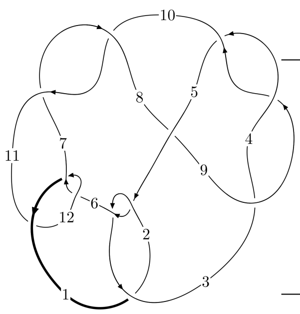
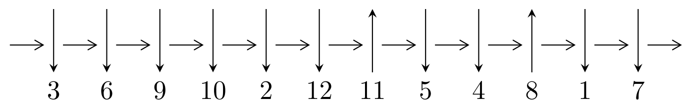
$12a_{0373}$ ($K12a_{0373}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -u^{26} + u^{25} + \cdots + 2b - 1,\ -u^{26} + u^{25} + \cdots + 2a - 3,\ u^{28} - u^{27} + \cdots + 2u - 1\rangle$$
$$I_2^u = \langle -319541245u^{47} + 177558344u^{46} + \cdots + 205886657b + 360357122,$$
$$215527940u^{47} + 208732938u^{46} + \cdots + 205886657a + 1321032619,\ u^{48} - u^{47} + \cdots - 8u + 1\rangle$$
$$I_3^u = \langle b - a - 1,\ a^2 - 2a - 1,\ u - 1\rangle$$
$$I_4^u = \langle b - 2,\ a - 1,\ u + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 79 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.

$$I_1^u = \langle -u^{26}+u^{25}+\cdots+2b-1,\ -u^{26}+u^{25}+\cdots+2a-3,\ u^{28}-u^{27}+\cdots+2u-1\rangle$$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{2}u^{26} - \frac{1}{2}u^{25} + \cdots - u + \frac{3}{2} \\ \frac{1}{2}u^{26} - \frac{1}{2}u^{25} + \cdots - u + \frac{1}{2} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} \frac{1}{2}u^{26} - \frac{1}{2}u^{25} + \cdots - u + \frac{3}{2} \\ \frac{1}{2}u^{26} - \frac{1}{2}u^{25} + \cdots - u + \frac{1}{2} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{2}u^{27} - \frac{1}{2}u^{26} + \cdots - u^2 + \frac{5}{2}u \\ \frac{1}{2}u^{27} - \frac{1}{2}u^{26} + \cdots - u^2 + \frac{3}{2}u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - u^5 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{5}{2}u^{27} + 3u^{26} + \cdots - \frac{7}{2}u + \frac{1}{2} \\ -2u^{27} + \frac{5}{2}u^{26} + \cdots - 3u + \frac{1}{2} \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} \frac{1}{2}u^{27} - \frac{1}{2}u^{26} + \cdots - u^2 + \frac{7}{2}u \\ u^{23} - 5u^{21} + \cdots + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -u^{27} + u^{26} + 8u^{25} - 7u^{24} - 34u^{23} + 26u^{22} + 91u^{21} - 62u^{20} - 163u^{19} + 106u^{18} + 183u^{17} - 128u^{16} - 92u^{15} + 100u^{14} - 68u^{13} - 20u^{12} + 154u^{11} - 51u^{10} - 107u^9 + 67u^8 + 10u^7 - 26u^6 + 29u^5 - 2u^4 - 19u^3 + 14u^2 + 5u - 16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{28} + 15u^{27} + \cdots + 8u + 1$
c_2, c_5, c_6 c_{12}	$u^{28} + u^{27} + \cdots - 2u - 1$
c_3, c_4, c_9	$u^{28} - 3u^{27} + \cdots - 2u - 2$
c_7, c_{10}	$u^{28} + 3u^{27} + \cdots - 16u - 16$
c_8	$u^{28} + 9u^{27} + \cdots + 162u + 38$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{28} + y^{27} + \cdots - 16y + 1$
c_2, c_5, c_6 c_{12}	$y^{28} - 15y^{27} + \cdots - 8y + 1$
c_3, c_4, c_9	$y^{28} - 27y^{27} + \cdots - 12y + 4$
c_7, c_{10}	$y^{28} + 25y^{27} + \cdots - 3840y + 256$
c_8	$y^{28} - 15y^{27} + \cdots - 18188y + 1444$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.921994 + 0.438316I$ $a = -0.76982 + 1.29038I$ $b = -1.76982 + 1.29038I$	$-1.75772 - 3.56547I$	$-11.57837 + 4.88877I$
$u = 0.921994 - 0.438316I$ $a = -0.76982 - 1.29038I$ $b = -1.76982 - 1.29038I$	$-1.75772 + 3.56547I$	$-11.57837 - 4.88877I$
$u = -0.980184 + 0.322710I$ $a = -1.17512 - 2.37431I$ $b = -2.17512 - 2.37431I$	$-8.48761 + 2.20286I$	$-16.1598 - 6.7049I$
$u = -0.980184 - 0.322710I$ $a = -1.17512 + 2.37431I$ $b = -2.17512 + 2.37431I$	$-8.48761 - 2.20286I$	$-16.1598 + 6.7049I$
$u = 0.774066 + 0.543182I$ $a = -0.135954 + 0.570759I$ $b = -1.135950 + 0.570759I$	$-1.36302 - 4.31651I$	$-8.31039 + 7.39761I$
$u = 0.774066 - 0.543182I$ $a = -0.135954 - 0.570759I$ $b = -1.135950 - 0.570759I$	$-1.36302 + 4.31651I$	$-8.31039 - 7.39761I$
$u = -0.990674 + 0.520560I$ $a = -1.20586 - 0.76603I$ $b = -2.20586 - 0.76603I$	$-0.24283 + 7.08786I$	$-8.04162 - 9.83073I$
$u = -0.990674 - 0.520560I$ $a = -1.20586 + 0.76603I$ $b = -2.20586 + 0.76603I$	$-0.24283 - 7.08786I$	$-8.04162 + 9.83073I$
$u = 0.078627 + 0.853313I$ $a = 0.876417 - 0.044224I$ $b = -0.1235830 - 0.0442237I$	$-7.82726 + 5.09468I$	$-10.66054 - 2.85681I$
$u = 0.078627 - 0.853313I$ $a = 0.876417 + 0.044224I$ $b = -0.1235830 + 0.0442237I$	$-7.82726 - 5.09468I$	$-10.66054 + 2.85681I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.051900 + 0.542779I$ $a = -1.53095 + 0.56330I$ $b = -2.53095 + 0.56330I$	$-5.30353 - 10.40520I$	$-13.0720 + 9.8966I$
$u = 1.051900 - 0.542779I$ $a = -1.53095 - 0.56330I$ $b = -2.53095 - 0.56330I$	$-5.30353 + 10.40520I$	$-13.0720 - 9.8966I$
$u = -0.613429 + 0.514922I$ $a = 0.383789 - 0.430769I$ $b = -0.616211 - 0.430769I$	$2.08348 + 1.42913I$	$-1.76601 - 3.86378I$
$u = -0.613429 - 0.514922I$ $a = 0.383789 + 0.430769I$ $b = -0.616211 + 0.430769I$	$2.08348 - 1.42913I$	$-1.76601 + 3.86378I$
$u = -0.052810 + 0.786288I$ $a = 0.850234 + 0.019571I$ $b = -0.149766 + 0.019571I$	$-1.72551 - 1.99191I$	$-6.96869 + 3.27675I$
$u = -0.052810 - 0.786288I$ $a = 0.850234 - 0.019571I$ $b = -0.149766 - 0.019571I$	$-1.72551 + 1.99191I$	$-6.96869 - 3.27675I$
$u = -0.755899$ $a = 3.09480$ $b = 2.09480$	-7.05303	-9.54120
$u = 0.439706 + 0.594385I$ $a = 0.593130 + 0.123123I$ $b = -0.406870 + 0.123123I$	$-1.78196 + 1.31248I$	$-6.93906 - 0.09185I$
$u = 0.439706 - 0.594385I$ $a = 0.593130 - 0.123123I$ $b = -0.406870 - 0.123123I$	$-1.78196 - 1.31248I$	$-6.93906 + 0.09185I$
$u = 1.222060 + 0.480272I$ $a = -2.62599 + 0.44865I$ $b = -3.62599 + 0.44865I$	$-8.88868 - 7.02526I$	$-14.1377 + 3.4246I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.222060 - 0.480272I$ $a = -2.62599 - 0.44865I$ $b = -3.62599 - 0.44865I$	$-8.88868 + 7.02526I$	$-14.1377 - 3.4246I$
$u = -1.236550 + 0.456519I$ $a = -2.78618 - 0.51023I$ $b = -3.78618 - 0.51023I$	$-15.5795 + 3.9534I$	$-17.7234 - 3.5115I$
$u = -1.236550 - 0.456519I$ $a = -2.78618 + 0.51023I$ $b = -3.78618 + 0.51023I$	$-15.5795 - 3.9534I$	$-17.7234 + 3.5115I$
$u = -1.230830 + 0.503719I$ $a = -2.58655 - 0.30440I$ $b = -3.58655 - 0.30440I$	$-8.5405 + 11.5460I$	$-13.2621 - 8.9561I$
$u = -1.230830 - 0.503719I$ $a = -2.58655 + 0.30440I$ $b = -3.58655 + 0.30440I$	$-8.5405 - 11.5460I$	$-13.2621 + 8.9561I$
$u = 1.247800 + 0.513255I$ $a = -2.63357 + 0.20263I$ $b = -3.63357 + 0.20263I$	$-14.7882 - 15.0837I$	$-16.6461 + 8.7538I$
$u = 1.247800 - 0.513255I$ $a = -2.63357 - 0.20263I$ $b = -3.63357 - 0.20263I$	$-14.7882 + 15.0837I$	$-16.6461 - 8.7538I$
$u = 0.492557$ $a = 1.39804$ $b = 0.398043$	-0.810096	-11.9270

II.

$\boldsymbol{I_2^u = \langle -3.20 \times 10^8 u^{47} + 1.78 \times 10^8 u^{46} + \cdots + 2.06 \times 10^8 b + 3.60 \times 10^8,\ 2.16 \times 10^8 u^{47} + 2.09 \times 10^8 u^{46} + \cdots + 2.06 \times 10^8 a + 1.32 \times 10^9,\ u^{48} - u^{47} + \cdots - 8u + 1 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1.04683u^{47} - 1.01382u^{46} + \cdots + 11.4027u - 6.41631 \\ 1.55203u^{47} - 0.862408u^{46} + \cdots + 19.4033u - 1.75027 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -2.59885u^{47} - 0.151416u^{46} + \cdots - 8.00057u - 3.66604 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1.68962u^{47} + 1.95136u^{46} + \cdots - 30.6659u + 9.55203 \\ -3.43989u^{47} + 2.14960u^{46} + \cdots - 35.1228u + 4.15088 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - u^5 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1.60683u^{47} - 1.87545u^{46} + \cdots + 36.4501u - 11.3739 \\ 3.10718u^{47} - 1.12758u^{46} + \cdots + 29.8831u - 2.79161 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^8 + 3u^6 - 3u^4 + 1 \\ -u^{10} + 2u^8 - u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -3.76524u^{47} + 2.40841u^{46} + \cdots - 49.1362u + 10.7273 \\ -3.47021u^{47} + 1.77305u^{46} + \cdots - 39.0183u + 4.67429 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{631990468}{205886657}u^{47} + \frac{465365120}{205886657}u^{46} + \cdots - \frac{3102970832}{205886657}u - \frac{2431744494}{205886657}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{48} + 29u^{47} + \cdots + 24u + 1$
c_2, c_5, c_6 c_{12}	$u^{48} + u^{47} + \cdots + 8u + 1$
c_3, c_4, c_9	$(u^{24} + u^{23} + \cdots + 2u^2 + 1)^2$
c_7, c_{10}	$(u^{24} + 3u^{23} + \cdots + 8u + 1)^2$
c_8	$(u^{24} - 3u^{23} + \cdots + 20u - 7)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{48} - 21y^{47} + \cdots - 200y + 1$
c_2, c_5, c_6 c_{12}	$y^{48} - 29y^{47} + \cdots - 24y + 1$
c_3, c_4, c_9	$(y^{24} - 23y^{23} + \cdots + 4y + 1)^2$
c_7, c_{10}	$(y^{24} + 25y^{23} + \cdots - 20y + 1)^2$
c_8	$(y^{24} - 11y^{23} + \cdots - 904y + 49)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.875536 + 0.478830I$ $a = 0.419112 + 0.403211I$ $b = 0.343557 - 0.331283I$	$1.35397 + 2.66216I$	$-3.92476 - 4.83074I$
$u = -0.875536 - 0.478830I$ $a = 0.419112 - 0.403211I$ $b = 0.343557 + 0.331283I$	$1.35397 - 2.66216I$	$-3.92476 + 4.83074I$
$u = -0.928005 + 0.232240I$ $a = 0.962555 - 0.563076I$ $b = 2.08357 - 0.14868I$	$-3.21053 + 0.91014I$	$-10.29590 - 7.59691I$
$u = -0.928005 - 0.232240I$ $a = 0.962555 + 0.563076I$ $b = 2.08357 + 0.14868I$	$-3.21053 - 0.91014I$	$-10.29590 + 7.59691I$
$u = 0.977580 + 0.376330I$ $a = 1.24225 + 0.85998I$ $b = 2.26266 + 0.27285I$	$-8.10484 - 3.00632I$	$-16.2116 + 5.2078I$
$u = 0.977580 - 0.376330I$ $a = 1.24225 - 0.85998I$ $b = 2.26266 - 0.27285I$	$-8.10484 + 3.00632I$	$-16.2116 - 5.2078I$
$u = 0.084832 + 0.905577I$ $a = 0.02527 - 2.46335I$ $b = 0.444768 - 1.068990I$	$-11.2635 + 9.9819I$	$-13.7315 - 5.9102I$
$u = 0.084832 - 0.905577I$ $a = 0.02527 + 2.46335I$ $b = 0.444768 + 1.068990I$	$-11.2635 - 9.9819I$	$-13.7315 + 5.9102I$
$u = 0.975723 + 0.512661I$ $a = 0.278677 - 0.196830I$ $b = 0.303519 + 0.516465I$	$-3.27507 - 5.67994I$	$-9.94555 + 5.89837I$
$u = 0.975723 - 0.512661I$ $a = 0.278677 + 0.196830I$ $b = 0.303519 - 0.516465I$	$-3.27507 + 5.67994I$	$-9.94555 - 5.89837I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.10921$ $a = 1.05746$ $b = 1.30690$	-6.49901	-13.5250
$u = -0.085056 + 0.866392I$ $a = 0.07330 + 2.43709I$ $b = 0.483737 + 1.004500I$	$-5.10100 - 6.59660I$	$-10.25616 + 6.15928I$
$u = -0.085056 - 0.866392I$ $a = 0.07330 - 2.43709I$ $b = 0.483737 - 1.004500I$	$-5.10100 + 6.59660I$	$-10.25616 - 6.15928I$
$u = 1.136550 + 0.124220I$ $a = 1.298770 + 0.141437I$ $b = 2.08357 - 0.14868I$	$-3.21053 + 0.91014I$	$-10.29590 - 7.59691I$
$u = 1.136550 - 0.124220I$ $a = 1.298770 - 0.141437I$ $b = 2.08357 + 0.14868I$	$-3.21053 - 0.91014I$	$-10.29590 + 7.59691I$
$u = -1.14654$ $a = 1.12471$ $b = 1.52118$	-6.50341	-12.8060
$u = 0.010009 + 0.845119I$ $a = 0.14836 + 2.52185I$ $b = 0.659667 + 1.055680I$	$-11.84460 + 0.67393I$	$-14.5407 + 0.1814I$
$u = 0.010009 - 0.845119I$ $a = 0.14836 - 2.52185I$ $b = 0.659667 - 1.055680I$	$-11.84460 - 0.67393I$	$-14.5407 - 0.1814I$
$u = 0.654107 + 0.532512I$ $a = 0.491389 - 0.979217I$ $b = 0.288575$	-1.06061	$-7.24605 + 0.I$
$u = 0.654107 - 0.532512I$ $a = 0.491389 + 0.979217I$ $b = 0.288575$	-1.06061	$-7.24605 + 0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.044979 + 0.827674I$ $a = 0.13755 - 2.46289I$ $b = 0.584379 - 0.979751I$	$-5.39544 + 2.30642I$	$-11.07491 - 0.09891I$
$u = 0.044979 - 0.827674I$ $a = 0.13755 + 2.46289I$ $b = 0.584379 + 0.979751I$	$-5.39544 - 2.30642I$	$-11.07491 + 0.09891I$
$u = 0.341440 + 0.708714I$ $a = 0.25475 - 1.91671I$ $b = 0.303519 - 0.516465I$	$-3.27507 + 5.67994I$	$-9.94555 - 5.89837I$
$u = 0.341440 - 0.708714I$ $a = 0.25475 + 1.91671I$ $b = 0.303519 + 0.516465I$	$-3.27507 - 5.67994I$	$-9.94555 + 5.89837I$
$u = -1.218480 + 0.189965I$ $a = 1.52641 - 0.15079I$ $b = 2.26266 + 0.27285I$	$-8.10484 - 3.00632I$	$-16.2116 + 5.2078I$
$u = -1.218480 - 0.189965I$ $a = 1.52641 + 0.15079I$ $b = 2.26266 - 0.27285I$	$-8.10484 + 3.00632I$	$-16.2116 - 5.2078I$
$u = -0.417849 + 0.606898I$ $a = 0.48214 + 1.67851I$ $b = 0.343557 + 0.331283I$	$1.35397 - 2.66216I$	$-3.92476 + 4.83074I$
$u = -0.417849 - 0.606898I$ $a = 0.48214 - 1.67851I$ $b = 0.343557 - 0.331283I$	$1.35397 + 2.66216I$	$-3.92476 - 4.83074I$
$u = 1.207460 + 0.436538I$ $a = 0.398151 + 0.361612I$ $b = 0.584379 + 0.979751I$	$-5.39544 - 2.30642I$	0
$u = 1.207460 - 0.436538I$ $a = 0.398151 - 0.361612I$ $b = 0.584379 - 0.979751I$	$-5.39544 + 2.30642I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.206280 + 0.477453I$ $a = 0.298919 - 0.359412I$ $b = 0.483737 - 1.004500I$	$-5.10100 + 6.59660I$	0
$u = -1.206280 - 0.477453I$ $a = 0.298919 + 0.359412I$ $b = 0.483737 + 1.004500I$	$-5.10100 - 6.59660I$	0
$u = -1.229770 + 0.437427I$ $a = 1.92339 - 0.66061I$ $b = 2.72237 - 0.04072I$	$-9.19807 + 2.14805I$	0
$u = -1.229770 - 0.437427I$ $a = 1.92339 + 0.66061I$ $b = 2.72237 + 0.04072I$	$-9.19807 - 2.14805I$	0
$u = -1.244210 + 0.417440I$ $a = 0.447603 - 0.447586I$ $b = 0.659667 - 1.055680I$	$-11.84460 - 0.67393I$	0
$u = -1.244210 - 0.417440I$ $a = 0.447603 + 0.447586I$ $b = 0.659667 + 1.055680I$	$-11.84460 + 0.67393I$	0
$u = 1.234540 + 0.466388I$ $a = 1.97965 + 0.72242I$ $b = 2.77697 + 0.08395I$	$-15.5080 - 5.3599I$	0
$u = 1.234540 - 0.466388I$ $a = 1.97965 - 0.72242I$ $b = 2.77697 - 0.08395I$	$-15.5080 + 5.3599I$	0
$u = 1.253720 + 0.412832I$ $a = 1.94107 + 0.56545I$ $b = 2.72237 - 0.04072I$	$-9.19807 + 2.14805I$	0
$u = 1.253720 - 0.412832I$ $a = 1.94107 - 0.56545I$ $b = 2.72237 + 0.04072I$	$-9.19807 - 2.14805I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.227120 + 0.498172I$ $a = 0.246914 + 0.411339I$ $b = 0.444768 + 1.068990I$	$-11.2635 - 9.9819I$	0
$u = 1.227120 - 0.498172I$ $a = 0.246914 - 0.411339I$ $b = 0.444768 - 1.068990I$	$-11.2635 + 9.9819I$	0
$u = 0.601464 + 0.292022I$ $a = 1.171440 - 0.785801I$ $b = 0.552964$	-0.756440	$-10.10943 + 0.I$
$u = 0.601464 - 0.292022I$ $a = 1.171440 + 0.785801I$ $b = 0.552964$	-0.756440	$-10.10943 + 0.I$
$u = -1.282090 + 0.416350I$ $a = 2.01278 - 0.52799I$ $b = 2.77697 + 0.08395I$	$-15.5080 - 5.3599I$	0
$u = -1.282090 - 0.416350I$ $a = 2.01278 + 0.52799I$ $b = 2.77697 - 0.08395I$	$-15.5080 + 5.3599I$	0
$u = 0.454568$ $a = -1.00108$ $b = 1.52118$	-6.50341	-12.8060
$u = 0.276686$ $a = -2.70201$ $b = 1.30690$	-6.49901	-13.5250

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -20$

(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
$u = 1.00000$ $a = -0.414214$ $b = 0.585786$	-8.22467	-20.0000
$u = 1.00000$ $a = 2.41421$ $b = 3.41421$	-8.22467	-20.0000

IV. $I_4^u = \langle b-2,\ a-1,\ u+1 \rangle$

(i) Arc colorings

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

(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_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 1.00000$ $b = 2.00000$	-3.28987	-12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$((u-1)^3)(u^{28}+15u^{27}+\cdots+8u+1)(u^{48}+29u^{47}+\cdots+24u+1)$
c_2, c_6	$(u-1)(u+1)^2(u^{28}+u^{27}+\cdots-2u-1)(u^{48}+u^{47}+\cdots+8u+1)$
c_3, c_4, c_9	$u(u^2-2)(u^{24}+u^{23}+\cdots+2u^2+1)^2(u^{28}-3u^{27}+\cdots-2u-2)$
c_5, c_{12}	$((u-1)^2)(u+1)(u^{28}+u^{27}+\cdots-2u-1)(u^{48}+u^{47}+\cdots+8u+1)$
c_7, c_{10}	$u^3(u^{24}+3u^{23}+\cdots+8u+1)^2(u^{28}+3u^{27}+\cdots-16u-16)$
c_8	$u(u^2-2)(u^{24}-3u^{23}+\cdots+20u-7)^2(u^{28}+9u^{27}+\cdots+162u+38)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$((y-1)^3)(y^{28}+y^{27}+\cdots-16y+1)(y^{48}-21y^{47}+\cdots-200y+1)$
c_2, c_5, c_6 c_{12}	$((y-1)^3)(y^{28}-15y^{27}+\cdots-8y+1)(y^{48}-29y^{47}+\cdots-24y+1)$
c_3, c_4, c_9	$y(y-2)^2(y^{24}-23y^{23}+\cdots+4y+1)^2(y^{28}-27y^{27}+\cdots-12y+4)$
c_7, c_{10}	$y^3(y^{24}+25y^{23}+\cdots-20y+1)^2(y^{28}+25y^{27}+\cdots-3840y+256)$
c_8	$y(y-2)^2(y^{24}-11y^{23}+\cdots-904y+49)^2$ $\cdot(y^{28}-15y^{27}+\cdots-18188y+1444)$