-9.51739 - 7.74908I$
$u = -1.32694 + 0.50922I$ $a = -1.52492 + 0.11633I$ $b = -0.70253 + 1.32123I$	$-5.85291 + 12.82750I$	$-9.51213 - 8.73383I$
$u = -1.32694 - 0.50922I$ $a = -1.52492 - 0.11633I$ $b = -0.70253 - 1.32123I$	$-5.85291 - 12.82750I$	$-9.51213 + 8.73383I$
$u = 0.346727 + 0.443868I$ $a = 1.38523 + 1.47579I$ $b = 0.249094 + 0.559328I$	$-7.24892 - 1.17668I$	$-9.05075 + 5.85143I$
$u = 0.346727 - 0.443868I$ $a = 1.38523 - 1.47579I$ $b = 0.249094 - 0.559328I$	$-7.24892 + 1.17668I$	$-9.05075 - 5.85143I$
$u = -1.41709 + 0.38831I$ $a = 1.215140 + 0.373473I$ $b = 1.248380 + 0.154329I$	$-19.0366 + 8.9897I$	$-13.6836 - 4.5362I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.41709 - 0.38831I$ $a = 1.215140 - 0.373473I$ $b = 1.248380 - 0.154329I$	$-19.0366 - 8.9897I$	$-13.6836 + 4.5362I$
$u = 0.31044 + 1.48273I$ $a = 0.120252 + 0.379616I$ $b = 0.355070 - 0.859580I$	$-6.71203 + 1.54503I$	$-10.23539 - 4.25212I$
$u = 0.31044 - 1.48273I$ $a = 0.120252 - 0.379616I$ $b = 0.355070 + 0.859580I$	$-6.71203 - 1.54503I$	$-10.23539 + 4.25212I$
$u = 1.41907 + 0.58513I$ $a = 1.45781 - 0.00636I$ $b = 0.65443 + 1.34532I$	$-15.3179 - 15.6052I$	$-10.54586 + 7.38863I$
$u = 1.41907 - 0.58513I$ $a = 1.45781 + 0.00636I$ $b = 0.65443 - 1.34532I$	$-15.3179 + 15.6052I$	$-10.54586 - 7.38863I$
$u = -0.187802 + 0.286116I$ $a = -0.563690 + 0.885446I$ $b = -0.148069 + 0.298333I$	$-0.206928 + 0.796519I$	$-5.58390 - 8.64848I$
$u = -0.187802 - 0.286116I$ $a = -0.563690 - 0.885446I$ $b = -0.148069 - 0.298333I$	$-0.206928 - 0.796519I$	$-5.58390 + 8.64848I$

II.

$\boldsymbol{I_2^u = \langle 2.28\times10^{43}u^{41} - 8.70\times10^{42}u^{40} + \cdots + 2.41\times10^{44}b - 1.20\times10^{44},\ -7.56\times10^{44}u^{41} + 5.11\times10^{44}u^{40} + \cdots + 1.21\times10^{45}a + 2.18\times10^{45},\ u^{42} - u^{41} + \cdots + 2u - 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.626892u^{41} - 0.424021u^{40} + \cdots + 17.7437u - 1.80503 \\ -0.0946359u^{41} + 0.0360687u^{40} + \cdots - 2.56626u + 0.497461 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.957966u^{41} + 1.20380u^{40} + \cdots - 2.43714u + 0.291897 \\ 0.108267u^{41} + 0.0256008u^{40} + \cdots + 5.44460u - 0.834598 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.721528u^{41} - 0.460090u^{40} + \cdots + 20.3099u - 2.30250 \\ -0.0946359u^{41} + 0.0360687u^{40} + \cdots - 2.56626u + 0.497461 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.620643u^{41} - 0.813885u^{40} + \cdots + 2.26414u + 2.28794 \\ -0.0198339u^{41} - 0.0132637u^{40} + \cdots - 4.39112u + 0.608259 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 2.25050u^{41} - 2.34710u^{40} + \cdots + 11.2525u - 5.46408 \\ -0.340874u^{41} + 0.341757u^{40} + \cdots - 1.40077u + 0.973676 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.353819u^{41} - 0.400322u^{40} + \cdots + 5.77072u - 4.35429 \\ 0.197477u^{41} - 0.175445u^{40} + \cdots - 3.35600u + 0.644767 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.937637u^{41} + 1.14987u^{40} + \cdots + 13.7232u + 0.948572 \\ 0.307741u^{41} - 0.331030u^{40} + \cdots - 1.73977u - 0.240444 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.583059u^{41} - 0.427551u^{40} + \cdots + 17.4925u - 1.91785 \\ -0.121381u^{41} + 0.0565404u^{40} + \cdots - 2.26417u + 0.562919 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.351958u^{41} - 0.318899u^{40} + \cdots + 1.24803u - 5.09170$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$25(25u^{42} + 85u^{41} + \cdots + 83528u - 95309)$
c_2, c_6, c_8 c_{12}	$u^{42} - u^{41} + \cdots + 2u - 1$
c_3, c_4, c_9 c_{10}	$(u^{21} - u^{20} + \cdots + u + 1)^2$
c_5, c_{11}	$(u^{21} + u^{20} + \cdots + u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$625(625y^{42} - 15625y^{41} + \cdots - 1.44298 \times 10^{11}y + 9.08381 \times 10^{9})$
c_2, c_6, c_8 c_{12}	$y^{42} - 29y^{41} + \cdots - 4y + 1$
c_3, c_4, c_9 c_{10}	$(y^{21} + 27y^{20} + \cdots - y - 1)^2$
c_5, c_{11}	$(y^{21} + 11y^{20} + \cdots - y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000750 + 0.247732I$ $a = 2.15592 - 0.26450I$ $b = 0.199725 + 0.739431I$	$-2.81557 - 1.02651I$	$-5.11271 + 6.49406I$
$u = 1.000750 - 0.247732I$ $a = 2.15592 + 0.26450I$ $b = 0.199725 - 0.739431I$	$-2.81557 + 1.02651I$	$-5.11271 - 6.49406I$
$u = -1.021330 + 0.145152I$ $a = 1.56374 - 0.38857I$ $b = 0.375476 - 1.140930I$	$-0.903078 + 0.771539I$	$-5.08724 + 0.81413I$
$u = -1.021330 - 0.145152I$ $a = 1.56374 + 0.38857I$ $b = 0.375476 + 1.140930I$	$-0.903078 - 0.771539I$	$-5.08724 - 0.81413I$
$u = 0.310624 + 1.009640I$ $a = -0.212763 - 0.473655I$ $b = -0.794642 + 0.241148I$	$-13.5849 - 4.1364I$	$-11.71281 + 2.17514I$
$u = 0.310624 - 1.009640I$ $a = -0.212763 + 0.473655I$ $b = -0.794642 - 0.241148I$	$-13.5849 + 4.1364I$	$-11.71281 - 2.17514I$
$u = -0.049213 + 1.055370I$ $a = 0.152235 - 0.405571I$ $b = 0.504141 + 1.153180I$	$-1.81098 - 7.30035I$	$-6.83891 + 7.23595I$
$u = -0.049213 - 1.055370I$ $a = 0.152235 + 0.405571I$ $b = 0.504141 - 1.153180I$	$-1.81098 + 7.30035I$	$-6.83891 - 7.23595I$
$u = -1.07621$ $a = -1.11344$ $b = -0.639263$	-1.97351	-3.86210
$u = 1.100220 + 0.092693I$ $a = -1.63403 + 0.13889I$ $b = -0.297476 + 1.182770I$	$-9.18536 - 0.72644I$	$-6.52695 - 0.34896I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 1.100220 - 0.092693I$ $a = -1.63403 - 0.13889I$ $b = -0.297476 - 1.182770I$	$-9.18536 + 0.72644I$	$-6.52695 + 0.34896I$
$u = -1.120660 + 0.175896I$ $a = -0.46285 + 1.49950I$ $b = \ \ 0.199725 + 0.739431I$	$-2.81557 - 1.02651I$	$-5.11271 + 6.49406I$
$u = -1.120660 - 0.175896I$ $a = -0.46285 - 1.49950I$ $b = \ \ 0.199725 - 0.739431I$	$-2.81557 + 1.02651I$	$-5.11271 - 6.49406I$
$u = \ \ 1.135500 + 0.423437I$ $a = -1.41111 - 0.14840I$ $b = -0.448707 - 1.150100I$	$1.14110 - 4.04104I$	$-1.23432 + 4.27407I$
$u = \ \ 1.135500 - 0.423437I$ $a = -1.41111 + 0.14840I$ $b = -0.448707 + 1.150100I$	$1.14110 + 4.04104I$	$-1.23432 - 4.27407I$
$u = \ \ 0.105993 + 0.746952I$ $a = \ \ 0.184562 - 0.232611I$ $b = -0.448707 + 1.150100I$	$1.14110 + 4.04104I$	$-1.23432 - 4.27407I$
$u = \ \ 0.105993 - 0.746952I$ $a = \ \ 0.184562 + 0.232611I$ $b = -0.448707 - 1.150100I$	$1.14110 - 4.04104I$	$-1.23432 + 4.27407I$
$u = \ \ 0.026147 + 1.279880I$ $a = -0.282427 - 0.429919I$ $b = -0.544516 + 1.163610I$	$-10.8630 + 9.1159I$	$-8.57432 - 5.67037I$
$u = \ \ 0.026147 - 1.279880I$ $a = -0.282427 + 0.429919I$ $b = -0.544516 - 1.163610I$	$-10.8630 - 9.1159I$	$-8.57432 + 5.67037I$
$u = -0.272541 + 0.659489I$ $a = -0.013376 - 0.755133I$ $b = \ \ 0.709616 + 0.181075I$	$-4.60791 + 2.71325I$	$-10.44742 - 3.99913I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.272541-0.659489I$ $a=-0.013376+0.755133I$ $b=\ \ 0.709616-0.181075I$	$-4.60791-2.71325I$	$-10.44742+3.99913I$
$u=\ \ 1.269690+0.210809I$ $a=\ \ 1.009430-0.033264I$ $b=\ \ 0.709616-0.181075I$	$-4.60791-2.71325I$	$-10.44742+3.99913I$
$u=\ \ 1.269690-0.210809I$ $a=\ \ 1.009430+0.033264I$ $b=\ \ 0.709616+0.181075I$	$-4.60791+2.71325I$	$-10.44742-3.99913I$
$u=-1.153270+0.592702I$ $a=-1.054360-0.605877I$ $b=-0.515219+0.758542I$	$-6.73763+2.10610I$	$-12.68965-4.22092I$
$u=-1.153270-0.592702I$ $a=-1.054360+0.605877I$ $b=-0.515219-0.758542I$	$-6.73763-2.10610I$	$-12.68965+4.22092I$
$u=\ \ 1.39064+0.33345I$ $a=-0.323551+0.496463I$ $b=-0.515219+0.758542I$	$-6.73763+2.10610I$	$-12.68965+0.I$
$u=\ \ 1.39064-0.33345I$ $a=-0.323551-0.496463I$ $b=-0.515219-0.758542I$	$-6.73763-2.10610I$	$-12.68965+0.I$
$u=-1.32978+0.55644I$ $a=\ \ 1.224510-0.037112I$ $b=\ \ 0.504141-1.153180I$	$-1.81098+7.30035I$	0
$u=-1.32978-0.55644I$ $a=\ \ 1.224510+0.037112I$ $b=\ \ 0.504141+1.153180I$	$-1.81098-7.30035I$	0
$u=-1.46842+0.32569I$ $a=-0.922519-0.020055I$ $b=-0.794642-0.241148I$	$-13.5849+4.1364I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.46842 - 0.32569I$ $a = -0.922519 + 0.020055I$ $b = -0.794642 + 0.241148I$	$-13.5849 - 4.1364I$	0
$u = 1.32647 + 0.78499I$ $a = 0.867930 - 0.509797I$ $b = 0.631235 + 0.777388I$	$-16.2658 - 2.4434I$	0
$u = 1.32647 - 0.78499I$ $a = 0.867930 + 0.509797I$ $b = 0.631235 - 0.777388I$	$-16.2658 + 2.4434I$	0
$u = 1.47969 + 0.65675I$ $a = -1.114420 + 0.034710I$ $b = -0.544516 - 1.163610I$	$-10.8630 - 9.1159I$	0
$u = 1.47969 - 0.65675I$ $a = -1.114420 - 0.034710I$ $b = -0.544516 + 1.163610I$	$-10.8630 + 9.1159I$	0
$u = -1.58814 + 0.45186I$ $a = 0.400910 + 0.274750I$ $b = 0.631235 + 0.777388I$	$-16.2658 - 2.4434I$	0
$u = -1.58814 - 0.45186I$ $a = 0.400910 - 0.274750I$ $b = 0.631235 - 0.777388I$	$-16.2658 + 2.4434I$	0
$u = -0.175560 + 0.250558I$ $a = -3.45078 + 4.61056I$ $b = -0.297476 - 1.182770I$	$-9.18536 + 0.72644I$	$-6.52695 + 0.34896I$
$u = -0.175560 - 0.250558I$ $a = -3.45078 - 4.61056I$ $b = -0.297476 + 1.182770I$	$-9.18536 - 0.72644I$	$-6.52695 - 0.34896I$
$u = -0.016547 + 0.283471I$ $a = -2.71355 + 0.31034I$ $b = 0.375476 + 1.140930I$	$-0.903078 - 0.771539I$	$-5.08724 - 0.81413I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.016547 - 0.283471I$ $a = -2.71355 - 0.31034I$ $b = 0.375476 - 1.140930I$	$-0.903078 + 0.771539I$	$-5.08724 + 0.81413I$
$u = 0.175706$ $a = 3.58645$ $b = -0.639263$	-1.97351	-3.86210

III. $\boldsymbol{I_3^u = \langle b+u,\ 4a^2-4au+2a-u-2,\ u^2+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$16(16u^4 + 16u^3 + 4u^2 + 5)$
c_2, c_5, c_6 c_8, c_{11}, c_{12}	$(u^2 + 1)^2$
c_3, c_4, c_9 c_{10}	$u^4 + 3u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$256(256y^4 - 128y^3 + 176y^2 + 40y + 25)$
c_2, c_5, c_6 c_8, c_{11}, c_{12}	$(y+1)^4$
c_3, c_4, c_9 c_{10}	$(y^2 + 3y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.809017 + 0.500000I$ $b = -1.000000I$	-5.59278	-4.00000
$u = 1.000000I$ $a = 0.309017 + 0.500000I$ $b = -1.000000I$	2.30291	-4.00000
$u = -1.000000I$ $a = -0.809017 - 0.500000I$ $b = 1.000000I$	-5.59278	-4.00000
$u = -1.000000I$ $a = 0.309017 - 0.500000I$ $b = 1.000000I$	2.30291	-4.00000

IV. $I_4^u = \langle b,\ a+1,\ u+1 \rangle$

(i) Arc colorings

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

(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_7 c_8	$u - 1$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	u
c_6, c_{12}	$u + 1$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = 0$	-3.28987	-12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$6400(u-1)(16u^4+16u^3+4u^2+5)(16u^{27}+32u^{26}+\cdots+25u+11)$ $\cdot(25u^{42}+85u^{41}+\cdots+83528u-95309)$
c_2, c_8	$(u-1)(u^2+1)^2(u^{27}-u^{26}+\cdots+9u+5)(u^{42}-u^{41}+\cdots+2u-1)$
c_3, c_4, c_9 c_{10}	$u(u^4+3u^2+1)(u^{21}-u^{20}+\cdots+u+1)^2(u^{27}+3u^{26}+\cdots-70u-10)$
c_5, c_{11}	$u(u^2+1)^2(u^{21}+u^{20}+\cdots+u+1)^2(u^{27}-3u^{26}+\cdots+18u-58)$
c_6, c_{12}	$(u+1)(u^2+1)^2(u^{27}-u^{26}+\cdots+9u+5)(u^{42}-u^{41}+\cdots+2u-1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$40960000(y-1)(256y^4-128y^3+176y^2+40y+25)$ $\cdot(256y^{27}-3968y^{26}+\cdots+977y-121)$ $\cdot(625y^{42}-15625y^{41}+\cdots-144297752748y+9083805481)$
c_2, c_6, c_8 c_{12}	$(y-1)(y+1)^4(y^{27}-15y^{26}+\cdots-59y-25)$ $\cdot(y^{42}-29y^{41}+\cdots-4y+1)$
c_3, c_4, c_9 c_{10}	$y(y^2+3y+1)^2(y^{21}+27y^{20}+\cdots-y-1)^2$ $\cdot(y^{27}+33y^{26}+\cdots-160y-100)$
c_5, c_{11}	$y(y+1)^4(y^{21}+11y^{20}+\cdots-y-1)^2$ $\cdot(y^{27}+15y^{26}+\cdots-67768y-3364)$