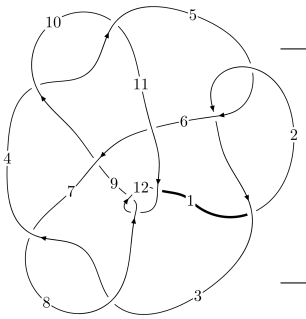
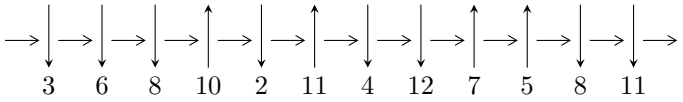
$12n_{0369}$ $(K12n_{0369})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$I_1^u = \langle -2.75957 \times 10^{30} u^{47} + 3.57679 \times 10^{30} u^{46} + \cdots + 6.32723 \times 10^{30} b - 3.65231 \times 10^{30},$
$\quad - 2.09830 \times 10^{31} u^{47} - 2.86459 \times 10^{31} u^{46} + \cdots + 6.32723 \times 10^{30} a + 1.84790 \times 10^{32},\ u^{48} + u^{47} + \cdots - 10u +$

$I_2^u = \langle u^{14} - 7u^{12} + u^{11} + 17u^{10} - 6u^9 - 12u^8 + 12u^7 - 13u^6 - 8u^5 + 17u^4 - u^3 + u^2 + b + u,$
$\quad - u^{15} - 2u^{14} + \cdots + a + 1,$
$\quad u^{16} - 8u^{14} + u^{13} + 25u^{12} - 7u^{11} - 34u^{10} + 19u^9 + 7u^8 - 24u^7 + 30u^6 + 12u^5 - 25u^4 + u^3 + 2u^2 - 2u + 1\rangle$

$I_3^u = \langle b,\ a - 1,\ u^4 - u^3 - 1\rangle$

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

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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.

$$\boldsymbol{I_1^u = \langle -2.76\times 10^{30}u^{47}+3.58\times 10^{30}u^{46}+\cdots+6.33\times 10^{30}b-3.65\times 10^{30},\ -2.10\times 10^{31}u^{47}-2.86\times 10^{31}u^{46}+\cdots+6.33\times 10^{30}a+1.85\times 10^{32},\ u^{48}+u^{47}+\cdots-10u+1\rangle}$$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3.31630u^{47} + 4.52741u^{46} + \cdots + 38.4903u - 29.2055 \\ 0.436142u^{47} - 0.565302u^{46} + \cdots + 1.59289u + 0.577237 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.242854u^{47} + 2.03129u^{46} + \cdots + 69.3445u - 20.8066 \\ 1.64294u^{47} + 0.0993437u^{46} + \cdots - 21.2574u + 1.65185 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.28265u^{47} - 0.830559u^{46} + \cdots - 36.6527u - 1.12768 \\ 0.892123u^{47} + 0.107793u^{46} + \cdots - 6.10035u - 1.43370 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3.37390u^{47} + 4.39684u^{46} + \cdots + 36.8345u - 29.4151 \\ 0.378539u^{47} - 0.434740u^{46} + \cdots + 3.24866u + 0.786904 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 3.76580u^{47} + 4.48846u^{46} + \cdots + 26.7303u - 29.1791 \\ -0.222098u^{47} - 0.473962u^{46} + \cdots + 6.64344u + 0.486616 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 2.90620u^{47} + 2.89459u^{46} + \cdots - 5.12037u - 23.2385 \\ 0.210719u^{47} + 0.258112u^{46} + \cdots + 7.62863u - 0.669658 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.607997u^{47} - 1.69785u^{46} + \cdots - 72.9604u + 20.6700 \\ -0.837878u^{47} - 0.317904u^{46} + \cdots + 13.9065u - 0.953269 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 3.59091u^{47} + 1.91005u^{46} + \cdots + 69.2709u - 21.1928 \\ -1.82497u^{47} + 0.418307u^{46} + \cdots - 0.762950u + 0.364889 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2.37527u^{47} - 1.29990u^{46} + \cdots + 83.9395u + 0.965224$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{48}+30u^{47}+\cdots+204u+16$
c_2, c_5	$u^{48}-4u^{47}+\cdots-34u+4$
c_3, c_7	$u^{48}+2u^{47}+\cdots-16u+1$
c_4, c_{10}	$u^{48}+u^{47}+\cdots-10u+1$
c_6	$u^{48}+3u^{47}+\cdots-18570u+68953$
c_8, c_{11}	$u^{48}+5u^{47}+\cdots+120u+271$
c_9	$u^{48}+11u^{47}+\cdots+46158u+10853$
c_{12}	$u^{48}+59u^{47}+\cdots+2718438u+73441$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{48} - 18y^{47} + \cdots - 209520y + 256$
c_2, c_5	$y^{48} - 30y^{47} + \cdots - 204y + 16$
c_3, c_7	$y^{48} + 10y^{47} + \cdots - 162y + 1$
c_4, c_{10}	$y^{48} - 43y^{47} + \cdots - 166y + 1$
c_6	$y^{48} + 25y^{47} + \cdots - 20064851276y + 4754516209$
c_8, c_{11}	$y^{48} - 59y^{47} + \cdots - 2718438y + 73441$
c_9	$y^{48} + 5y^{47} + \cdots - 97685534y + 117787609$
c_{12}	$y^{48} - 143y^{47} + \cdots - 163732164302y + 5393580481$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.188816 + 0.986534I$ $a = -1.187120 - 0.629861I$ $b = 0.344371 - 0.579813I$	$-11.1663 + 9.4251I$	$-7.81565 - 5.65269I$
$u = 0.188816 - 0.986534I$ $a = -1.187120 + 0.629861I$ $b = 0.344371 + 0.579813I$	$-11.1663 - 9.4251I$	$-7.81565 + 5.65269I$
$u = -0.923856$ $a = 0.987425$ $b = -0.00645573$	-1.64390	-6.03810
$u = -0.118797 + 0.851176I$ $a = -1.42725 + 0.86776I$ $b = 0.414622 + 0.529642I$	$-7.00819 - 3.87744I$	$-6.00183 + 2.83114I$
$u = -0.118797 - 0.851176I$ $a = -1.42725 - 0.86776I$ $b = 0.414622 - 0.529642I$	$-7.00819 + 3.87744I$	$-6.00183 - 2.83114I$
$u = -0.237043 + 0.810777I$ $a = 0.266448 - 0.209284I$ $b = -0.484219 - 0.035427I$	$-1.59052 + 1.65508I$	$-10.14529 - 5.18915I$
$u = -0.237043 - 0.810777I$ $a = 0.266448 + 0.209284I$ $b = -0.484219 + 0.035427I$	$-1.59052 - 1.65508I$	$-10.14529 + 5.18915I$
$u = -0.058232 + 0.837894I$ $a = -1.82697 - 0.63370I$ $b = 0.516515 - 0.576658I$	$-11.32710 - 1.67337I$	$-8.90827 + 0.94865I$
$u = -0.058232 - 0.837894I$ $a = -1.82697 + 0.63370I$ $b = 0.516515 + 0.576658I$	$-11.32710 + 1.67337I$	$-8.90827 - 0.94865I$
$u = -1.147810 + 0.393065I$ $a = 0.063356 - 0.460733I$ $b = -1.191290 + 0.713713I$	$-3.86248 - 0.61447I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.147810-0.393065I$ $a=\ \ 0.063356+0.460733I$ $b=-1.191290-0.713713I$	$-3.86248+0.61447I$	0
$u=\ \ 1.224880+0.039706I$ $a=-0.84589+2.01472I$ $b=\ \ 0.75845-3.13225I$	$5.47066+2.81993I$	0
$u=\ \ 1.224880-0.039706I$ $a=-0.84589-2.01472I$ $b=\ \ 0.75845+3.13225I$	$5.47066-2.81993I$	0
$u=-1.23724$ $a=\ \ 3.88112$ $b=-3.94762$	-3.66178	3.85220
$u=-0.228880+0.722151I$ $a=\ \ 0.583716-0.181097I$ $b=-0.334046-0.976538I$	$-3.67584-3.60264I$	$-9.48140+6.24040I$
$u=-0.228880-0.722151I$ $a=\ \ 0.583716+0.181097I$ $b=-0.334046+0.976538I$	$-3.67584+3.60264I$	$-9.48140-6.24040I$
$u=\ \ 1.178910+0.418615I$ $a=-0.475538-0.859997I$ $b=\ \ 0.42509+1.83991I$	$1.37240+4.77913I$	0
$u=\ \ 1.178910-0.418615I$ $a=-0.475538+0.859997I$ $b=\ \ 0.42509-1.83991I$	$1.37240-4.77913I$	0
$u=-1.211720+0.403316I$ $a=\ \ 0.412396+0.097054I$ $b=-0.007786+0.341023I$	$1.52928-6.15730I$	0
$u=-1.211720-0.403316I$ $a=\ \ 0.412396-0.097054I$ $b=-0.007786-0.341023I$	$1.52928+6.15730I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.260750 + 0.217181I$ $a = 0.580734 + 0.080863I$ $b = -0.153480 - 0.378533I$	$3.26609 + 1.25196I$	0
$u = 1.260750 - 0.217181I$ $a = 0.580734 - 0.080863I$ $b = -0.153480 + 0.378533I$	$3.26609 - 1.25196I$	0
$u = -1.228180 + 0.379942I$ $a = 0.05711 - 2.29319I$ $b = 0.30107 + 3.26878I$	$-7.72334 - 2.70340I$	0
$u = -1.228180 - 0.379942I$ $a = 0.05711 + 2.29319I$ $b = 0.30107 - 3.26878I$	$-7.72334 + 2.70340I$	0
$u = -1.289200 + 0.073390I$ $a = -0.63077 + 1.65237I$ $b = 0.35618 - 2.71369I$	$6.48354 - 3.11664I$	0
$u = -1.289200 - 0.073390I$ $a = -0.63077 - 1.65237I$ $b = 0.35618 + 2.71369I$	$6.48354 + 3.11664I$	0
$u = 1.154930 + 0.634373I$ $a = -0.078971 + 0.444060I$ $b = -0.849057 - 0.707892I$	$-8.27166 - 3.77639I$	0
$u = 1.154930 - 0.634373I$ $a = -0.078971 - 0.444060I$ $b = -0.849057 + 0.707892I$	$-8.27166 + 3.77639I$	0
$u = 1.319420 + 0.377715I$ $a = 0.051061 + 0.623648I$ $b = -1.16317 - 1.04567I$	$-7.01248 + 6.04669I$	0
$u = 1.319420 - 0.377715I$ $a = 0.051061 - 0.623648I$ $b = -1.16317 + 1.04567I$	$-7.01248 - 6.04669I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.612128$ $a=-0.328856$ $b=-1.19564$	-2.95942	2.44780
$u=1.353320+0.378263I$ $a=-0.08340+1.97303I$ $b=0.49945-2.98749I$	$-2.37757+8.30419I$	0
$u=1.353320-0.378263I$ $a=-0.08340-1.97303I$ $b=0.49945+2.98749I$	$-2.37757-8.30419I$	0
$u=-1.394650+0.226156I$ $a=-0.28775+1.52139I$ $b=0.01735-2.20388I$	$4.97003-4.04918I$	0
$u=-1.394650-0.226156I$ $a=-0.28775-1.52139I$ $b=0.01735+2.20388I$	$4.97003+4.04918I$	0
$u=0.204671+0.542777I$ $a=0.606882+0.463380I$ $b=-0.097702+0.457637I$	$-0.184718+1.155860I$	$-2.61813-5.93351I$
$u=0.204671-0.542777I$ $a=0.606882-0.463380I$ $b=-0.097702-0.457637I$	$-0.184718-1.155860I$	$-2.61813+5.93351I$
$u=1.39354+0.29007I$ $a=-0.54475-1.82044I$ $b=0.09576+2.31209I$	$1.48745+7.27926I$	0
$u=1.39354-0.29007I$ $a=-0.54475+1.82044I$ $b=0.09576-2.31209I$	$1.48745-7.27926I$	0
$u=1.43184+0.09274I$ $a=0.510399-1.211730I$ $b=-0.44308+1.62054I$	$4.22730+0.98369I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.43184 - 0.09274I$ $a = 0.510399 + 1.211730I$ $b = -0.44308 - 1.62054I$	$4.22730 - 0.98369I$	0
$u = -1.41425 + 0.42968I$ $a = -0.01233 - 1.80833I$ $b = 0.45419 + 2.79557I$	$-6.1055 - 14.4818I$	0
$u = -1.41425 - 0.42968I$ $a = -0.01233 + 1.80833I$ $b = 0.45419 - 2.79557I$	$-6.1055 + 14.4818I$	0
$u = -1.50303 + 0.27534I$ $a = -0.016901 + 1.163320I$ $b = 0.04802 - 1.86187I$	$4.18133 - 4.41038I$	0
$u = -1.50303 - 0.27534I$ $a = -0.016901 - 1.163320I$ $b = 0.04802 + 1.86187I$	$4.18133 + 4.41038I$	0
$u = -0.212607$ $a = 5.78141$ $b = -2.13725$	-6.86165	-17.4210
$u = 0.1136290 + 0.0195248I$ $a = -0.87499 + 10.27460I$ $b = 0.636242 + 0.063087I$	$2.11273 + 2.53080I$	$5.85801 - 0.41014I$
$u = 0.1136290 - 0.0195248I$ $a = -0.87499 - 10.27460I$ $b = 0.636242 - 0.063087I$	$2.11273 - 2.53080I$	$5.85801 + 0.41014I$

II.

$\boldsymbol{I_2^u = \langle u^{14}-7u^{12}+\cdots+b+u,\ -u^{15}-2u^{14}+\cdots+a+1,\ u^{16}-8u^{14}+\cdots-2u+1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{15}+2u^{14}+\cdots+4u-1 \\ -u^{14}+7u^{12}+\cdots-u^2-u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2u^{15}+4u^{14}+\cdots+6u-2 \\ u^{15}-4u^{14}+\cdots-8u+4 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{14}-u^{13}+\cdots+3u-1 \\ u^{15}+u^{14}+\cdots-u^2+2u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{15}+3u^{14}+\cdots+5u-2 \\ -2u^{14}+13u^{12}+\cdots-2u+1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^{15}+u^{14}+\cdots-6u^2+2u \\ u^{14}-6u^{12}+\cdots+2u-1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{15}+6u^{13}+\cdots-4u^2+6u \\ 2u^{15}+2u^{14}+\cdots+2u^2+u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -2u^{15}+2u^{14}+\cdots+4u-2 \\ u^{15}-u^{14}+\cdots-4u+2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2u^{15}-7u^{14}+\cdots-9u+6 \\ -2u^{15}+6u^{14}+\cdots+7u-3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 6u^{15}-3u^{14}-39u^{13}+23u^{12}+89u^{11}-65u^{10}-52u^9+74u^8-90u^7-14u^6+120u^5-24u^4-7u^3+8u^2-21u-8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} - 10u^{15} + \cdots - 13u + 1$
c_2	$u^{16} - 5u^{14} + \cdots + u + 1$
c_3	$u^{16} + u^{15} + \cdots + 2u^2 + 1$
c_4	$u^{16} - 8u^{14} + \cdots + 2u + 1$
c_5	$u^{16} - 5u^{14} + \cdots - u + 1$
c_6	$u^{16} - 10u^{14} + \cdots - 8u + 1$
c_7	$u^{16} - u^{15} + \cdots + 2u^2 + 1$
c_8	$u^{16} + 4u^{15} + \cdots - 6u^2 + 1$
c_9	$u^{16} - 10u^{14} + \cdots - 10u + 1$
c_{10}	$u^{16} - 8u^{14} + \cdots - 2u + 1$
c_{11}	$u^{16} - 4u^{15} + \cdots - 6u^2 + 1$
c_{12}	$u^{16} + 16u^{15} + \cdots + 12u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} + 2y^{15} + \cdots - 17y + 1$
c_2, c_5	$y^{16} - 10y^{15} + \cdots - 13y + 1$
c_3, c_7	$y^{16} + 9y^{15} + \cdots + 4y + 1$
c_4, c_{10}	$y^{16} - 16y^{15} + \cdots - 42y^2 + 1$
c_6	$y^{16} - 20y^{15} + \cdots - 26y + 1$
c_8, c_{11}	$y^{16} - 16y^{15} + \cdots - 12y + 1$
c_9	$y^{16} - 20y^{15} + \cdots - 28y + 1$
c_{12}	$y^{16} - 36y^{15} + \cdots - 16y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.157905 + 0.943251I$ $a = 0.610640 + 0.247441I$ $b = 0.0788746 - 0.0514506I$	$-0.93275 - 1.38263I$	$0.67419 + 2.70676I$
$u = 0.157905 - 0.943251I$ $a = 0.610640 - 0.247441I$ $b = 0.0788746 + 0.0514506I$	$-0.93275 + 1.38263I$	$0.67419 - 2.70676I$
$u = -1.21024$ $a = 3.35576$ $b = -2.76311$	-4.18180	-12.5660
$u = 1.28233$ $a = 0.698365$ $b = 0.403528$	-0.346283	2.00910
$u = 1.316900 + 0.141214I$ $a = -0.04386 - 2.04828I$ $b = 0.41477 + 2.95412I$	$5.70540 - 0.78730I$	$-0.442956 + 0.061759I$
$u = 1.316900 - 0.141214I$ $a = -0.04386 + 2.04828I$ $b = 0.41477 - 2.95412I$	$5.70540 + 0.78730I$	$-0.442956 - 0.061759I$
$u = -0.650998$ $a = 1.51494$ $b = -2.37753$	-6.31388	-1.89280
$u = -1.367740 + 0.173395I$ $a = -0.01802 + 1.80035I$ $b = 0.08155 - 2.81320I$	$6.41284 - 4.92457I$	$1.71154 + 6.19664I$
$u = -1.367740 - 0.173395I$ $a = -0.01802 - 1.80035I$ $b = 0.08155 + 2.81320I$	$6.41284 + 4.92457I$	$1.71154 - 6.19664I$
$u = 1.328650 + 0.387601I$ $a = -0.708818 - 0.897346I$ $b = 0.64793 + 1.46365I$	$2.92923 + 6.21758I$	$0.04433 - 6.40785I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.328650 - 0.387601I$ $a = -0.708818 + 0.897346I$ $b = 0.64793 - 1.46365I$	$2.92923 - 6.21758I$	$0.04433 + 6.40785I$
$u = -1.44285 + 0.29245I$ $a = -0.118615 + 1.081200I$ $b = -0.09128 - 1.76349I$	$4.51337 - 2.97289I$	$-0.738347 + 0.405278I$
$u = -1.44285 - 0.29245I$ $a = -0.118615 - 1.081200I$ $b = -0.09128 + 1.76349I$	$4.51337 + 2.97289I$	$-0.738347 - 0.405278I$
$u = 0.441784$ $a = -1.29505$ $b = -0.989743$	-3.43070	-15.5470
$u = 0.075703 + 0.413793I$ $a = 3.14167 + 1.07241I$ $b = -0.268420 - 0.065341I$	$1.66771 + 2.72901I$	$-9.75037 - 6.35303I$
$u = 0.075703 - 0.413793I$ $a = 3.14167 - 1.07241I$ $b = -0.268420 + 0.065341I$	$1.66771 - 2.72901I$	$-9.75037 + 6.35303I$

III. $I_3^u = \langle b,\ a-1,\ u^4-u^3-1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5	$(u+1)^4$
c_3, c_4, c_7 c_{10}	$u^4 - u^3 - 1$
c_6	$u^4 - 5u^3 + 6u^2 - 4u + 1$
c_8, c_{11}	$u^4 - u^3 - 2u^2 + 1$
c_9	$u^4 + u^3 - 2u^2 + 1$
c_{12}	$u^4 + 5u^3 + 6u^2 + 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$(y-1)^4$
c_3, c_4, c_7 c_{10}	$y^4 - y^3 - 2y^2 + 1$
c_6, c_{12}	$y^4 - 13y^3 - 2y^2 - 4y + 1$
c_8, c_9, c_{11}	$y^4 - 5y^3 + 6y^2 - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.219447 + 0.914474I$ $a = 1.00000$ $b = 0$	-1.64493	-6.00000
$u = 0.219447 - 0.914474I$ $a = 1.00000$ $b = 0$	-1.64493	-6.00000
$u = -0.819173$ $a = 1.00000$ $b = 0$	-1.64493	-6.00000
$u = 1.38028$ $a = 1.00000$ $b = 0$	-1.64493	-6.00000

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$		
$a = \quad 1.00000$	-1.64493	-6.00000
$b = \quad 0$		

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u+1)^5)(u^{16}-10u^{15}+\cdots-13u+1)(u^{48}+30u^{47}+\cdots+204u+16)$
c_2	$((u+1)^5)(u^{16}-5u^{14}+\cdots+u+1)(u^{48}-4u^{47}+\cdots-34u+4)$
c_3	$(u+1)(u^4-u^3-1)(u^{16}+u^{15}+\cdots+2u^2+1)(u^{48}+2u^{47}+\cdots-16u+1)$
c_4	$(u+1)(u^4-u^3-1)(u^{16}-8u^{14}+\cdots+2u+1)(u^{48}+u^{47}+\cdots-10u+1)$
c_5	$((u+1)^5)(u^{16}-5u^{14}+\cdots-u+1)(u^{48}-4u^{47}+\cdots-34u+4)$
c_6	$(u-1)(u^4-5u^3+\cdots-4u+1)(u^{16}-10u^{14}+\cdots-8u+1)$ $\cdot(u^{48}+3u^{47}+\cdots-18570u+68953)$
c_7	$(u+1)(u^4-u^3-1)(u^{16}-u^{15}+\cdots+2u^2+1)(u^{48}+2u^{47}+\cdots-16u+1)$
c_8	$(u-1)(u^4-u^3-2u^2+1)(u^{16}+4u^{15}+\cdots-6u^2+1)$ $\cdot(u^{48}+5u^{47}+\cdots+120u+271)$
c_9	$(u+1)(u^4+u^3-2u^2+1)(u^{16}-10u^{14}+\cdots-10u+1)$ $\cdot(u^{48}+11u^{47}+\cdots+46158u+10853)$
c_{10}	$(u+1)(u^4-u^3-1)(u^{16}-8u^{14}+\cdots-2u+1)(u^{48}+u^{47}+\cdots-10u+1)$
c_{11}	$(u-1)(u^4-u^3-2u^2+1)(u^{16}-4u^{15}+\cdots-6u^2+1)$ $\cdot(u^{48}+5u^{47}+\cdots+120u+271)$
c_{12}	$(u+1)(u^4+5u^3+\cdots+4u+1)(u^{16}+16u^{15}+\cdots+12u+1)$ $\cdot(u^{48}+59u^{47}+\cdots+2718438u+73441)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^5)(y^{16}+2y^{15}+\cdots-17y+1)$ $\cdot(y^{48}-18y^{47}+\cdots-209520y+256)$
c_2, c_5	$((y-1)^5)(y^{16}-10y^{15}+\cdots-13y+1)(y^{48}-30y^{47}+\cdots-204y+16)$
c_3, c_7	$(y-1)(y^4-y^3-2y^2+1)(y^{16}+9y^{15}+\cdots+4y+1)$ $\cdot(y^{48}+10y^{47}+\cdots-162y+1)$
c_4, c_{10}	$(y-1)(y^4-y^3-2y^2+1)(y^{16}-16y^{15}+\cdots-42y^2+1)$ $\cdot(y^{48}-43y^{47}+\cdots-166y+1)$
c_6	$(y-1)(y^4-13y^3+\cdots-4y+1)(y^{16}-20y^{15}+\cdots-26y+1)$ $\cdot(y^{48}+25y^{47}+\cdots-20064851276y+4754516209)$
c_8, c_{11}	$(y-1)(y^4-5y^3+\cdots-4y+1)(y^{16}-16y^{15}+\cdots-12y+1)$ $\cdot(y^{48}-59y^{47}+\cdots-2718438y+73441)$
c_9	$(y-1)(y^4-5y^3+\cdots-4y+1)(y^{16}-20y^{15}+\cdots-28y+1)$ $\cdot(y^{48}+5y^{47}+\cdots-97685534y+117787609)$
c_{12}	$(y-1)(y^4-13y^3+\cdots-4y+1)(y^{16}-36y^{15}+\cdots-16y+1)$ $\cdot(y^{48}-143y^{47}+\cdots-163732164302y+5393580481)$