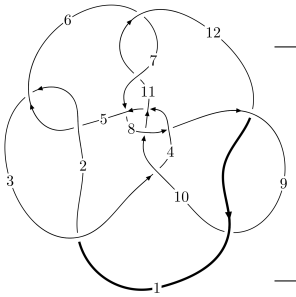
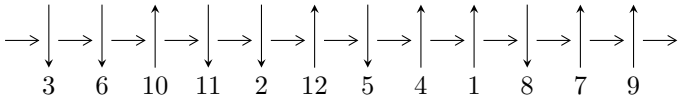
$12a_{0452}$ $(K12a_{0452})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.77444 \times 10^{1381} u^{163} + 2.56374 \times 10^{1381} u^{162} + \cdots + 7.33297 \times 10^{1381} b + 1.54120 \times 10^{1386},$$
$$- 1.90440 \times 10^{1385} u^{163} + 2.76814 \times 10^{1385} u^{162} + \cdots + 1.42491 \times 10^{1386} a + 1.59696 \times 10^{1390},$$
$$u^{164} - u^{163} + \cdots - 199323u - 38863\rangle$$
$$I_2^u = \langle -1.19980 \times 10^{32} u^{31} + 5.25243 \times 10^{31} u^{30} + \cdots + 7.22842 \times 10^{32} b + 1.39595 \times 10^{32},$$
$$- 1.57050 \times 10^{33} u^{31} + 7.88830 \times 10^{31} u^{30} + \cdots + 7.22842 \times 10^{32} a + 5.28812 \times 10^{32},\ u^{32} - 5u^{30} + \cdots + u^2 -$$
$$I_3^u = \langle u^2 b + b^2 + u^2 + 2u + 1,\ a,\ u^3 + u^2 - 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 202 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. $\boldsymbol{I_1^u = \langle -1.77 \times 10^{1381} u^{163} + 2.56 \times 10^{1381} u^{162} + \cdots + 7.33 \times 10^{1381} b + 1.54 \times 10^{1386},\ -1.90 \times 10^{1385} u^{163} + 2.77 \times 10^{1385} u^{162} + \cdots + 1.42 \times 10^{1386} a + 1.60 \times 10^{1390},\ u^{164} - u^{163} + \cdots - 199323u - 38863 \rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.133651u^{163} - 0.194268u^{162} + \cdots - 33659.0u - 11207.4 \\ 0.241981u^{163} - 0.349618u^{162} + \cdots - 60880.2u - 21017.3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.402858u^{163} - 0.583065u^{162} + \cdots - 101428.u - 34580.5 \\ 0.189046u^{163} - 0.273549u^{162} + \cdots - 47505.5u - 16369.7 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.375632u^{163} - 0.543886u^{162} + \cdots - 94539.2u - 32224.8 \\ 0.241981u^{163} - 0.349618u^{162} + \cdots - 60880.2u - 21017.3 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.131044u^{163} - 0.190226u^{162} + \cdots - 33416.6u - 10966.2 \\ 0.207185u^{163} - 0.297226u^{162} + \cdots - 52382.2u - 18227.1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.299579u^{163} + 0.431809u^{162} + \cdots + 75109.5u + 26149.8 \\ -0.0509614u^{163} + 0.0745900u^{162} + \cdots + 12741.1u + 4334.21 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.156762u^{163} + 0.236762u^{162} + \cdots + 38456.7u + 11350.5 \\ -0.0334928u^{163} + 0.0511943u^{162} + \cdots + 8094.09u + 2542.35 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0723496u^{163} + 0.101726u^{162} + \cdots + 17937.6u + 6889.42 \\ -0.00379087u^{163} + 0.00527361u^{162} + \cdots + 1030.07u + 371.507 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.111960u^{163} + 0.152313u^{162} + \cdots + 27730.2u + 12432.7 \\ -0.00755907u^{163} + 0.00896551u^{162} + \cdots + 2282.12u + 958.156 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.264682u^{163} - 0.380139u^{162} + \cdots - 67329.1u - 23429.3 \\ -0.00515168u^{163} + 0.00983070u^{162} + \cdots + 996.726u + 70.0665 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.64850u^{163} - 2.38398u^{162} + \cdots - 416894.u - 142792.$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{164} + 67u^{163} + \cdots + 5522661u + 35721$
c_2, c_5	$u^{164} + 5u^{163} + \cdots + 2781u + 189$
c_3	$u^{164} + 3u^{163} + \cdots + 905948789u - 782977201$
c_4	$u^{164} + u^{163} + \cdots + 199323u - 38863$
c_6, c_{11}	$u^{164} + 5u^{163} + \cdots - 10894215u - 899893$
c_7	$u^{164} - 8u^{163} + \cdots + 35u - 1$
c_8	$u^{164} - 4u^{163} + \cdots + 38135u + 12557$
c_9, c_{12}	$u^{164} + 3u^{163} + \cdots - 391027u - 16729$
c_{10}	$u^{164} - 3u^{163} + \cdots - 6336u + 448$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{164}+65y^{163}+\cdots-24187621914549y+1275989841$
c_2, c_5	$y^{164}-67y^{163}+\cdots-5522661y+35721$
c_3	$y^{164}-29y^{163}+\cdots-3.35\times10^{19}y+6.13\times10^{17}$
c_4	$y^{164}-39y^{163}+\cdots-100873049407y+1510332769$
c_6, c_{11}	$y^{164}+87y^{163}+\cdots-44025753748099y+809807411449$
c_7	$y^{164}-20y^{163}+\cdots-31y+1$
c_8	$y^{164}+4y^{163}+\cdots-1788168855y+157678249$
c_9, c_{12}	$y^{164}-93y^{163}+\cdots-86202822195y+279859441$
c_{10}	$y^{164}-5y^{163}+\cdots+13514752y+200704$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.680466 + 0.730949I$ $a = 1.038340 + 0.087412I$ $b = -0.375347 - 0.278447I$	$0.00155 - 2.01871I$	0
$u = 0.680466 - 0.730949I$ $a = 1.038340 - 0.087412I$ $b = -0.375347 + 0.278447I$	$0.00155 + 2.01871I$	0
$u = 0.927280 + 0.387187I$ $a = -0.601355 + 0.229591I$ $b = 0.836521 + 0.938576I$	$-1.78213 - 2.95331I$	0
$u = 0.927280 - 0.387187I$ $a = -0.601355 - 0.229591I$ $b = 0.836521 - 0.938576I$	$-1.78213 + 2.95331I$	0
$u = -0.843599 + 0.517527I$ $a = -1.387700 + 0.216491I$ $b = 0.982676 - 0.446845I$	$-3.09467 + 3.85973I$	0
$u = -0.843599 - 0.517527I$ $a = -1.387700 - 0.216491I$ $b = 0.982676 + 0.446845I$	$-3.09467 - 3.85973I$	0
$u = -0.851750 + 0.485246I$ $a = 0.509555 - 0.020321I$ $b = -1.17275 + 1.03663I$	$-4.78088 - 0.83728I$	0
$u = -0.851750 - 0.485246I$ $a = 0.509555 + 0.020321I$ $b = -1.17275 - 1.03663I$	$-4.78088 + 0.83728I$	0
$u = -0.299506 + 1.009890I$ $a = 0.733451 - 0.344211I$ $b = 0.156881 + 0.519142I$	$1.22207 - 1.56871I$	0
$u = -0.299506 - 1.009890I$ $a = 0.733451 + 0.344211I$ $b = 0.156881 - 0.519142I$	$1.22207 + 1.56871I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.545812 + 0.920218I$ $a = 0.596485 + 0.246527I$ $b = -1.41923 - 1.18093I$	$2.79343 - 10.68100I$	0
$u = 0.545812 - 0.920218I$ $a = 0.596485 - 0.246527I$ $b = -1.41923 + 1.18093I$	$2.79343 + 10.68100I$	0
$u = 0.774452 + 0.740437I$ $a = -1.031990 + 0.114079I$ $b = 1.55469 + 0.14991I$	$1.74329 - 8.48712I$	0
$u = 0.774452 - 0.740437I$ $a = -1.031990 - 0.114079I$ $b = 1.55469 - 0.14991I$	$1.74329 + 8.48712I$	0
$u = 0.743875 + 0.773402I$ $a = -0.505902 - 0.339116I$ $b = 0.298426 + 1.096570I$	$2.57813 - 2.81733I$	0
$u = 0.743875 - 0.773402I$ $a = -0.505902 + 0.339116I$ $b = 0.298426 - 1.096570I$	$2.57813 + 2.81733I$	0
$u = -0.853525 + 0.355800I$ $a = 0.523747 + 1.227710I$ $b = -0.779577 + 0.425320I$	$-6.23476 + 5.13208I$	0
$u = -0.853525 - 0.355800I$ $a = 0.523747 - 1.227710I$ $b = -0.779577 - 0.425320I$	$-6.23476 - 5.13208I$	0
$u = 0.875599 + 0.271069I$ $a = -1.38289 + 1.04344I$ $b = 1.124580 + 0.517580I$	$0.33289 - 5.96595I$	0
$u = 0.875599 - 0.271069I$ $a = -1.38289 - 1.04344I$ $b = 1.124580 - 0.517580I$	$0.33289 + 5.96595I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.874528 + 0.252780I$ $a = 0.563408 + 0.009092I$ $b = -0.517700 + 1.243300I$	$-2.00026 - 4.44909I$	0
$u = 0.874528 - 0.252780I$ $a = 0.563408 - 0.009092I$ $b = -0.517700 - 1.243300I$	$-2.00026 + 4.44909I$	0
$u = 0.846044 + 0.309569I$ $a = -0.044037 - 0.250058I$ $b = 0.31737 + 1.80080I$	$-2.89263 - 1.61904I$	0
$u = 0.846044 - 0.309569I$ $a = -0.044037 + 0.250058I$ $b = 0.31737 - 1.80080I$	$-2.89263 + 1.61904I$	0
$u = -0.693945 + 0.558606I$ $a = 0.85689 + 1.26010I$ $b = -0.626254 + 0.087986I$	$2.64856 + 0.63147I$	0
$u = -0.693945 - 0.558606I$ $a = 0.85689 - 1.26010I$ $b = -0.626254 - 0.087986I$	$2.64856 - 0.63147I$	0
$u = 0.867258 + 0.188145I$ $a = 0.98669 - 1.35007I$ $b = -0.988365 - 0.156922I$	$-7.27121 + 0.84000I$	0
$u = 0.867258 - 0.188145I$ $a = 0.98669 + 1.35007I$ $b = -0.988365 + 0.156922I$	$-7.27121 - 0.84000I$	0
$u = -0.846508 + 0.265557I$ $a = 1.45793 + 1.33875I$ $b = -1.138390 + 0.406086I$	$-0.99704 + 11.80640I$	0
$u = -0.846508 - 0.265557I$ $a = 1.45793 - 1.33875I$ $b = -1.138390 - 0.406086I$	$-0.99704 - 11.80640I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.698209+0.871774I$ $a=\ \ 0.372443-0.378178I$ $b=-0.028536+1.048580I$	$2.33040-2.22642I$	0
$u=-0.698209-0.871774I$ $a=\ \ 0.372443+0.378178I$ $b=-0.028536-1.048580I$	$2.33040+2.22642I$	0
$u=-0.818604+0.329022I$ $a=\ \ 0.282166-0.249552I$ $b=-0.75275+1.81617I$	$-3.76321+5.76423I$	0
$u=-0.818604-0.329022I$ $a=\ \ 0.282166+0.249552I$ $b=-0.75275-1.81617I$	$-3.76321-5.76423I$	0
$u=-0.802770+0.793673I$ $a=-0.814488+0.547392I$ $b=-0.158402+0.074439I$	$-2.63474-1.83561I$	0
$u=-0.802770-0.793673I$ $a=-0.814488-0.547392I$ $b=-0.158402-0.074439I$	$-2.63474+1.83561I$	0
$u=-0.656043+0.566699I$ $a=\ \ 1.79126-0.68503I$ $b=-0.582715+0.987299I$	$5.88468-3.09996I$	0
$u=-0.656043-0.566699I$ $a=\ \ 1.79126+0.68503I$ $b=-0.582715-0.987299I$	$5.88468+3.09996I$	0
$u=-0.865508$ $a=\ \ 0.998864$ $b=-0.360743$	1.96171	0
$u=-0.835896+0.779708I$ $a=\ \ 1.134000+0.039294I$ $b=-1.62721+0.56445I$	$2.89514+4.46818I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.835896-0.779708I$ $a=\ \ 1.134000-0.039294I$ $b=-1.62721-0.56445I$	$2.89514-4.46818I$	0
$u=\ \ 0.592169+0.618906I$ $a=-1.00822+1.45400I$ $b=\ \ 0.647819+0.273580I$	$1.82269+3.88071I$	0
$u=\ \ 0.592169-0.618906I$ $a=-1.00822-1.45400I$ $b=\ \ 0.647819-0.273580I$	$1.82269-3.88071I$	0
$u=-0.822787+0.186849I$ $a=-0.989797+0.216146I$ $b=\ \ 0.855341+0.843210I$	$-1.97814-0.47061I$	0
$u=-0.822787-0.186849I$ $a=-0.989797-0.216146I$ $b=\ \ 0.855341-0.843210I$	$-1.97814+0.47061I$	0
$u=\ \ 0.257378+0.790500I$ $a=\ \ 1.039660+0.344122I$ $b=-0.517493-1.118250I$	$7.67892-0.09577I$	0
$u=\ \ 0.257378-0.790500I$ $a=\ \ 1.039660-0.344122I$ $b=-0.517493+1.118250I$	$7.67892+0.09577I$	0
$u=\ \ 0.907691+0.737628I$ $a=\ \ 1.223800+0.443783I$ $b=-0.497324-0.885819I$	$2.12353-2.79649I$	0
$u=\ \ 0.907691-0.737628I$ $a=\ \ 1.223800-0.443783I$ $b=-0.497324+0.885819I$	$2.12353+2.79649I$	0
$u=\ \ 0.664275+0.483548I$ $a=-1.96988-0.76374I$ $b=\ \ 0.774716+0.908547I$	$6.18139-2.62276I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.664275 - 0.483548I$ $a = -1.96988 + 0.76374I$ $b = \quad 0.774716 - 0.908547I$	$6.18139 + 2.62276I$	0
$u = -0.939376 + 0.727530I$ $a = -0.122764 + 0.961920I$ $b = -0.468747 - 0.434483I$	$3.83500 - 1.56652I$	0
$u = -0.939376 - 0.727530I$ $a = -0.122764 - 0.961920I$ $b = -0.468747 + 0.434483I$	$3.83500 + 1.56652I$	0
$u = -0.883077 + 0.803222I$ $a = \quad 1.156990 - 0.114025I$ $b = -1.51485 + 1.07417I$	$4.00763 + 7.44935I$	0
$u = -0.883077 - 0.803222I$ $a = \quad 1.156990 + 0.114025I$ $b = -1.51485 - 1.07417I$	$4.00763 - 7.44935I$	0
$u = -0.953787 + 0.727406I$ $a = -1.293840 + 0.413643I$ $b = \quad 0.640840 - 0.982440I$	$1.51782 + 8.04547I$	0
$u = -0.953787 - 0.727406I$ $a = -1.293840 - 0.413643I$ $b = \quad 0.640840 + 0.982440I$	$1.51782 - 8.04547I$	0
$u = \quad 0.761351 + 0.234087I$ $a = \quad 1.65530 - 1.56070I$ $b = -1.326950 - 0.062869I$	$-4.39098 - 4.83003I$	0
$u = \quad 0.761351 - 0.234087I$ $a = \quad 1.65530 + 1.56070I$ $b = -1.326950 + 0.062869I$	$-4.39098 + 4.83003I$	0
$u = -0.303472 + 0.730608I$ $a = \quad 0.944158 + 0.091808I$ $b = -0.095955 + 0.568295I$	$1.30056 - 0.86249I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.303472-0.730608I$ $a=\ \ 0.944158-0.091808I$ $b=-0.095955-0.568295I$	$1.30056+0.86249I$	0
$u=\ \ 0.894889+0.812960I$ $a=-1.090370-0.156839I$ $b=\ \ 1.32567+1.17013I$	$3.88431-2.58081I$	0
$u=\ \ 0.894889-0.812960I$ $a=-1.090370+0.156839I$ $b=\ \ 1.32567-1.17013I$	$3.88431+2.58081I$	0
$u=-0.724161+0.283539I$ $a=-1.61444-0.52551I$ $b=\ \ 2.04433-0.51453I$	$-3.36554+1.98527I$	0
$u=-0.724161-0.283539I$ $a=-1.61444+0.52551I$ $b=\ \ 2.04433+0.51453I$	$-3.36554-1.98527I$	0
$u=-0.744608+0.212748I$ $a=-1.79424-1.20517I$ $b=\ \ 1.47956-0.15655I$	$-3.45898+0.01298I$	0
$u=-0.744608-0.212748I$ $a=-1.79424+1.20517I$ $b=\ \ 1.47956+0.15655I$	$-3.45898-0.01298I$	0
$u=\ \ 0.938831+0.788723I$ $a=\ \ 0.381007+0.844548I$ $b=\ \ 0.332972-0.547804I$	$3.77456-3.46134I$	0
$u=\ \ 0.938831-0.788723I$ $a=\ \ 0.381007-0.844548I$ $b=\ \ 0.332972+0.547804I$	$3.77456+3.46134I$	0
$u=-0.721359+0.991652I$ $a=\ \ 0.910790-0.090767I$ $b=-0.751303+0.186959I$	$4.33020+4.68324I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.721359-0.991652I$ $a=\ \ 0.910790+0.090767I$ $b=-0.751303-0.186959I$	$4.33020-4.68324I$	0
$u=-0.585247+1.079620I$ $a=-0.496503+0.241830I$ $b=\ \ 1.17138-0.98304I$	$4.75759+4.36318I$	0
$u=-0.585247-1.079620I$ $a=-0.496503-0.241830I$ $b=\ \ 1.17138+0.98304I$	$4.75759-4.36318I$	0
$u=\ \ 0.697062+0.316494I$ $a=\ \ 1.50497-0.44251I$ $b=-2.17681-0.74965I$	$-4.10661+2.57768I$	0
$u=\ \ 0.697062-0.316494I$ $a=\ \ 1.50497+0.44251I$ $b=-2.17681+0.74965I$	$-4.10661-2.57768I$	0
$u=\ \ 0.855313+0.904264I$ $a=-1.360610-0.104658I$ $b=\ \ 0.609321+0.935027I$	$5.2831-13.6138I$	0
$u=\ \ 0.855313-0.904264I$ $a=-1.360610+0.104658I$ $b=\ \ 0.609321-0.935027I$	$5.2831+13.6138I$	0
$u=-0.348770+0.668497I$ $a=-1.193380+0.399575I$ $b=\ \ 0.585447-1.273580I$	$6.46899+6.24386I$	0
$u=-0.348770-0.668497I$ $a=-1.193380-0.399575I$ $b=\ \ 0.585447+1.273580I$	$6.46899-6.24386I$	0
$u=-0.865030+0.908979I$ $a=\ \ 1.281090-0.174043I$ $b=-0.588525+0.844776I$	$6.69889+7.89913I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.865030-0.908979I$ $a=\ \ 1.281090+0.174043I$ $b=-0.588525-0.844776I$	$6.69889-7.89913I$	0
$u=\ \ 0.869545+0.907139I$ $a=-1.112880+0.003078I$ $b=\ \ 0.885115+0.882194I$	$0.56042-7.08818I$	0
$u=\ \ 0.869545-0.907139I$ $a=-1.112880-0.003078I$ $b=\ \ 0.885115-0.882194I$	$0.56042+7.08818I$	0
$u=\ \ 0.335556+0.655229I$ $a=-0.875491+0.039648I$ $b=\ \ 1.110760-0.594061I$	$-0.225668-0.934094I$	0
$u=\ \ 0.335556-0.655229I$ $a=-0.875491-0.039648I$ $b=\ \ 1.110760+0.594061I$	$-0.225668+0.934094I$	0
$u=\ \ 0.410318+1.195580I$ $a=-0.581246-0.466023I$ $b=-0.365149+0.473190I$	$-0.64204+6.58118I$	0
$u=\ \ 0.410318-1.195580I$ $a=-0.581246+0.466023I$ $b=-0.365149-0.473190I$	$-0.64204-6.58118I$	0
$u=\ \ 0.241740+0.660199I$ $a=\ \ 1.81277-1.64202I$ $b=\ \ 0.012805-0.214962I$	$-0.91722-1.51438I$	0
$u=\ \ 0.241740-0.660199I$ $a=\ \ 1.81277+1.64202I$ $b=\ \ 0.012805+0.214962I$	$-0.91722+1.51438I$	0
$u=-0.686271+0.135352I$ $a=-1.34772-0.94152I$ $b=\ \ 1.247450-0.663014I$	$-3.79316+0.49402I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.686271-0.135352I$ $a=-1.34772+0.94152I$ $b=1.247450+0.663014I$	$-3.79316-0.49402I$	0
$u=0.298237+0.578852I$ $a=-1.38184+1.93644I$ $b=0.306882+0.428918I$	$0.196469-1.352020I$	0
$u=0.298237-0.578852I$ $a=-1.38184-1.93644I$ $b=0.306882-0.428918I$	$0.196469+1.352020I$	0
$u=0.563884+0.293134I$ $a=1.121540-0.531986I$ $b=-1.83087-1.27408I$	$-5.93828-2.88611I$	0
$u=0.563884-0.293134I$ $a=1.121540+0.531986I$ $b=-1.83087+1.27408I$	$-5.93828+2.88611I$	0
$u=0.618539$ $a=-0.417565$ $b=0.688252$	-1.46636	0
$u=1.175570+0.728537I$ $a=-0.670080-0.066297I$ $b=0.884233+0.993981I$	$-1.63476-3.53703I$	0
$u=1.175570-0.728537I$ $a=-0.670080+0.066297I$ $b=0.884233-0.993981I$	$-1.63476+3.53703I$	0
$u=1.394300+0.001986I$ $a=-0.299484-0.835963I$ $b=0.35768+1.49140I$	$4.15799-0.36011I$	0
$u=1.394300-0.001986I$ $a=-0.299484+0.835963I$ $b=0.35768-1.49140I$	$4.15799+0.36011I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.395650+0.154090I$ $a=-0.004097+0.902970I$ $b=-0.07106-1.55279I$	$3.95984+6.13218I$	0
$u=-1.395650-0.154090I$ $a=-0.004097-0.902970I$ $b=-0.07106+1.55279I$	$3.95984-6.13218I$	0
$u=-0.588280+0.013423I$ $a=\ \ 1.50174+0.67687I$ $b=-1.93868+1.15727I$	$0.08821-10.56030I$	0
$u=-0.588280-0.013423I$ $a=\ \ 1.50174-0.67687I$ $b=-1.93868-1.15727I$	$0.08821+10.56030I$	0
$u=\ \ 0.572181+0.026494I$ $a=-1.57963-0.91589I$ $b=\ \ 1.70848-0.96450I$	$1.66279-4.87054I$	0
$u=\ \ 0.572181-0.026494I$ $a=-1.57963+0.91589I$ $b=\ \ 1.70848+0.96450I$	$1.66279+4.87054I$	0
$u=\ \ 1.20362+0.82210I$ $a=\ \ 1.055130+0.297394I$ $b=-1.28769-1.27485I$	$-2.91003-13.62930I$	0
$u=\ \ 1.20362-0.82210I$ $a=\ \ 1.055130-0.297394I$ $b=-1.28769+1.27485I$	$-2.91003+13.62930I$	0
$u=-1.22695+0.79303I$ $a=-0.996786+0.347190I$ $b=\ \ 1.15835-1.27098I$	$-1.37089+8.22540I$	0
$u=-1.22695-0.79303I$ $a=-0.996786-0.347190I$ $b=\ \ 1.15835+1.27098I$	$-1.37089-8.22540I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.18536 + 0.87177I$ $a = 0.047675 + 0.415271I$ $b = 0.158341 - 1.058200I$	$4.50770 + 6.95688I$	0
$u = 1.18536 - 0.87177I$ $a = 0.047675 - 0.415271I$ $b = 0.158341 + 1.058200I$	$4.50770 - 6.95688I$	0
$u = -1.17909 + 0.88109I$ $a = 0.672968 + 0.036672I$ $b = -0.972213 + 0.986147I$	$-4.92183 + 8.27385I$	0
$u = -1.17909 - 0.88109I$ $a = 0.672968 - 0.036672I$ $b = -0.972213 - 0.986147I$	$-4.92183 - 8.27385I$	0
$u = -0.398326 + 0.298642I$ $a = -1.58795 - 0.49709I$ $b = 0.573121 + 0.525290I$	$-2.00017 - 1.11829I$	0
$u = -0.398326 - 0.298642I$ $a = -1.58795 + 0.49709I$ $b = 0.573121 - 0.525290I$	$-2.00017 + 1.11829I$	0
$u = -1.15338 + 0.98412I$ $a = -0.136239 + 0.369762I$ $b = 0.079148 - 1.000720I$	$6.03588 - 1.06335I$	0
$u = -1.15338 - 0.98412I$ $a = -0.136239 - 0.369762I$ $b = 0.079148 + 1.000720I$	$6.03588 + 1.06335I$	0
$u = -1.25242 + 0.85835I$ $a = -0.927697 + 0.088415I$ $b = 0.938480 - 1.004640I$	$-1.71686 + 6.27851I$	0
$u = -1.25242 - 0.85835I$ $a = -0.927697 - 0.088415I$ $b = 0.938480 + 1.004640I$	$-1.71686 - 6.27851I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.32401+0.75851I$ $a=-0.808297+0.314352I$ $b=\ \ 0.841041-1.126130I$	$-1.98252+6.76951I$	0
$u=-1.32401-0.75851I$ $a=-0.808297-0.314352I$ $b=\ \ 0.841041+1.126130I$	$-1.98252-6.76951I$	0
$u=-0.66455+1.38409I$ $a=-0.031070-0.194703I$ $b=\ \ 0.347284+0.421990I$	$0.529443+1.246450I$	0
$u=-0.66455-1.38409I$ $a=-0.031070+0.194703I$ $b=\ \ 0.347284-0.421990I$	$0.529443-1.246450I$	0
$u=\ \ 0.429952+0.149618I$ $a=-2.62384-2.47187I$ $b=\ \ 0.615405-0.336870I$	$0.89592-2.13597I$	$0.-3.22889I$
$u=\ \ 0.429952-0.149618I$ $a=-2.62384+2.47187I$ $b=\ \ 0.615405+0.336870I$	$0.89592+2.13597I$	$0.+3.22889I$
$u=-0.452785+0.003083I$ $a=\ \ 0.695018-1.103270I$ $b=-1.04198-1.76283I$	$-4.31673+3.21977I$	$0.-12.14208I$
$u=-0.452785-0.003083I$ $a=\ \ 0.695018+1.103270I$ $b=-1.04198+1.76283I$	$-4.31673-3.21977I$	$0.+12.14208I$
$u=\ \ 1.28909+0.87762I$ $a=\ \ 0.884630+0.210271I$ $b=-1.18822-0.96900I$	$-6.91490-6.58802I$	0
$u=\ \ 1.28909-0.87762I$ $a=\ \ 0.884630-0.210271I$ $b=-1.18822+0.96900I$	$-6.91490+6.58802I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.26574 + 0.95604I$ $a = 0.829990 - 0.084017I$ $b = -0.966660 - 0.879835I$	$-3.06549 - 10.87650I$	0
$u = 1.26574 - 0.95604I$ $a = 0.829990 + 0.084017I$ $b = -0.966660 + 0.879835I$	$-3.06549 + 10.87650I$	0
$u = -1.28345 + 0.94836I$ $a = 0.976200 - 0.259272I$ $b = -1.19325 + 1.21549I$	$0.7257 + 20.5065I$	0
$u = -1.28345 - 0.94836I$ $a = 0.976200 + 0.259272I$ $b = -1.19325 - 1.21549I$	$0.7257 - 20.5065I$	0
$u = 1.61080 + 0.05215I$ $a = 0.157947 + 0.653016I$ $b = -0.175826 + 0.082752I$	$-1.04290 - 4.87907I$	0
$u = 1.61080 - 0.05215I$ $a = 0.157947 - 0.653016I$ $b = -0.175826 - 0.082752I$	$-1.04290 + 4.87907I$	0
$u = 1.31378 + 0.94596I$ $a = -0.919982 - 0.303659I$ $b = 1.12027 + 1.19579I$	$2.5768 - 14.1031I$	0
$u = 1.31378 - 0.94596I$ $a = -0.919982 + 0.303659I$ $b = 1.12027 - 1.19579I$	$2.5768 + 14.1031I$	0
$u = -1.45394 + 0.72323I$ $a = 0.501242 - 0.087960I$ $b = -0.781092 + 0.862908I$	$-5.81948 - 0.62082I$	0
$u = -1.45394 - 0.72323I$ $a = 0.501242 + 0.087960I$ $b = -0.781092 - 0.862908I$	$-5.81948 + 0.62082I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.147565 + 0.312728I$ $a = 7.54834 - 7.07058I$ $b = -0.081540 - 0.139388I$	$-0.00261 + 2.19891I$	$74.232 + 121.668I$
$u = 0.147565 - 0.312728I$ $a = 7.54834 + 7.07058I$ $b = -0.081540 + 0.139388I$	$-0.00261 - 2.19891I$	$74.232 - 121.668I$
$u = -0.335081 + 0.046835I$ $a = -4.30559 + 6.54424I$ $b = 0.166710 + 0.267849I$	$-0.24031 + 2.15838I$	$16.7384 + 31.8259I$
$u = -0.335081 - 0.046835I$ $a = -4.30559 - 6.54424I$ $b = 0.166710 - 0.267849I$	$-0.24031 - 2.15838I$	$16.7384 - 31.8259I$
$u = -0.58539 + 1.57854I$ $a = 0.445113 - 0.020672I$ $b = -1.131720 + 0.220367I$	$-3.67007 - 0.78875I$	0
$u = -0.58539 - 1.57854I$ $a = 0.445113 + 0.020672I$ $b = -1.131720 - 0.220367I$	$-3.67007 + 0.78875I$	0
$u = -1.32280 + 1.04702I$ $a = 0.754897 - 0.193301I$ $b = -1.10914 + 0.97677I$	$-5.51088 + 11.45020I$	0
$u = -1.32280 - 1.04702I$ $a = 0.754897 + 0.193301I$ $b = -1.10914 - 0.97677I$	$-5.51088 - 11.45020I$	0
$u = 0.32318 + 1.66580I$ $a = 0.438789 + 0.256774I$ $b = 0.132752 - 0.414104I$	$5.28882 + 5.53297I$	0
$u = 0.32318 - 1.66580I$ $a = 0.438789 - 0.256774I$ $b = 0.132752 + 0.414104I$	$5.28882 - 5.53297I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.55248+1.65706I$ $a=-0.339898+0.339738I$ $b=-0.323162-0.437894I$	$2.99602-11.98150I$	0
$u=-0.55248-1.65706I$ $a=-0.339898-0.339738I$ $b=-0.323162+0.437894I$	$2.99602+11.98150I$	0
$u=1.58647+0.93394I$ $a=0.457779+0.099300I$ $b=-0.599669-0.818290I$	$-5.20891-4.10635I$	0
$u=1.58647-0.93394I$ $a=0.457779-0.099300I$ $b=-0.599669+0.818290I$	$-5.20891+4.10635I$	0
$u=1.38925+1.27476I$ $a=0.451560+0.065247I$ $b=-0.810684-0.412101I$	$-1.91007+1.47283I$	0
$u=1.38925-1.27476I$ $a=0.451560-0.065247I$ $b=-0.810684+0.412101I$	$-1.91007-1.47283I$	0
$u=-0.43839+1.84098I$ $a=-0.394242+0.042012I$ $b=-0.170181+0.025011I$	$-3.12789-1.65934I$	0
$u=-0.43839-1.84098I$ $a=-0.394242-0.042012I$ $b=-0.170181-0.025011I$	$-3.12789+1.65934I$	0
$u=-1.74686+0.86115I$ $a=-0.498334+0.393403I$ $b=0.663632-0.834331I$	$0.35620+5.26509I$	0
$u=-1.74686-0.86115I$ $a=-0.498334-0.393403I$ $b=0.663632+0.834331I$	$0.35620-5.26509I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.55532 + 1.26210I$ $a = -0.512501 - 0.279856I$ $b = 0.807979 + 0.797473I$	$1.21984 - 6.54755I$	0
$u = 1.55532 - 1.26210I$ $a = -0.512501 + 0.279856I$ $b = 0.807979 - 0.797473I$	$1.21984 + 6.54755I$	0
$u = 1.88989 + 1.24547I$ $a = 0.0169879 + 0.1001290I$ $b = 0.125753 - 0.254862I$	$-0.465648 + 0.114124I$	0
$u = 1.88989 - 1.24547I$ $a = 0.0169879 - 0.1001290I$ $b = 0.125753 + 0.254862I$	$-0.465648 - 0.114124I$	0

II.

$\boldsymbol{I_2^u = \langle -1.20\times 10^{32}u^{31}+5.25\times 10^{31}u^{30}+\cdots+7.23\times 10^{32}b+1.40\times 10^{32},\ -1.57\times 10^{33}u^{31}+7.89\times 10^{31}u^{30}+\cdots+7.23\times 10^{32}a+5.29\times 10^{32},\ u^{32}-5u^{30}+\cdots+u^2-1\rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 2.17267u^{31} - 0.109129u^{30} + \cdots + 0.0240644u - 0.731574 \\ 0.165984u^{31} - 0.0726637u^{30} + \cdots - 1.42990u - 0.193119 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.30105u^{31} - 0.206296u^{30} + \cdots + 0.766832u - 1.03382 \\ -0.0615039u^{31} - 0.0189450u^{30} + \cdots - 1.55828u - 0.0959528 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2.33865u^{31} - 0.181793u^{30} + \cdots - 1.40584u - 0.924693 \\ 0.165984u^{31} - 0.0726637u^{30} + \cdots - 1.42990u - 0.193119 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 2.61842u^{31} - 0.317678u^{30} + \cdots - 11.9884u - 2.02389 \\ -1.46300u^{31} + 0.166363u^{30} + \cdots - 3.08142u + 0.484041 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.29205u^{31} + 0.374896u^{30} + \cdots - 6.94201u + 0.349088 \\ 0.0214968u^{31} - 0.267411u^{30} + \cdots - 0.0122816u - 0.510781 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 5.87980u^{31} - 0.433506u^{30} + \cdots - 32.0127u - 3.63090 \\ -0.915318u^{31} + 0.105899u^{30} + \cdots - 0.303830u + 0.867460 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 4.83152u^{31} - 0.219489u^{30} + \cdots - 4.10413u - 2.37454 \\ -0.750101u^{31} - 0.264552u^{30} + \cdots - 2.80286u - 0.133386 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1.20253u^{31} - 3.52857u^{30} + \cdots - 8.65804u + 13.6898 \\ 0.297400u^{31} - 0.0444517u^{30} + \cdots + 1.45374u + 0.0172451 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -6.75172u^{31} - 2.33238u^{30} + \cdots + 23.0829u + 9.33395 \\ -0.115121u^{31} - 0.00951632u^{30} + \cdots - 0.648142u + 0.116976 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3.40757u^{31} + 1.64218u^{30} + \cdots - 6.28733u - 12.3438$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{32} - 14u^{31} + \cdots - 10u + 1$
c_2	$u^{32} + 4u^{31} + \cdots + 4u + 1$
c_3	$u^{32} + 12u^{30} + \cdots - 25u^2 - 1$
c_4	$u^{32} - 5u^{30} + \cdots + u^2 - 1$
c_5	$u^{32} - 4u^{31} + \cdots - 4u + 1$
c_6	$u^{32} - 10u^{31} + \cdots + 12u + 1$
c_7	$u^{32} + 4u^{31} + \cdots + 32u + 1$
c_8	$u^{32} - 6u^{30} + \cdots + 15u^2 - 1$
c_9	$u^{32} - 4u^{31} + \cdots - 6u + 1$
c_{10}	$u^{32} + 16u^{31} + \cdots - 141u + 23$
c_{11}	$u^{32} + 10u^{31} + \cdots - 12u + 1$
c_{12}	$u^{32} + 4u^{31} + \cdots + 6u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{32}+6y^{31}+\cdots-14y+1$
c_2, c_5	$y^{32}-14y^{31}+\cdots-10y+1$
c_3	$y^{32}+24y^{31}+\cdots+50y+1$
c_4	$y^{32}-10y^{31}+\cdots-2y+1$
c_6, c_{11}	$y^{32}-66y^{30}+\cdots-14y+1$
c_7	$y^{32}-24y^{31}+\cdots-298y+1$
c_8	$y^{32}-12y^{31}+\cdots-30y+1$
c_9, c_{12}	$y^{32}-12y^{31}+\cdots-22y+1$
c_{10}	$y^{32}-26y^{31}+\cdots-66939y+529$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.054960+0.064608I$ $a=\ \ 0.103718+1.017290I$ $b=\ \ 0.187643-1.204760I$	$4.96491+5.19091I$	$5.33306-2.99753I$
$u=-1.054960-0.064608I$ $a=\ \ 0.103718-1.017290I$ $b=\ \ 0.187643+1.204760I$	$4.96491-5.19091I$	$5.33306+2.99753I$
$u=\ \ 1.056620+0.046460I$ $a=-0.439593+0.961485I$ $b=\ \ 0.159090-1.099210I$	$5.48302+0.83513I$	$6.38836-2.08048I$
$u=\ \ 1.056620-0.046460I$ $a=-0.439593-0.961485I$ $b=\ \ 0.159090+1.099210I$	$5.48302-0.83513I$	$6.38836+2.08048I$
$u=\ \ 1.06769$ $a=-0.879618$ $b=\ \ 0.585411$	1.54128	-11.5840
$u=\ \ 0.653964+0.886307I$ $a=-0.957909+0.255346I$ $b=\ \ 1.43814+0.50151I$	$3.30982-5.48750I$	$2.54181+7.09571I$
$u=\ \ 0.653964-0.886307I$ $a=-0.957909-0.255346I$ $b=\ \ 1.43814-0.50151I$	$3.30982+5.48750I$	$2.54181-7.09571I$
$u=-0.331542+0.823591I$ $a=\ \ 0.613358+0.710198I$ $b=-1.55431+0.20276I$	$1.31062+10.90530I$	$-0.37814-9.78574I$
$u=-0.331542-0.823591I$ $a=\ \ 0.613358-0.710198I$ $b=-1.55431-0.20276I$	$1.31062-10.90530I$	$-0.37814+9.78574I$
$u=-1.13564$ $a=\ \ 0.0789166$ $b=\ \ 0.383727$	-0.506410	6.13130

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.717406 + 0.409425I$ $a = 0.807275 - 0.604738I$ $b = -1.51586 - 0.57693I$	$-5.42828 + 1.43665I$	$-8.81246 - 1.89374I$
$u = 0.717406 - 0.409425I$ $a = 0.807275 + 0.604738I$ $b = -1.51586 + 0.57693I$	$-5.42828 - 1.43665I$	$-8.81246 + 1.89374I$
$u = -0.782133 + 0.219626I$ $a = -1.50588 - 0.37620I$ $b = 1.66447 - 0.68484I$	$-4.11400 + 1.78189I$	$-10.18437 - 3.31766I$
$u = -0.782133 - 0.219626I$ $a = -1.50588 + 0.37620I$ $b = 1.66447 + 0.68484I$	$-4.11400 - 1.78189I$	$-10.18437 + 3.31766I$
$u = 0.873027 + 0.966978I$ $a = -0.899434 - 0.038977I$ $b = 1.26023 + 0.64557I$	$3.25179 - 5.55942I$	$1.67840 + 6.71377I$
$u = 0.873027 - 0.966978I$ $a = -0.899434 + 0.038977I$ $b = 1.26023 - 0.64557I$	$3.25179 + 5.55942I$	$1.67840 - 6.71377I$
$u = -0.616982 + 0.145584I$ $a = -1.96214 - 1.26583I$ $b = 1.66862 - 0.47696I$	$-3.21972 - 0.54732I$	$-0.18930 + 4.53727I$
$u = -0.616982 - 0.145584I$ $a = -1.96214 + 1.26583I$ $b = 1.66862 + 0.47696I$	$-3.21972 + 0.54732I$	$-0.18930 - 4.53727I$
$u = -0.061628 + 0.617599I$ $a = -0.48686 - 3.35423I$ $b = 0.112734 - 0.340030I$	$-0.86590 + 1.74893I$	$13.7747 - 20.1318I$
$u = -0.061628 - 0.617599I$ $a = -0.48686 + 3.35423I$ $b = 0.112734 + 0.340030I$	$-0.86590 - 1.74893I$	$13.7747 + 20.1318I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.545964 + 0.204906I$ $a = 1.48998 - 1.71820I$ $b = -1.61001 - 0.48939I$	$-3.92605 - 4.08921I$	$-2.06100 + 3.54159I$
$u = 0.545964 - 0.204906I$ $a = 1.48998 + 1.71820I$ $b = -1.61001 + 0.48939I$	$-3.92605 + 4.08921I$	$-2.06100 - 3.54159I$
$u = -1.22852 + 0.77115I$ $a = -0.957694 + 0.212573I$ $b = 0.92892 - 1.09393I$	$-2.46522 + 6.32806I$	$-9.78116 - 4.39388I$
$u = -1.22852 - 0.77115I$ $a = -0.957694 - 0.212573I$ $b = 0.92892 + 1.09393I$	$-2.46522 - 6.32806I$	$-9.78116 + 4.39388I$
$u = -0.031797 + 0.462744I$ $a = -0.51015 - 5.13569I$ $b = 0.0734224 - 0.0198463I$	$-0.05067 - 2.22877I$	$-26.5553 - 5.9848I$
$u = -0.031797 - 0.462744I$ $a = -0.51015 + 5.13569I$ $b = 0.0734224 + 0.0198463I$	$-0.05067 + 2.22877I$	$-26.5553 + 5.9848I$
$u = 1.26146 + 0.96320I$ $a = 0.712073 + 0.059533I$ $b = -0.972299 - 0.974783I$	$-4.83366 - 9.08488I$	$0. + 9.89699I$
$u = 1.26146 - 0.96320I$ $a = 0.712073 - 0.059533I$ $b = -0.972299 + 0.974783I$	$-4.83366 + 9.08488I$	$0. - 9.89699I$
$u = 0.83809 + 1.71422I$ $a = 0.333273 + 0.077391I$ $b = -0.898046 - 0.330896I$	$-3.92896 + 1.20794I$	0
$u = 0.83809 - 1.71422I$ $a = 0.333273 - 0.077391I$ $b = -0.898046 + 0.330896I$	$-3.92896 - 1.20794I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.80499+0.93489I$		
$a=-0.439674+0.372695I$	$0.12527+6.02983I$	0
$b=\ \ 0.572686-0.879217I$		
$u=-1.80499-0.93489I$		
$a=-0.439674-0.372695I$	$0.12527-6.02983I$	0
$b=\ \ 0.572686+0.879217I$		

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

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ b \end{pmatrix}$$

$$a_9 = \begin{pmatrix} b \\ -u^2b + b \end{pmatrix}$$

$$a_7 = \begin{pmatrix} b \\ b \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^2b - u^2 - b - u - 1 \\ u^2b - u^2 - b - 1 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -u^2b + 1 \\ 1 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^2b \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= bu - u^2 - 4u - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$(y-1)^6$
c_3, c_4, c_9 c_{12}	$(y^3-y^2+2y-1)^2$
c_6, c_{11}	$(y^3+3y^2+2y-1)^2$
c_7, c_8	$y^6+7y^5+18y^4+21y^3+16y^2+1$
c_{10}	y^6

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.877439+0.744862I$ $a=0$ $b=-0.592519+0.986732I$	$-4.66906+2.82812I$	$-3.92040-2.97945I$
$u=-0.877439+0.744862I$ $a=0$ $b=0.377439+0.320410I$	-0.531480	$-4.27516-1.67231I$
$u=-0.877439-0.744862I$ $a=0$ $b=-0.592519-0.986732I$	$-4.66906-2.82812I$	$-3.92040+2.97945I$
$u=-0.877439-0.744862I$ $a=0$ $b=0.377439-0.320410I$	-0.531480	$-4.27516+1.67231I$
$u=0.754878$ $a=0$ $b=-0.28492+1.73159I$	$-4.66906-2.82812I$	$-10.80443+1.30714I$
$u=0.754878$ $a=0$ $b=-0.28492-1.73159I$	$-4.66906+2.82812I$	$-10.80443-1.30714I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^6)(u^{32}-14u^{31}+\cdots-10u+1)$ $\cdot(u^{164}+67u^{163}+\cdots+5522661u+35721)$
c_2	$((u-1)^6)(u^{32}+4u^{31}+\cdots+4u+1)(u^{164}+5u^{163}+\cdots+2781u+189)$
c_3	$((u^3+u^2-1)^2)(u^{32}+12u^{30}+\cdots-25u^2-1)$ $\cdot(u^{164}+3u^{163}+\cdots+905948789u-782977201)$
c_4	$((u^3+u^2-1)^2)(u^{32}-5u^{30}+\cdots+u^2-1)$ $\cdot(u^{164}+u^{163}+\cdots+199323u-38863)$
c_5	$((u+1)^6)(u^{32}-4u^{31}+\cdots-4u+1)(u^{164}+5u^{163}+\cdots+2781u+189)$
c_6	$((u^3+u^2+2u+1)^2)(u^{32}-10u^{31}+\cdots+12u+1)$ $\cdot(u^{164}+5u^{163}+\cdots-10894215u-899893)$
c_7	$(u^6-u^5+4u^4-u^3+2u^2+2u+1)(u^{32}+4u^{31}+\cdots+32u+1)$ $\cdot(u^{164}-8u^{163}+\cdots+35u-1)$
c_8	$(u^6-u^5+4u^4-u^3+2u^2+2u+1)(u^{32}-6u^{30}+\cdots+15u^2-1)$ $\cdot(u^{164}-4u^{163}+\cdots+38135u+12557)$
c_9	$((u^3-u^2+1)^2)(u^{32}-4u^{31}+\cdots-6u+1)$ $\cdot(u^{164}+3u^{163}+\cdots-391027u-16729)$
c_{10}	$u^6(u^{32}+16u^{31}+\cdots-141u+23)(u^{164}-3u^{163}+\cdots-6336u+448)$
c_{11}	$((u^3-u^2+2u-1)^2)(u^{32}+10u^{31}+\cdots-12u+1)$ $\cdot(u^{164}+5u^{163}+\cdots-10894215u-899893)$
c_{12}	$((u^3+u^2-1)^2)(u^{32}+4u^{31}+\cdots+6u+1)$ $\cdot(u^{164}+3u^{163}+\cdots-391027u-16729)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^6)(y^{32}+6y^{31}+\cdots-14y+1)$ $\cdot(y^{164}+65y^{163}+\cdots-24187621914549y+1275989841)$
c_2, c_5	$((y-1)^6)(y^{32}-14y^{31}+\cdots-10y+1)$ $\cdot(y^{164}-67y^{163}+\cdots-5522661y+35721)$
c_3	$((y^3-y^2+2y-1)^2)(y^{32}+24y^{31}+\cdots+50y+1)$ $\cdot(y^{164}-29y^{163}+\cdots-3.35\times10^{19}y+6.13\times10^{17})$
c_4	$((y^3-y^2+2y-1)^2)(y^{32}-10y^{31}+\cdots-2y+1)$ $\cdot(y^{164}-39y^{163}+\cdots-100873049407y+1510332769)$
c_6, c_{11}	$((y^3+3y^2+2y-1)^2)(y^{32}-66y^{30}+\cdots-14y+1)$ $\cdot(y^{164}+87y^{163}+\cdots-44025753748099y+809807411449)$
c_7	$(y^6+7y^5+18y^4+21y^3+16y^2+1)(y^{32}-24y^{31}+\cdots-298y+1)$ $\cdot(y^{164}-20y^{163}+\cdots-31y+1)$
c_8	$(y^6+7y^5+18y^4+21y^3+16y^2+1)(y^{32}-12y^{31}+\cdots-30y+1)$ $\cdot(y^{164}+4y^{163}+\cdots-1788168855y+157678249)$
c_9, c_{12}	$((y^3-y^2+2y-1)^2)(y^{32}-12y^{31}+\cdots-22y+1)$ $\cdot(y^{164}-93y^{163}+\cdots-86202822195y+279859441)$
c_{10}	$y^6(y^{32}-26y^{31}+\cdots-66939y+529)$ $\cdot(y^{164}-5y^{163}+\cdots+13514752y+200704)$