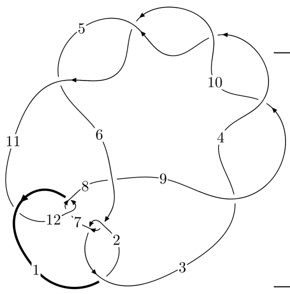
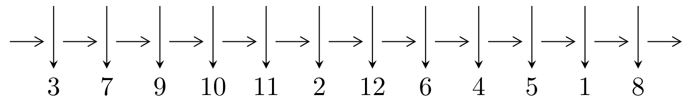
$12a_{0574}$ $(K12a_{0574})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 4u^{24} - 5u^{23} + \cdots + b + 5,\ 5u^{24} - 7u^{23} + \cdots + 2a + 4,\ u^{25} - 3u^{24} + \cdots + 9u^2 - 2\rangle$$
$$I_2^u = \langle u^{17}a - u^{17} + \cdots + b + a,\ 2u^{17}a + 2u^{17} + \cdots + a^2 + 2,\ u^{18} + 2u^{17} + \cdots + u + 1\rangle$$
$$I_3^u = \langle b - u + 1,\ 3a - 2u + 3,\ u^2 - 3\rangle$$
$$I_4^u = \langle b,\ a + 1,\ u + 1\rangle$$
$$I_5^u = \langle b + 2,\ a + 1,\ u - 1\rangle$$
$$I_6^u = \langle b + 1,\ a,\ u - 1\rangle$$
$$I_7^u = \langle b + 1,\ a + 1,\ u - 1\rangle$$

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

* 8 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 68 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.

$\boldsymbol{I_1^u = \langle 4u^{24}-5u^{23}+\cdots+b+5,\ 5u^{24}-7u^{23}+\cdots+2a+4,\ u^{25}-3u^{24}+\cdots+9u^2-2\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-\frac{5}{2}u^{24}+\frac{7}{2}u^{23}+\cdots-\frac{3}{2}u-2\\-4u^{24}+5u^{23}+\cdots-3u-5\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-\frac{5}{2}u^{24}+\frac{7}{2}u^{23}+\cdots-\frac{3}{2}u-2\\-3u^{24}+4u^{23}+\cdots-2u-3\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^2+1\\-u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-\frac{9}{2}u^{24}+\frac{13}{2}u^{23}+\cdots-\frac{7}{2}u-5\\-7u^{24}+9u^{23}+\cdots-5u-9\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-u^7+4u^5-4u^3+2u\\-u^9+5u^7-7u^5+2u^3+u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}\frac{5}{2}u^{24}-\frac{7}{2}u^{23}+\cdots+\frac{1}{2}u+3\\4u^{24}-5u^{23}+\cdots+4u+5\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 8u^{24}-8u^{23}-118u^{22}+104u^{21}+738u^{20}-568u^{19}-2532u^{18}+1728u^{17}+5122u^{16}-3322u^{15}-6024u^{14}+4356u^{13}+3552u^{12}-3876u^{11}-116u^{10}+1936u^9-1222u^8-156u^7+670u^6-304u^5-22u^4+112u^3-56u^2+16u-4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{25} + 11u^{24} + \cdots + 16u + 1$
c_2, c_6, c_7 c_{12}	$u^{25} - u^{24} + \cdots - 2u - 1$
c_3, c_4, c_5 c_9, c_{10}	$u^{25} - 3u^{24} + \cdots + 9u^2 - 2$
c_8	$u^{25} - 15u^{24} + \cdots - 272u + 142$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{25} + 13y^{24} + \cdots + 88y - 1$
c_2, c_6, c_7 c_{12}	$y^{25} - 11y^{24} + \cdots + 16y - 1$
c_3, c_4, c_5 c_9, c_{10}	$y^{25} - 33y^{24} + \cdots + 36y - 4$
c_8	$y^{25} - 9y^{24} + \cdots + 269092y - 20164$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.014520 + 0.347002I$ $a = -0.043435 + 0.313283I$ $b = 1.26937 + 1.85429I$	$-4.53390 + 11.98000I$	$-18.3056 - 9.4054I$
$u = -1.014520 - 0.347002I$ $a = -0.043435 - 0.313283I$ $b = 1.26937 - 1.85429I$	$-4.53390 - 11.98000I$	$-18.3056 + 9.4054I$
$u = -0.875840 + 0.298355I$ $a = 0.324656 + 0.199831I$ $b = -0.824925 - 0.525750I$	$-0.08743 + 1.64240I$	$-12.36047 - 1.45966I$
$u = -0.875840 - 0.298355I$ $a = 0.324656 - 0.199831I$ $b = -0.824925 + 0.525750I$	$-0.08743 - 1.64240I$	$-12.36047 + 1.45966I$
$u = 1.08434$ $a = -0.492978$ $b = -0.942393$	-5.05178	-16.4940
$u = -1.142900 + 0.163650I$ $a = -0.760257 - 0.659750I$ $b = -1.148230 - 0.116814I$	$-6.80316 - 3.32641I$	$-19.9139 + 4.3823I$
$u = -1.142900 - 0.163650I$ $a = -0.760257 + 0.659750I$ $b = -1.148230 + 0.116814I$	$-6.80316 + 3.32641I$	$-19.9139 - 4.3823I$
$u = 0.748460 + 0.331609I$ $a = 0.182754 - 0.355577I$ $b = 0.439503 - 1.224670I$	$0.58577 - 4.17677I$	$-12.9289 + 7.8019I$
$u = 0.748460 - 0.331609I$ $a = 0.182754 + 0.355577I$ $b = 0.439503 + 1.224670I$	$0.58577 + 4.17677I$	$-12.9289 - 7.8019I$
$u = 0.489290 + 0.461642I$ $a = 0.494840 - 0.083674I$ $b = -1.112620 + 0.488193I$	$-1.55633 + 5.36068I$	$-15.2414 - 2.7515I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.489290 - 0.461642I$ $a = 0.494840 + 0.083674I$ $b = -1.112620 - 0.488193I$	$-1.55633 - 5.36068I$	$-15.2414 + 2.7515I$
$u = 0.223404 + 0.580813I$ $a = 0.00021 + 2.17964I$ $b = -0.147329 - 0.569907I$	$-0.71018 - 8.82975I$	$-13.3096 + 8.6436I$
$u = 0.223404 - 0.580813I$ $a = 0.00021 - 2.17964I$ $b = -0.147329 + 0.569907I$	$-0.71018 + 8.82975I$	$-13.3096 - 8.6436I$
$u = 0.047295 + 0.535702I$ $a = 0.79115 - 1.42217I$ $b = 0.192529 + 0.279886I$	$2.69786 + 1.19945I$	$-6.93738 - 2.54623I$
$u = 0.047295 - 0.535702I$ $a = 0.79115 + 1.42217I$ $b = 0.192529 - 0.279886I$	$2.69786 - 1.19945I$	$-6.93738 + 2.54623I$
$u = -1.63846 + 0.04838I$ $a = -0.24414 + 2.30889I$ $b = -0.31656 + 2.94869I$	$-7.64782 + 5.42310I$	$-15.0279 - 5.6441I$
$u = -1.63846 - 0.04838I$ $a = -0.24414 - 2.30889I$ $b = -0.31656 - 2.94869I$	$-7.64782 - 5.42310I$	$-15.0279 + 5.6441I$
$u = -0.337545$ $a = 0.668217$ $b = -0.205875$	-0.538410	-18.2630
$u = 1.68786 + 0.06949I$ $a = -1.26126 + 1.27240I$ $b = -2.17832 + 1.75017I$	$-9.13866 - 3.01203I$	$-13.72954 + 0.I$
$u = 1.68786 - 0.06949I$ $a = -1.26126 - 1.27240I$ $b = -2.17832 - 1.75017I$	$-9.13866 + 3.01203I$	$-13.72954 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.72244 + 0.09263I$ $a = 1.48000 - 2.81178I$ $b = 2.64308 - 3.71258I$	$-14.2211 - 13.7690I$	$-19.5082 + 7.8820I$
$u = 1.72244 - 0.09263I$ $a = 1.48000 + 2.81178I$ $b = 2.64308 + 3.71258I$	$-14.2211 + 13.7690I$	$-19.5082 - 7.8820I$
$u = -1.74758$ $a = -1.18512$ $b = -1.50038$	-15.2938	-14.4450
$u = 1.75336 + 0.03699I$ $a = -0.959572 - 0.248462I$ $b = -0.992169 - 0.771791I$	$-17.2303 + 2.5055I$	$-21.1359 - 5.5116I$
$u = 1.75336 - 0.03699I$ $a = -0.959572 + 0.248462I$ $b = -0.992169 + 0.771791I$	$-17.2303 - 2.5055I$	$-21.1359 + 5.5116I$

II.

$\boldsymbol{I_2^u = \langle u^{17}a - u^{17} + \cdots + b + a,\ 2u^{17}a + 2u^{17} + \cdots + a^2 + 2,\ u^{18} + 2u^{17} + \cdots + u + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ -u^{17}a + u^{17} + \cdots - a + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} a \\ u^{17}a - u^{17} + \cdots + a - u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^{17}a + 11u^{15}a + \cdots + a - 1 \\ -2u^{17}a + u^{17} + \cdots - a + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^7 + 4u^5 - 4u^3 + 2u \\ -u^9 + 5u^7 - 7u^5 + 2u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{13} - u^{11}a + \cdots + a - 1 \\ u^{17}a + u^{17} + \cdots + 2u^2 + a \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= 4u^{15} - 40u^{13} + 152u^{11} + 4u^{10} - 272u^9 - 28u^8 + 232u^7 + 64u^6 - 84u^5 - 52u^4 + 12u^2 + 4u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{36} + 20u^{35} + \cdots + 66u + 9$
c_2, c_6, c_7 c_{12}	$u^{36} - 10u^{34} + \cdots + 11u^2 - 3$
c_3, c_4, c_5 c_9, c_{10}	$(u^{18} + 2u^{17} + \cdots + u + 1)^2$
c_8	$(u^{18} + 4u^{17} + \cdots + 5u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{36} - 8y^{35} + \cdots + 198y + 81$
c_2, c_6, c_7 c_{12}	$y^{36} - 20y^{35} + \cdots - 66y + 9$
c_3, c_4, c_5 c_9, c_{10}	$(y^{18} - 24y^{17} + \cdots + 3y + 1)^2$
c_8	$(y^{18} + 22y^{16} + \cdots - 65y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.972680 + 0.237177I$ $a = -1.129940 - 0.718306I$ $b = -1.113160 + 0.114624I$	$-6.99539 + 3.19755I$	$-20.6137 - 5.3239I$
$u = -0.972680 + 0.237177I$ $a = 0.005899 + 0.226891I$ $b = 0.94715 + 2.42519I$	$-6.99539 + 3.19755I$	$-20.6137 - 5.3239I$
$u = -0.972680 - 0.237177I$ $a = -1.129940 + 0.718306I$ $b = -1.113160 - 0.114624I$	$-6.99539 - 3.19755I$	$-20.6137 + 5.3239I$
$u = -0.972680 - 0.237177I$ $a = 0.005899 - 0.226891I$ $b = 0.94715 - 2.42519I$	$-6.99539 - 3.19755I$	$-20.6137 + 5.3239I$
$u = 0.965445 + 0.329507I$ $a = 0.319004 - 0.279303I$ $b = -0.711465 + 0.510542I$	$-1.96003 - 6.64718I$	$-15.2451 + 6.1969I$
$u = 0.965445 + 0.329507I$ $a = -0.001264 - 0.306149I$ $b = 1.05963 - 1.87946I$	$-1.96003 - 6.64718I$	$-15.2451 + 6.1969I$
$u = 0.965445 - 0.329507I$ $a = 0.319004 + 0.279303I$ $b = -0.711465 - 0.510542I$	$-1.96003 + 6.64718I$	$-15.2451 - 6.1969I$
$u = 0.965445 - 0.329507I$ $a = -0.001264 + 0.306149I$ $b = 1.05963 + 1.87946I$	$-1.96003 + 6.64718I$	$-15.2451 - 6.1969I$
$u = 0.884294$ $a = -1.43019$ $b = -0.962086$	-5.00473	-16.9870
$u = 0.884294$ $a = 0.144030$ $b = -1.72715$	-5.00473	-16.9870

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.572262+0.347341I$ $a=\quad 0.345746+0.427514I$ $b=\quad 0.323982+0.688753I$	$0.205439-0.564924I$	$-12.70794-1.84066I$
$u=-0.572262+0.347341I$ $a=\quad 0.448687+0.081566I$ $b=-0.979928-0.500327I$	$0.205439-0.564924I$	$-12.70794-1.84066I$
$u=-0.572262-0.347341I$ $a=\quad 0.345746-0.427514I$ $b=\quad 0.323982-0.688753I$	$0.205439+0.564924I$	$-12.70794+1.84066I$
$u=-0.572262-0.347341I$ $a=\quad 0.448687-0.081566I$ $b=-0.979928+0.500327I$	$0.205439+0.564924I$	$-12.70794+1.84066I$
$u=-0.158501+0.549521I$ $a=\quad 0.656801+1.100770I$ $b=\quad 0.342703-0.177435I$	$1.49299+3.66002I$	$-9.51029-4.64953I$
$u=-0.158501+0.549521I$ $a=\quad 0.32363-2.20170I$ $b=-0.075367+0.478624I$	$1.49299+3.66002I$	$-9.51029-4.64953I$
$u=-0.158501-0.549521I$ $a=\quad 0.656801-1.100770I$ $b=\quad 0.342703+0.177435I$	$1.49299-3.66002I$	$-9.51029+4.64953I$
$u=-0.158501-0.549521I$ $a=\quad 0.32363+2.20170I$ $b=-0.075367-0.478624I$	$1.49299-3.66002I$	$-9.51029+4.64953I$
$u=\quad 0.184698+0.383796I$ $a=\quad 0.515622-0.022033I$ $b=-1.164460+0.166059I$	$-3.44032-1.02752I$	$-14.6811+6.4558I$
$u=\quad 0.184698+0.383796I$ $a=\quad 0.63653+3.61007I$ $b=-0.227517-0.284301I$	$-3.44032-1.02752I$	$-14.6811+6.4558I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.184698 - 0.383796I$ $a = 0.515622 + 0.022033I$ $b = -1.164460 - 0.166059I$	$-3.44032 + 1.02752I$	$-14.6811 - 6.4558I$
$u = 0.184698 - 0.383796I$ $a = 0.63653 - 3.61007I$ $b = -0.227517 + 0.284301I$	$-3.44032 + 1.02752I$	$-14.6811 - 6.4558I$
$u = 1.62858$ $a = -0.74507 + 1.95151I$ $b = -1.21459 + 2.49051I$	-7.25470	-14.0270
$u = 1.62858$ $a = -0.74507 - 1.95151I$ $b = -1.21459 - 2.49051I$	-7.25470	-14.0270
$u = -1.70718 + 0.02414I$ $a = -0.860242 + 0.085930I$ $b = -0.559302 + 0.302376I$	$-14.4445 + 0.2735I$	$-18.2189 + 1.0708I$
$u = -1.70718 + 0.02414I$ $a = -1.96468 - 1.25832I$ $b = -3.02809 - 1.79960I$	$-14.4445 + 0.2735I$	$-18.2189 + 1.0708I$
$u = -1.70718 - 0.02414I$ $a = -0.860242 - 0.085930I$ $b = -0.559302 - 0.302376I$	$-14.4445 - 0.2735I$	$-18.2189 - 1.0708I$
$u = -1.70718 - 0.02414I$ $a = -1.96468 + 1.25832I$ $b = -3.02809 + 1.79960I$	$-14.4445 - 0.2735I$	$-18.2189 - 1.0708I$
$u = -1.70822 + 0.08549I$ $a = -1.22072 - 1.11193I$ $b = -2.18354 - 1.58992I$	$-11.40320 + 8.29410I$	$-16.5396 - 4.6645I$
$u = -1.70822 + 0.08549I$ $a = 1.12540 + 2.95401I$ $b = 2.04448 + 3.93426I$	$-11.40320 + 8.29410I$	$-16.5396 - 4.6645I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.70822-0.08549I$ $a=-1.22072+1.11193I$ $b=-2.18354+1.58992I$	$-11.40320-8.29410I$	$-16.5396+4.6645I$
$u=-1.70822-0.08549I$ $a=\ \ 1.12540-2.95401I$ $b=\ \ 2.04448-3.93426I$	$-11.40320-8.29410I$	$-16.5396+4.6645I$
$u=\ \ 1.71227+0.06112I$ $a=-0.814985-0.187785I$ $b=-0.451319-0.694586I$	$-16.5429-4.3884I$	$-20.9761+3.5533I$
$u=\ \ 1.71227+0.06112I$ $a=\ \ 1.00266-3.75542I$ $b=\ \ 1.83542-5.24315I$	$-16.5429-4.3884I$	$-20.9761+3.5533I$
$u=\ \ 1.71227-0.06112I$ $a=-0.814985+0.187785I$ $b=-0.451319+0.694586I$	$-16.5429+4.3884I$	$-20.9761-3.5533I$
$u=\ \ 1.71227-0.06112I$ $a=\ \ 1.00266+3.75542I$ $b=\ \ 1.83542+5.24315I$	$-16.5429+4.3884I$	$-20.9761-3.5533I$

III. $I_3^u = \langle b - u + 1,\ 3a - 2u + 3,\ u^2 - 3 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -24$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.73205$ $a = 0.154701$ $b = 0.732051$	-16.4493	-24.0000
$u = -1.73205$ $a = -2.15470$ $b = -2.73205$	-16.4493	-24.0000

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -24$

(iv) u-Polynomials at the component

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

(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
$u = -1.00000$ $a = -1.00000$ $b = 0$	-6.57974	-24.0000

V. $I^u_5 = \langle b+2,\ a+1,\ u-1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -24$

(iv) u-Polynomials at the component

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

(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^u_5	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000$ $b = -2.00000$	-6.57974	-24.0000

VI. $I_6^u = \langle b+1,\ a,\ u-1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -18$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0$ $b = -1.00000$	-4.93480	-18.0000

VII. $I_7^u = \langle b+1,\ a+1,\ u-1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -18$

(iv) u-Polynomials at the component

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

(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_8, c_9, c_{10}	$y - 1$
c_7, c_{11}, c_{12}	y

(vi) Complex Volumes and Cusp Shapes

Solutions to I_7^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000$ $b = -1.00000$	-4.93480	-18.0000

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

(i) Arc colorings

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

(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_7 c_{11}	$u - 1$
c_3, c_4, c_5 c_8, c_9, c_{10}	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_{11}, c_{12}	$y-1$
c_3, c_4, c_5 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
$v = -1.00000$ $a = \quad 0$ $b = -1.00000$	-3.28987	-12.0000

IX. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u(u-1)^5(u+1)(u^{25}+11u^{24}+\cdots+16u+1)$ $\cdot(u^{36}+20u^{35}+\cdots+66u+9)$
c_2, c_7	$u(u-1)^4(u+1)^2(u^{25}-u^{24}+\cdots-2u-1)$ $\cdot(u^{36}-10u^{34}+\cdots+11u^2-3)$
c_3, c_4, c_5 c_9, c_{10}	$u(u-1)^3(u+1)(u^2-3)(u^{18}+2u^{17}+\cdots+u+1)^2$ $\cdot(u^{25}-3u^{24}+\cdots+9u^2-2)$
c_6, c_{12}	$u(u-1)^3(u+1)^3(u^{25}-u^{24}+\cdots-2u-1)$ $\cdot(u^{36}-10u^{34}+\cdots+11u^2-3)$
c_8	$u(u-1)(u+1)^3(u^2-3)(u^{18}+4u^{17}+\cdots+5u-1)^2$ $\cdot(u^{25}-15u^{24}+\cdots-272u+142)$

X. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y(y-1)^6(y^{25}+13y^{24}+\cdots+88y-1)(y^{36}-8y^{35}+\cdots+198y+81)$
c_2, c_6, c_7 c_{12}	$y(y-1)^6(y^{25}-11y^{24}+\cdots+16y-1)(y^{36}-20y^{35}+\cdots-66y+9)$
c_3, c_4, c_5 c_9, c_{10}	$y(y-3)^2(y-1)^4(y^{18}-24y^{17}+\cdots+3y+1)^2$ $\cdot\,(y^{25}-33y^{24}+\cdots+36y-4)$
c_8	$y(y-3)^2(y-1)^4(y^{18}+22y^{16}+\cdots-65y+1)^2$ $\cdot\,(y^{25}-9y^{24}+\cdots+269092y-20164)$