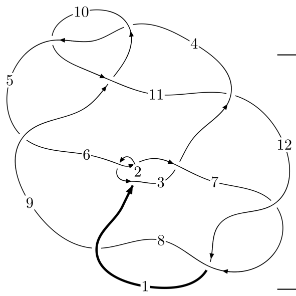
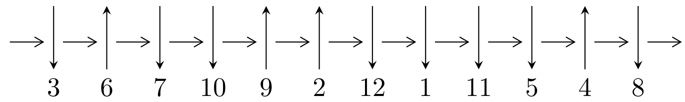
$12a_{0250}$ $(K12a_{0250})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.19066 \times 10^{46} u^{91} - 8.76887 \times 10^{45} u^{90} + \cdots + 1.29375 \times 10^{46} b - 2.58000 \times 10^{46},$$
$$- 1.24081 \times 10^{46} u^{91} - 6.18183 \times 10^{45} u^{90} + \cdots + 1.29375 \times 10^{46} a - 1.65575 \times 10^{46},\ u^{92} - u^{91} + \cdots - 4u -$$
$$I_2^u = \langle -u^2 a - u^3 + 2b + u,\ -2u^3 a - 2u^2 a + 2a^2 - 3u^2 + 4a - 2u + 2,\ u^4 - 2u^2 + 2\rangle$$

$$I_1^v = \langle a,\ b - v - 1,\ v^2 + v + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 102 representations.

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[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.

$\boldsymbol{I_1^u = \langle -1.19\times10^{46}u^{91} - 8.77\times10^{45}u^{90} + \cdots + 1.29\times10^{46}b - 2.58\times10^{46},\ -1.24\times10^{46}u^{91} - 6.18\times10^{45}u^{90} + \cdots + 1.29\times10^{46}a - 1.66\times10^{46},\ u^{92} - u^{91} + \cdots - 4u - 4\rangle}$

(i) Arc colorings

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

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

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

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

$$a_8 = \begin{pmatrix} 0.959085u^{91} + 0.477824u^{90} + \cdots + 1.76621u + 1.27981 \\ 0.920318u^{91} + 0.677789u^{90} + \cdots - 0.789492u + 1.99421 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.959085u^{91} - 0.477824u^{90} + \cdots - 1.76621u - 1.27981 \\ -0.520135u^{91} + 0.568999u^{90} + \cdots - 10.3735u - 3.75342 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2.25174u^{91} + 0.140564u^{90} + \cdots + 13.7323u + 6.98810 \\ 0.648520u^{91} + 0.477914u^{90} + \cdots + 0.939846u + 2.00720 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -2.40424u^{91} + 0.353032u^{90} + \cdots - 17.0716u - 7.38408 \\ -2.56979u^{91} + 0.701142u^{90} + \cdots - 26.3860u - 11.8827 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^6 - u^4 + 1 \\ u^8 - 2u^6 + 2u^4 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.85644u^{91} + 0.247883u^{90} + \cdots - 14.9023u - 6.27237 \\ -2.07702u^{91} + 0.589387u^{90} + \cdots - 21.4547u - 9.72321 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2.70406u^{91} - 2.77366u^{90} + \cdots + 10.6535u - 2.61646$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{92} + 48u^{91} + \cdots + 34u + 25$
c_2, c_6	$u^{92} - 2u^{91} + \cdots + 4u + 5$
c_3	$u^{92} + 2u^{91} + \cdots + 27428u + 5585$
c_4, c_{10}	$u^{92} - u^{91} + \cdots - 4u - 4$
c_5, c_{11}	$u^{92} - 3u^{91} + \cdots - 1388u + 172$
c_7, c_8, c_{12}	$u^{92} + 3u^{91} + \cdots + 21u - 1$
c_9	$u^{92} + 51u^{91} + \cdots + 80u + 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{92} + 96y^{90} + \cdots - 56506y + 625$
c_2, c_6	$y^{92} + 48y^{91} + \cdots + 34y + 25$
c_3	$y^{92} - 48y^{91} + \cdots + 824383826y + 31192225$
c_4, c_{10}	$y^{92} - 51y^{91} + \cdots - 80y + 16$
c_5, c_{11}	$y^{92} + 81y^{91} + \cdots - 825744y + 29584$
c_7, c_8, c_{12}	$y^{92} - 93y^{91} + \cdots - 87y + 1$
c_9	$y^{92} - 15y^{91} + \cdots - 2304y + 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.942636 + 0.301692I$ $a = -0.034341 + 1.051790I$ $b = 0.031392 + 0.321356I$	$-2.28498 + 0.91214I$	0
$u = -0.942636 - 0.301692I$ $a = -0.034341 - 1.051790I$ $b = 0.031392 - 0.321356I$	$-2.28498 - 0.91214I$	0
$u = -0.903005 + 0.501577I$ $a = 0.722015 + 0.877297I$ $b = 0.458076 - 0.358286I$	$-0.53792 + 7.10674I$	0
$u = -0.903005 - 0.501577I$ $a = 0.722015 - 0.877297I$ $b = 0.458076 + 0.358286I$	$-0.53792 - 7.10674I$	0
$u = 0.837803 + 0.472840I$ $a = -0.497130 + 0.698170I$ $b = -0.155602 - 0.323814I$	$1.37262 - 2.63327I$	$0. + 5.11461I$
$u = 0.837803 - 0.472840I$ $a = -0.497130 - 0.698170I$ $b = -0.155602 + 0.323814I$	$1.37262 + 2.63327I$	$0. - 5.11461I$
$u = 0.955909 + 0.048975I$ $a = 1.02145 - 1.23500I$ $b = 0.779401 - 0.435341I$	$-3.54160 + 2.78126I$	$-13.23196 - 4.62060I$
$u = 0.955909 - 0.048975I$ $a = 1.02145 + 1.23500I$ $b = 0.779401 + 0.435341I$	$-3.54160 - 2.78126I$	$-13.23196 + 4.62060I$
$u = -0.853660 + 0.397418I$ $a = -0.131741 + 0.356079I$ $b = 0.87298 + 1.52517I$	$-1.59572 + 4.08768I$	$-5.53273 - 7.31327I$
$u = -0.853660 - 0.397418I$ $a = -0.131741 - 0.356079I$ $b = 0.87298 - 1.52517I$	$-1.59572 - 4.08768I$	$-5.53273 + 7.31327I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.877774 + 0.307988I$ $a = 2.21728 - 1.00653I$ $b = 1.227770 + 0.279310I$	$-2.51217 - 3.43951I$	$-9.43957 + 5.17776I$
$u = 0.877774 - 0.307988I$ $a = 2.21728 + 1.00653I$ $b = 1.227770 - 0.279310I$	$-2.51217 + 3.43951I$	$-9.43957 - 5.17776I$
$u = -0.937920 + 0.559859I$ $a = -0.018059 + 0.550609I$ $b = 0.48831 + 1.39257I$	$-3.44417 + 5.49826I$	0
$u = -0.937920 - 0.559859I$ $a = -0.018059 - 0.550609I$ $b = 0.48831 - 1.39257I$	$-3.44417 - 5.49826I$	0
$u = 0.587183 + 0.688920I$ $a = 1.56488 - 0.31076I$ $b = 0.475477 + 0.691803I$	$-5.14872 + 5.24876I$	$-7.86515 - 3.38822I$
$u = 0.587183 - 0.688920I$ $a = 1.56488 + 0.31076I$ $b = 0.475477 - 0.691803I$	$-5.14872 - 5.24876I$	$-7.86515 + 3.38822I$
$u = 0.084040 + 0.881503I$ $a = -0.056277 - 0.261855I$ $b = 0.31572 - 2.87158I$	$-12.77440 + 1.97175I$	$-11.13703 - 0.26633I$
$u = 0.084040 - 0.881503I$ $a = -0.056277 + 0.261855I$ $b = 0.31572 + 2.87158I$	$-12.77440 - 1.97175I$	$-11.13703 + 0.26633I$
$u = 0.836648 + 0.285877I$ $a = 0.193166 + 0.251530I$ $b = -1.32309 + 1.44117I$	$-2.34893 + 0.77466I$	$-9.19232 + 1.59013I$
$u = 0.836648 - 0.285877I$ $a = 0.193166 - 0.251530I$ $b = -1.32309 - 1.44117I$	$-2.34893 - 0.77466I$	$-9.19232 - 1.59013I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.144167 + 0.872290I$ $a = -0.096839 - 0.252857I$ $b = 0.52807 - 2.77217I$	$-10.7265 + 11.1776I$	$-8.99440 - 6.07294I$
$u = 0.144167 - 0.872290I$ $a = -0.096839 + 0.252857I$ $b = 0.52807 + 2.77217I$	$-10.7265 - 11.1776I$	$-8.99440 + 6.07294I$
$u = 0.934769 + 0.610717I$ $a = -0.043196 + 0.565670I$ $b = -0.42880 + 1.40073I$	$-6.15477 - 10.21910I$	0
$u = 0.934769 - 0.610717I$ $a = -0.043196 - 0.565670I$ $b = -0.42880 - 1.40073I$	$-6.15477 + 10.21910I$	0
$u = 1.12381$ $a = 0.574672$ $b = -0.915910$	-7.48948	0
$u = -0.121081 + 0.854339I$ $a = 0.080087 - 0.241930I$ $b = -0.50200 - 2.88943I$	$-7.83162 - 5.81161I$	$-6.48534 + 2.71867I$
$u = -0.121081 - 0.854339I$ $a = 0.080087 + 0.241930I$ $b = -0.50200 + 2.88943I$	$-7.83162 + 5.81161I$	$-6.48534 - 2.71867I$
$u = 0.474305 + 0.715401I$ $a = 1.39743 - 0.38937I$ $b = 0.404464 + 0.675167I$	$-5.68749 - 2.80145I$	$-8.85512 + 3.35586I$
$u = 0.474305 - 0.715401I$ $a = 1.39743 + 0.38937I$ $b = 0.404464 - 0.675167I$	$-5.68749 + 2.80145I$	$-8.85512 - 3.35586I$
$u = 0.686337 + 0.469889I$ $a = -0.317898 + 0.367638I$ $b = 0.302176 - 0.388458I$	$1.80805 - 1.33335I$	$2.08771 + 3.69721I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.686337 - 0.469889I$ $a = -0.317898 - 0.367638I$ $b = 0.302176 + 0.388458I$	$1.80805 + 1.33335I$	$2.08771 - 3.69721I$
$u = 1.016330 + 0.581410I$ $a = 0.016492 + 0.661819I$ $b = -0.435958 + 1.314630I$	$-7.26555 - 2.13480I$	0
$u = 1.016330 - 0.581410I$ $a = 0.016492 - 0.661819I$ $b = -0.435958 - 1.314630I$	$-7.26555 + 2.13480I$	0
$u = -1.174580 + 0.051384I$ $a = -0.635836 + 0.061316I$ $b = 0.774471 + 0.127091I$	$-11.09940 + 4.47822I$	0
$u = -1.174580 - 0.051384I$ $a = -0.635836 - 0.061316I$ $b = 0.774471 - 0.127091I$	$-11.09940 - 4.47822I$	0
$u = -0.093621 + 0.818640I$ $a = 0.535107 - 0.110567I$ $b = 0.072700 + 0.866770I$	$-4.22978 - 6.80883I$	$-6.85908 + 5.97964I$
$u = -0.093621 - 0.818640I$ $a = 0.535107 + 0.110567I$ $b = 0.072700 - 0.866770I$	$-4.22978 + 6.80883I$	$-6.85908 - 5.97964I$
$u = 1.121510 + 0.356314I$ $a = 0.552993 + 0.533455I$ $b = -0.561770 + 0.863618I$	$-5.95167 - 3.72823I$	0
$u = 1.121510 - 0.356314I$ $a = 0.552993 - 0.533455I$ $b = -0.561770 - 0.863618I$	$-5.95167 + 3.72823I$	0
$u = -0.535381 + 0.620095I$ $a = -1.57745 - 0.45367I$ $b = -0.468202 + 0.629503I$	$-2.31140 - 0.88119I$	$-3.98222 + 0.04334I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.535381-0.620095I$ $a=-1.57745+0.45367I$ $b=-0.468202-0.629503I$	$-2.31140+0.88119I$	$-3.98222-0.04334I$
$u=-1.106180+0.446684I$ $a=-0.56130+1.44378I$ $b=\ \ 0.421016+1.051350I$	$-2.47702+1.61232I$	0
$u=-1.106180-0.446684I$ $a=-0.56130-1.44378I$ $b=\ \ 0.421016-1.051350I$	$-2.47702-1.61232I$	0
$u=\ \ 0.000884+0.802602I$ $a=\ \ 0.610190-0.231392I$ $b=\ \ 0.119044+0.802329I$	$-5.02999+1.33254I$	$-8.81080-0.69305I$
$u=\ \ 0.000884-0.802602I$ $a=\ \ 0.610190+0.231392I$ $b=\ \ 0.119044-0.802329I$	$-5.02999-1.33254I$	$-8.81080+0.69305I$
$u=-0.697405+0.376798I$ $a=-1.99364-0.59606I$ $b=-0.757542+0.439503I$	$-1.143790-0.641119I$	$-4.44437-1.77956I$
$u=-0.697405-0.376798I$ $a=-1.99364+0.59606I$ $b=-0.757542-0.439503I$	$-1.143790+0.641119I$	$-4.44437+1.77956I$
$u=-0.026469+0.781291I$ $a=\ \ 0.016282-0.198573I$ $b=-0.17700-3.44445I$	$-4.21159-2.83349I$	$-7.59193+3.05981I$
$u=-0.026469-0.781291I$ $a=\ \ 0.016282+0.198573I$ $b=-0.17700+3.44445I$	$-4.21159+2.83349I$	$-7.59193-3.05981I$
$u=\ \ 1.129170+0.474242I$ $a=\ \ 0.90378+1.19367I$ $b=-0.288618+1.093280I$	$-2.20302-5.96983I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.129170 - 0.474242I$ $a = 0.90378 - 1.19367I$ $b = -0.288618 - 1.093280I$	$-2.20302 + 5.96983I$	0
$u = -1.118140 + 0.500604I$ $a = -0.175910 + 0.853549I$ $b = 0.393132 + 1.167740I$	$-4.96188 + 3.89569I$	0
$u = -1.118140 - 0.500604I$ $a = -0.175910 - 0.853549I$ $b = 0.393132 - 1.167740I$	$-4.96188 - 3.89569I$	0
$u = 0.076304 + 0.763807I$ $a = -0.482819 - 0.174908I$ $b = -0.047077 + 0.821799I$	$-1.39713 + 2.25393I$	$-3.39466 - 3.05753I$
$u = 0.076304 - 0.763807I$ $a = -0.482819 + 0.174908I$ $b = -0.047077 - 0.821799I$	$-1.39713 - 2.25393I$	$-3.39466 + 3.05753I$
$u = -0.577688 + 0.500402I$ $a = 0.269758 + 0.199958I$ $b = -0.639693 - 0.417515I$	$0.37537 - 2.96018I$	$-0.79783 + 3.47479I$
$u = -0.577688 - 0.500402I$ $a = 0.269758 - 0.199958I$ $b = -0.639693 + 0.417515I$	$0.37537 + 2.96018I$	$-0.79783 - 3.47479I$
$u = -0.753187$ $a = -0.921802$ $b = -0.552459$	-1.09663	-8.98790
$u = -1.194640 + 0.424886I$ $a = -0.148638 + 1.167710I$ $b = 0.234358 + 1.086290I$	$-5.05726 + 1.88467I$	0
$u = -1.194640 - 0.424886I$ $a = -0.148638 - 1.167710I$ $b = 0.234358 - 1.086290I$	$-5.05726 - 1.88467I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.206730 + 0.445260I$ $a = -2.37530 - 4.23609I$ $b = 0.70966 - 3.81148I$	$-7.80247 - 1.53082I$	0
$u = 1.206730 - 0.445260I$ $a = -2.37530 + 4.23609I$ $b = 0.70966 + 3.81148I$	$-7.80247 + 1.53082I$	0
$u = 1.193620 + 0.482516I$ $a = 1.010480 + 0.785039I$ $b = -0.183807 + 0.919380I$	$-4.64341 - 6.83523I$	0
$u = 1.193620 - 0.482516I$ $a = 1.010480 - 0.785039I$ $b = -0.183807 - 0.919380I$	$-4.64341 + 6.83523I$	0
$u = 1.223550 + 0.408480I$ $a = 0.098755 + 1.200860I$ $b = -0.185604 + 1.103270I$	$-8.17169 + 2.57216I$	0
$u = 1.223550 - 0.408480I$ $a = 0.098755 - 1.200860I$ $b = -0.185604 - 1.103270I$	$-8.17169 - 2.57216I$	0
$u = -1.204680 + 0.467068I$ $a = 2.94249 - 3.81079I$ $b = -0.23148 - 3.89240I$	$-7.64559 + 7.35103I$	0
$u = -1.204680 - 0.467068I$ $a = 2.94249 + 3.81079I$ $b = -0.23148 + 3.89240I$	$-7.64559 - 7.35103I$	0
$u = 1.214350 + 0.457576I$ $a = 0.094036 + 1.112170I$ $b = -0.243981 + 1.141770I$	$-8.59986 - 5.84101I$	0
$u = 1.214350 - 0.457576I$ $a = 0.094036 - 1.112170I$ $b = -0.243981 - 1.141770I$	$-8.59986 + 5.84101I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.215250 + 0.456118I$ $a = -0.946860 + 0.683775I$ $b = 0.220840 + 0.846535I$	$-8.61069 + 3.17089I$	0
$u = -1.215250 - 0.456118I$ $a = -0.946860 - 0.683775I$ $b = 0.220840 - 0.846535I$	$-8.61069 - 3.17089I$	0
$u = 1.246300 + 0.388154I$ $a = -0.96912 - 3.63722I$ $b = 1.05697 - 2.81355I$	$-12.02820 + 1.55381I$	0
$u = 1.246300 - 0.388154I$ $a = -0.96912 + 3.63722I$ $b = 1.05697 + 2.81355I$	$-12.02820 - 1.55381I$	0
$u = -1.209630 + 0.497978I$ $a = -1.071660 + 0.734333I$ $b = 0.136568 + 0.893986I$	$-7.53209 + 11.60560I$	0
$u = -1.209630 - 0.497978I$ $a = -1.071660 - 0.734333I$ $b = 0.136568 - 0.893986I$	$-7.53209 - 11.60560I$	0
$u = -1.258760 + 0.371135I$ $a = 0.77149 - 3.42520I$ $b = -1.03502 - 2.61074I$	$-15.0949 - 6.9430I$	0
$u = -1.258760 - 0.371135I$ $a = 0.77149 + 3.42520I$ $b = -1.03502 + 2.61074I$	$-15.0949 + 6.9430I$	0
$u = -1.217630 + 0.516294I$ $a = 2.98906 - 2.49293I$ $b = 0.42391 - 3.29835I$	$-11.1093 + 10.7943I$	0
$u = -1.217630 - 0.516294I$ $a = 2.98906 + 2.49293I$ $b = 0.42391 + 3.29835I$	$-11.1093 - 10.7943I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.262440 + 0.412557I$ $a = 1.31521 - 3.39209I$ $b = -0.77059 - 2.88335I$	$-16.9248 + 2.5336I$	0
$u = -1.262440 - 0.412557I$ $a = 1.31521 + 3.39209I$ $b = -0.77059 + 2.88335I$	$-16.9248 - 2.5336I$	0
$u = 1.219510 + 0.529963I$ $a = -2.92057 - 2.23651I$ $b = -0.51069 - 3.14721I$	$-13.9547 - 16.2752I$	0
$u = 1.219510 - 0.529963I$ $a = -2.92057 + 2.23651I$ $b = -0.51069 + 3.14721I$	$-13.9547 + 16.2752I$	0
$u = 1.237480 + 0.505131I$ $a = -2.60201 - 2.67153I$ $b = -0.16180 - 3.19900I$	$-16.2547 - 6.9705I$	0
$u = 1.237480 - 0.505131I$ $a = -2.60201 + 2.67153I$ $b = -0.16180 + 3.19900I$	$-16.2547 + 6.9705I$	0
$u = -0.198710 + 0.631711I$ $a = -0.912694 - 0.747465I$ $b = -0.211496 + 0.611071I$	$-2.41119 + 0.49336I$	$-8.70749 - 0.15772I$
$u = -0.198710 - 0.631711I$ $a = -0.912694 + 0.747465I$ $b = -0.211496 - 0.611071I$	$-2.41119 - 0.49336I$	$-8.70749 + 0.15772I$
$u = 0.184669 + 0.595255I$ $a = -0.226232 - 0.070769I$ $b = 0.180942 + 0.749656I$	$0.45804 + 1.75876I$	$0.33975 - 4.10206I$
$u = 0.184669 - 0.595255I$ $a = -0.226232 + 0.070769I$ $b = 0.180942 - 0.749656I$	$0.45804 - 1.75876I$	$0.33975 + 4.10206I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.325148+0.475571I$ $a=\quad 0.146643+0.049782I$ $b=-0.573448+0.584522I$	$-0.19857+2.19095I$	$-0.16509-3.68076I$
$u=-0.325148-0.475571I$ $a=\quad 0.146643-0.049782I$ $b=-0.573448-0.584522I$	$-0.19857-2.19095I$	$-0.16509+3.68076I$

II.

$\boldsymbol{I^u_2 = \langle -u^2a-u^3+2b+u,\ -2u^3a-2u^2a+2a^2-3u^2+4a-2u+2,\ u^4-2u^2+2\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^2a+2u^3+4u^2-2u-16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u^2 - u + 1)^4$
c_3, c_6	$(u^2 + u + 1)^4$
c_4, c_{10}	$(u^4 - 2u^2 + 2)^2$
c_5, c_{11}	$(u^4 + 2u^2 + 2)^2$
c_7, c_8	$(u + 1)^8$
c_9	$(u^2 - 2u + 2)^4$
c_{12}	$(u - 1)^8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_6	$(y^2 + y + 1)^4$
c_4, c_{10}	$(y^2 - 2y + 2)^4$
c_5, c_{11}	$(y^2 + 2y + 2)^4$
c_7, c_8, c_{12}	$(y - 1)^8$
c_9	$(y^2 + 4)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.098680 + 0.455090I$ $a = -1.044230 + 0.410862I$ $b = -0.955090 + 0.232659I$	$-4.11234 - 5.69375I$	$-10.00000 + 7.46410I$
$u = 1.098680 + 0.455090I$ $a = 0.68782 + 2.14291I$ $b = -0.95509 + 1.96471I$	$-4.11234 - 1.63398I$	$-10.00000 + 0.53590I$
$u = 1.098680 - 0.455090I$ $a = -1.044230 - 0.410862I$ $b = -0.955090 - 0.232659I$	$-4.11234 + 5.69375I$	$-10.00000 - 7.46410I$
$u = 1.098680 - 0.455090I$ $a = 0.68782 - 2.14291I$ $b = -0.95509 - 1.96471I$	$-4.11234 + 1.63398I$	$-10.00000 - 0.53590I$
$u = -1.098680 + 0.455090I$ $a = 0.044228 - 0.589138I$ $b = -0.044910 + 0.232659I$	$-4.11234 + 1.63398I$	$-10.00000 - 0.53590I$
$u = -1.098680 + 0.455090I$ $a = -1.68782 + 1.14291I$ $b = -0.04491 + 1.96471I$	$-4.11234 + 5.69375I$	$-10.00000 - 7.46410I$
$u = -1.098680 - 0.455090I$ $a = 0.044228 + 0.589138I$ $b = -0.044910 - 0.232659I$	$-4.11234 - 1.63398I$	$-10.00000 + 0.53590I$
$u = -1.098680 - 0.455090I$ $a = -1.68782 - 1.14291I$ $b = -0.04491 - 1.96471I$	$-4.11234 - 5.69375I$	$-10.00000 + 7.46410I$

III. $I_1^v = \langle a,\ b - v - 1,\ v^2 + v + 1 \rangle$

(i) Arc colorings

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

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

$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_{11} = \begin{pmatrix} v \\ 0 \end{pmatrix}$

$a_8 = \begin{pmatrix} 0 \\ v + 1 \end{pmatrix}$

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

$a_1 = \begin{pmatrix} v \\ -v - 1 \end{pmatrix}$

$a_7 = \begin{pmatrix} -v \\ v + 1 \end{pmatrix}$

$a_3 = \begin{pmatrix} 0 \\ -v \end{pmatrix}$

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

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

$a_2 = \begin{pmatrix} v \\ -v \end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4v - 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.500000 + 0.866025I$ $a = 0$ $b = 0.500000 + 0.866025I$	$-1.64493 - 2.02988I$	$-6.00000 + 3.46410I$
$v = -0.500000 - 0.866025I$ $a = 0$ $b = 0.500000 - 0.866025I$	$-1.64493 + 2.02988I$	$-6.00000 - 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^5)(u^{92}+48u^{91}+\cdots+34u+25)$
c_2	$((u^2-u+1)^4)(u^2+u+1)(u^{92}-2u^{91}+\cdots+4u+5)$
c_3	$(u^2-u+1)(u^2+u+1)^4(u^{92}+2u^{91}+\cdots+27428u+5585)$
c_4, c_{10}	$u^2(u^4-2u^2+2)^2(u^{92}-u^{91}+\cdots-4u-4)$
c_5, c_{11}	$u^2(u^4+2u^2+2)^2(u^{92}-3u^{91}+\cdots-1388u+172)$
c_6	$(u^2-u+1)(u^2+u+1)^4(u^{92}-2u^{91}+\cdots+4u+5)$
c_7, c_8	$((u-1)^2)(u+1)^8(u^{92}+3u^{91}+\cdots+21u-1)$
c_9	$u^2(u^2-2u+2)^4(u^{92}+51u^{91}+\cdots+80u+16)$
c_{12}	$((u-1)^8)(u+1)^2(u^{92}+3u^{91}+\cdots+21u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^5)(y^{92}+96y^{90}+\cdots-56506y+625)$
c_2, c_6	$((y^2+y+1)^5)(y^{92}+48y^{91}+\cdots+34y+25)$
c_3	$((y^2+y+1)^5)(y^{92}-48y^{91}+\cdots+8.24384\times 10^8 y+3.11922\times 10^7)$
c_4, c_{10}	$y^2(y^2-2y+2)^4(y^{92}-51y^{91}+\cdots-80y+16)$
c_5, c_{11}	$y^2(y^2+2y+2)^4(y^{92}+81y^{91}+\cdots-825744y+29584)$
c_7, c_8, c_{12}	$((y-1)^{10})(y^{92}-93y^{91}+\cdots-87y+1)$
c_9	$y^2(y^2+4)^4(y^{92}-15y^{91}+\cdots-2304y+256)$