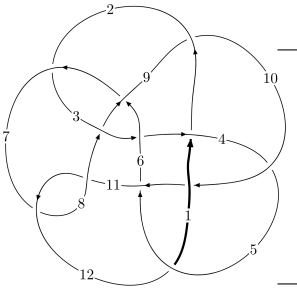
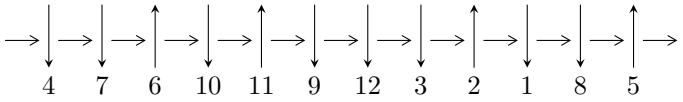
$12a_{1021}$ $(K12a_{1021})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 3.76415 \times 10^{1746} u^{228} + 7.91396 \times 10^{1745} u^{227} + \cdots + 8.71926 \times 10^{1748} b - 1.55984 \times 10^{1750},$$
$$- 4.25186 \times 10^{1751} u^{228} + 3.67618 \times 10^{1751} u^{227} + \cdots + 1.12853 \times 10^{1753} a - 1.14813 \times 10^{1755},$$
$$u^{229} - u^{228} + \cdots - 473u - 1849 \rangle$$
$$I_2^u = \langle -2.54531 \times 10^{91} u^{59} - 2.65678 \times 10^{92} u^{58} + \cdots + 1.32675 \times 10^{91} b + 1.11176 \times 10^{93},$$
$$6.49994 \times 10^{93} u^{59} + 1.67375 \times 10^{94} u^{58} + \cdots + 9.28722 \times 10^{91} a - 1.04402 \times 10^{94},\ u^{60} + 2u^{59} + \cdots - 2u - 1$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 289 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. $\boldsymbol{I_1^u = \langle 3.76 \times 10^{1746} u^{228} + 7.91 \times 10^{1745} u^{227} + \cdots + 8.72 \times 10^{1748} b - 1.56 \times 10^{1750},\ -4.25 \times 10^{1751} u^{228} + 3.68 \times 10^{1751} u^{227} + \cdots + 1.13 \times 10^{1753} a - 1.15 \times 10^{1755},\ u^{229} - u^{228} + \cdots - 473u - 1849 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0.0376759u^{228} - 0.0325749u^{227} + \cdots - 88.3676u + 101.736 \\ -0.00431706u^{228} - 0.000907642u^{227} + \cdots + 79.3362u + 17.8896 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0111369u^{228} - 0.00773449u^{227} + \cdots + 1.61264u + 31.0373 \\ -0.000822677u^{228} - 0.000737425u^{227} + \cdots + 38.2191u + 12.9938 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0333589u^{228} - 0.0334825u^{227} + \cdots - 9.03142u + 119.626 \\ -0.00431706u^{228} - 0.000907642u^{227} + \cdots + 79.3362u + 17.8896 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0120323u^{228} - 0.00969198u^{227} + \cdots + 20.8382u + 29.8733 \\ -0.000112845u^{228} - 0.00116653u^{227} + \cdots + 17.8629u + 3.86081 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.000233471u^{228} - 0.00328437u^{227} + \cdots + 17.8662u + 9.63263 \\ -0.000608332u^{228} - 0.000133445u^{227} + \cdots + 6.30555u + 2.83195 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0130573u^{228} - 0.0170195u^{227} + \cdots - 17.4157u + 46.6706 \\ -0.00640952u^{228} + 0.00156866u^{227} + \cdots + 59.5530u + 7.53289 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.00882879u^{228} - 0.00585265u^{227} + \cdots + 8.93288u + 11.2640 \\ 0.00101762u^{228} - 0.00257083u^{227} + \cdots + 10.1225u + 8.25939 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.00189729u^{228} - 0.00136916u^{227} + \cdots + 12.3347u + 4.76550 \\ -0.00128529u^{228} + 0.00117240u^{227} + \cdots - 2.18353u - 1.57035 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0187149u^{228} - 0.0269520u^{227} + \cdots + 500.292u + 157.998$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{229} + 13u^{228} + \cdots - 211u + 4$
c_2	$u^{229} + u^{228} + \cdots + 22552586u - 1584023$
c_3	$u^{229} - 9u^{228} + \cdots - 2711301018u - 134641844$
c_4	$7(7u^{229} - 72u^{228} + \cdots - 235032u + 85717)$
c_5	$7(7u^{229} - 79u^{228} + \cdots + 1.39432 \times 10^{9}u + 5.30079 \times 10^{7})$
c_6	$u^{229} - 16u^{228} + \cdots - 127u + 14$
c_7, c_{11}	$u^{229} - u^{228} + \cdots - 473u - 1849$
c_8	$7(7u^{229} - 34u^{228} + \cdots + 4u - 1)$
c_9	$7(7u^{229} - 69u^{228} + \cdots - 3.58247 \times 10^{13}u - 6.39172 \times 10^{12})$
c_{10}	$u^{229} - 13u^{228} + \cdots + 14718u - 497$
c_{12}	$u^{229} + 4u^{227} + \cdots + 603279267u + 17477887$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{229} - 25y^{228} + \cdots - 1479y - 16$
c_2	$y^{229} - 57y^{228} + \cdots + 343601616258474y - 2509128864529$
c_3	$y^{229} + 11y^{228} + \cdots + 2.46 \times 10^{19}y - 1.81 \times 10^{16}$
c_4	$49(49y^{229} - 1978y^{228} + \cdots + 8.37639 \times 10^{11}y - 7.34740 \times 10^{9})$
c_5	$49(49y^{229} - 1733y^{228} + \cdots + 1.47012 \times 10^{18}y - 2.80983 \times 10^{15})$
c_6	$y^{229} - 30y^{228} + \cdots - 50315y - 196$
c_7, c_{11}	$y^{229} + 105y^{228} + \cdots - 189798001y - 3418801$
c_8	$49(49y^{229} + 734y^{228} + \cdots + 264y - 1)$
c_9	$49(49y^{229} + 6369y^{228} + \cdots + 3.98090 \times 10^{27}y - 4.08541 \times 10^{25})$
c_{10}	$y^{229} + 11y^{228} + \cdots + 96513510y - 247009$
c_{12}	$y^{229} + 8y^{228} + \cdots - 17329253455415529y - 305476533984769$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.906958 + 0.409673I$ $a = 0.116480 + 0.115295I$ $b = 1.066970 - 0.758273I$	$-1.44153 + 7.88127I$	0
$u = 0.906958 - 0.409673I$ $a = 0.116480 - 0.115295I$ $b = 1.066970 + 0.758273I$	$-1.44153 - 7.88127I$	0
$u = -0.474703 + 0.889311I$ $a = -1.65106 + 0.72293I$ $b = -0.610238 - 0.110691I$	$0.18145 + 3.52728I$	0
$u = -0.474703 - 0.889311I$ $a = -1.65106 - 0.72293I$ $b = -0.610238 + 0.110691I$	$0.18145 - 3.52728I$	0
$u = 0.264499 + 0.974265I$ $a = 0.03961 + 1.82145I$ $b = -0.259492 - 0.091492I$	$-0.36760 + 2.12715I$	0
$u = 0.264499 - 0.974265I$ $a = 0.03961 - 1.82145I$ $b = -0.259492 + 0.091492I$	$-0.36760 - 2.12715I$	0
$u = -0.502388 + 0.879806I$ $a = 4.58739 + 2.40439I$ $b = 0.194447 - 0.110337I$	$-0.00477725 - 0.01159600I$	0
$u = -0.502388 - 0.879806I$ $a = 4.58739 - 2.40439I$ $b = 0.194447 + 0.110337I$	$-0.00477725 + 0.01159600I$	0
$u = 0.271744 + 0.941972I$ $a = 0.972223 + 0.468581I$ $b = -1.98624 + 0.01846I$	$-0.93497 - 6.19073I$	0
$u = 0.271744 - 0.941972I$ $a = 0.972223 - 0.468581I$ $b = -1.98624 - 0.01846I$	$-0.93497 + 6.19073I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.425560 + 0.881710I$ $a = 0.25405 - 2.12175I$ $b = 1.61719 + 0.26169I$	$4.68790 - 1.75468I$	0
$u = 0.425560 - 0.881710I$ $a = 0.25405 + 2.12175I$ $b = 1.61719 - 0.26169I$	$4.68790 + 1.75468I$	0
$u = 0.276047 + 0.938953I$ $a = -1.264410 + 0.427067I$ $b = -0.917140 - 0.209970I$	$-0.36391 - 4.29694I$	0
$u = 0.276047 - 0.938953I$ $a = -1.264410 - 0.427067I$ $b = -0.917140 + 0.209970I$	$-0.36391 + 4.29694I$	0
$u = -0.822025 + 0.608325I$ $a = 0.376375 - 0.023401I$ $b = 0.896681 - 0.370881I$	$-3.09357 + 4.19138I$	0
$u = -0.822025 - 0.608325I$ $a = 0.376375 + 0.023401I$ $b = 0.896681 + 0.370881I$	$-3.09357 - 4.19138I$	0
$u = -0.332020 + 0.912989I$ $a = 0.244543 - 1.248450I$ $b = 0.720856 + 0.831454I$	$1.39437 + 0.84425I$	0
$u = -0.332020 - 0.912989I$ $a = 0.244543 + 1.248450I$ $b = 0.720856 - 0.831454I$	$1.39437 - 0.84425I$	0
$u = -0.312832 + 0.919047I$ $a = -0.26654 + 2.16797I$ $b = 1.63479 - 0.33518I$	$4.67033 + 1.30064I$	0
$u = -0.312832 - 0.919047I$ $a = -0.26654 - 2.16797I$ $b = 1.63479 + 0.33518I$	$4.67033 - 1.30064I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.539252+0.804148I$ $a=-0.168601+1.042970I$ $b=-0.650438-0.441958I$	$-0.011311+0.518705I$	0
$u=-0.539252-0.804148I$ $a=-0.168601-1.042970I$ $b=-0.650438+0.441958I$	$-0.011311-0.518705I$	0
$u=0.830682+0.482859I$ $a=0.152105+0.135066I$ $b=-1.122120+0.780990I$	$-4.56627+2.00715I$	0
$u=0.830682-0.482859I$ $a=0.152105-0.135066I$ $b=-1.122120-0.780990I$	$-4.56627-2.00715I$	0
$u=0.927295+0.240852I$ $a=-0.490518-0.991046I$ $b=0.281663-0.706663I$	$-4.41110-4.72183I$	0
$u=0.927295-0.240852I$ $a=-0.490518+0.991046I$ $b=0.281663+0.706663I$	$-4.41110+4.72183I$	0
$u=-0.440481+0.949602I$ $a=0.638864-0.499262I$ $b=0.478186+0.204843I$	$0.11110+3.61465I$	0
$u=-0.440481-0.949602I$ $a=0.638864+0.499262I$ $b=0.478186-0.204843I$	$0.11110-3.61465I$	0
$u=0.683211+0.664281I$ $a=-0.115211+0.449876I$ $b=-1.45747+0.68398I$	$-3.97806+3.23056I$	0
$u=0.683211-0.664281I$ $a=-0.115211-0.449876I$ $b=-1.45747-0.68398I$	$-3.97806-3.23056I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.455778+0.836071I$ $a=-0.67024-2.88161I$ $b=-0.286861+0.224600I$	$-0.019576+0.314170I$	0
$u=-0.455778-0.836071I$ $a=-0.67024+2.88161I$ $b=-0.286861-0.224600I$	$-0.019576-0.314170I$	0
$u=-0.325546+0.894225I$ $a=-0.16841+2.63260I$ $b=\ \ 0.373360-1.077690I$	$1.31358+1.93521I$	0
$u=-0.325546-0.894225I$ $a=-0.16841-2.63260I$ $b=\ \ 0.373360+1.077690I$	$1.31358-1.93521I$	0
$u=-0.248454+1.024870I$ $a=-1.00564-1.28481I$ $b=\ \ 1.03140+1.16936I$	$1.85551+5.08408I$	0
$u=-0.248454-1.024870I$ $a=-1.00564+1.28481I$ $b=\ \ 1.03140-1.16936I$	$1.85551-5.08408I$	0
$u=\ \ 0.536647+0.913795I$ $a=-1.106140+0.142528I$ $b=\ \ 0.809525-0.757157I$	$3.73635-2.80562I$	0
$u=\ \ 0.536647-0.913795I$ $a=-1.106140-0.142528I$ $b=\ \ 0.809525+0.757157I$	$3.73635+2.80562I$	0
$u=-1.061100+0.094815I$ $a=\ \ 0.345944-0.446422I$ $b=\ \ 0.636598-0.519522I$	$-3.23032+2.65620I$	0
$u=-1.061100-0.094815I$ $a=\ \ 0.345944+0.446422I$ $b=\ \ 0.636598+0.519522I$	$-3.23032-2.65620I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.508447 + 0.937718I$ $a = -1.112310 + 0.527044I$ $b = 0.875106 - 0.940988I$	$1.72706 - 6.16112I$	0
$u = 0.508447 - 0.937718I$ $a = -1.112310 - 0.527044I$ $b = 0.875106 + 0.940988I$	$1.72706 + 6.16112I$	0
$u = -0.863275 + 0.300409I$ $a = 0.209663 + 0.207516I$ $b = -0.576860 + 0.238142I$	$-1.76315 + 0.27351I$	0
$u = -0.863275 - 0.300409I$ $a = 0.209663 - 0.207516I$ $b = -0.576860 - 0.238142I$	$-1.76315 - 0.27351I$	0
$u = -1.092280 + 0.044489I$ $a = 0.0974631 - 0.0573280I$ $b = 0.898989 + 0.705326I$	$-2.52315 - 7.59480I$	0
$u = -1.092280 - 0.044489I$ $a = 0.0974631 + 0.0573280I$ $b = 0.898989 - 0.705326I$	$-2.52315 + 7.59480I$	0
$u = 0.386860 + 1.033150I$ $a = 0.03958 - 2.19069I$ $b = 0.573063 + 0.673251I$	$3.62214 - 6.57281I$	0
$u = 0.386860 - 1.033150I$ $a = 0.03958 + 2.19069I$ $b = 0.573063 - 0.673251I$	$3.62214 + 6.57281I$	0
$u = 0.502491 + 0.994278I$ $a = -0.55113 + 2.15848I$ $b = -1.27318 - 1.71367I$	$-1.91900 - 6.09371I$	0
$u = 0.502491 - 0.994278I$ $a = -0.55113 - 2.15848I$ $b = -1.27318 + 1.71367I$	$-1.91900 + 6.09371I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.855567 + 0.204238I$ $a = 0.552613 - 0.445744I$ $b = -0.534503 + 0.774141I$	$0.79463 + 8.19453I$	0
$u = 0.855567 - 0.204238I$ $a = 0.552613 + 0.445744I$ $b = -0.534503 - 0.774141I$	$0.79463 - 8.19453I$	0
$u = -1.030600 + 0.444233I$ $a = 0.121196 + 0.177869I$ $b = -0.680728 - 0.939654I$	$1.13210 + 1.35261I$	0
$u = -1.030600 - 0.444233I$ $a = 0.121196 - 0.177869I$ $b = -0.680728 + 0.939654I$	$1.13210 - 1.35261I$	0
$u = -0.482819 + 1.016470I$ $a = -0.03294 - 2.18683I$ $b = -1.110350 + 0.701414I$	$-3.79481 + 3.20020I$	0
$u = -0.482819 - 1.016470I$ $a = -0.03294 + 2.18683I$ $b = -1.110350 - 0.701414I$	$-3.79481 - 3.20020I$	0
$u = -0.974377 + 0.565785I$ $a = 0.649757 - 0.218635I$ $b = 0.601626 + 0.039810I$	$-3.37774 + 2.27922I$	0
$u = -0.974377 - 0.565785I$ $a = 0.649757 + 0.218635I$ $b = 0.601626 - 0.039810I$	$-3.37774 - 2.27922I$	0
$u = 0.584896 + 0.972443I$ $a = -0.42928 + 2.18595I$ $b = -1.37812 - 0.79389I$	$-3.03322 - 8.13254I$	0
$u = 0.584896 - 0.972443I$ $a = -0.42928 - 2.18595I$ $b = -1.37812 + 0.79389I$	$-3.03322 + 8.13254I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.716867+0.880472I$ $a=\ \ 0.100328+0.747463I$ $b=\ \ 0.371534+0.146556I$	$-2.26082+1.58191I$	0
$u=-0.716867-0.880472I$ $a=\ \ 0.100328-0.747463I$ $b=\ \ 0.371534-0.146556I$	$-2.26082-1.58191I$	0
$u=\ \ 0.001943+1.137920I$ $a=-0.85471+1.45115I$ $b=\ \ 0.741887-0.879078I$	$6.48509+2.57747I$	0
$u=\ \ 0.001943-1.137920I$ $a=-0.85471-1.45115I$ $b=\ \ 0.741887+0.879078I$	$6.48509-2.57747I$	0
$u=\ \ 0.272522+1.106510I$ $a=\ \ 0.20628-1.62787I$ $b=\ \ 0.881192+1.037480I$	$4.36995-0.05146I$	0
$u=\ \ 0.272522-1.106510I$ $a=\ \ 0.20628+1.62787I$ $b=\ \ 0.881192-1.037480I$	$4.36995+0.05146I$	0
$u=\ \ 0.497843+1.035330I$ $a=\ \ 0.62877-1.72907I$ $b=\ \ 0.90099+1.86196I$	$-2.16273+0.42183I$	0
$u=\ \ 0.497843-1.035330I$ $a=\ \ 0.62877+1.72907I$ $b=\ \ 0.90099-1.86196I$	$-2.16273-0.42183I$	0
$u=\ \ 0.285034+0.796830I$ $a=\ \ 1.59855+1.10106I$ $b=-1.112330-0.048872I$	$-1.30719+3.77516I$	0
$u=\ \ 0.285034-0.796830I$ $a=\ \ 1.59855-1.10106I$ $b=-1.112330+0.048872I$	$-1.30719-3.77516I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.344861+1.108890I$ $a=\ \ 1.32475+0.96285I$ $b=-0.95078-1.79267I$	$2.45086-4.59135I$	0
$u=-0.344861-1.108890I$ $a=\ \ 1.32475-0.96285I$ $b=-0.95078+1.79267I$	$2.45086+4.59135I$	0
$u=-0.881179+0.786730I$ $a=\ \ 0.351608+0.436597I$ $b=\ \ 0.624131-0.448803I$	$0.06453+1.96021I$	0
$u=-0.881179-0.786730I$ $a=\ \ 0.351608-0.436597I$ $b=\ \ 0.624131+0.448803I$	$0.06453-1.96021I$	0
$u=\ \ 0.462486+1.092750I$ $a=\ \ 1.070460+0.181697I$ $b=-2.09762+0.99837I$	$-3.11419-3.64453I$	0
$u=\ \ 0.462486-1.092750I$ $a=\ \ 1.070460-0.181697I$ $b=-2.09762-0.99837I$	$-3.11419+3.64453I$	0
$u=\ \ 0.727028+0.938990I$ $a=-0.015036-0.455990I$ $b=\ \ 1.60170-0.69071I$	$1.02645+2.44142I$	0
$u=\ \ 0.727028-0.938990I$ $a=-0.015036+0.455990I$ $b=\ \ 1.60170+0.69071I$	$1.02645-2.44142I$	0
$u=\ \ 0.548405+0.588873I$ $a=\ \ 0.874744+0.778478I$ $b=-1.31613+0.87953I$	$-3.13010+1.83306I$	0
$u=\ \ 0.548405-0.588873I$ $a=\ \ 0.874744-0.778478I$ $b=-1.31613-0.87953I$	$-3.13010-1.83306I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.521440+1.078480I$ $a=-0.10948-2.04896I$ $b=-2.05622+1.09822I$	$1.33858+11.79630I$	0
$u=-0.521440-1.078480I$ $a=-0.10948+2.04896I$ $b=-2.05622-1.09822I$	$1.33858-11.79630I$	0
$u=-0.603922+1.036120I$ $a=-0.271634-1.279790I$ $b=-0.444902+0.542344I$	$0.90470+3.89160I$	0
$u=-0.603922-1.036120I$ $a=-0.271634+1.279790I$ $b=-0.444902-0.542344I$	$0.90470-3.89160I$	0
$u=0.204864+1.182170I$ $a=-0.29452-1.68308I$ $b=0.741912+0.897270I$	$6.58617-3.36957I$	0
$u=0.204864-1.182170I$ $a=-0.29452+1.68308I$ $b=0.741912-0.897270I$	$6.58617+3.36957I$	0
$u=-0.413400+1.127350I$ $a=-0.22340+1.91738I$ $b=1.40119-1.19041I$	$1.28264+6.84715I$	0
$u=-0.413400-1.127350I$ $a=-0.22340-1.91738I$ $b=1.40119+1.19041I$	$1.28264-6.84715I$	0
$u=0.524133+1.080630I$ $a=0.12274-2.05744I$ $b=1.09068+1.09578I$	$-3.17523-12.60530I$	0
$u=0.524133-1.080630I$ $a=0.12274+2.05744I$ $b=1.09068-1.09578I$	$-3.17523+12.60530I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.491996 + 1.106420I$ $a = -0.635403 + 0.098067I$ $b = -1.141800 + 0.103773I$	$-3.24360 - 3.76824I$	0
$u = 0.491996 - 1.106420I$ $a = -0.635403 - 0.098067I$ $b = -1.141800 - 0.103773I$	$-3.24360 + 3.76824I$	0
$u = -0.657534 + 1.021660I$ $a = 0.74158 + 1.26501I$ $b = 0.599931 - 0.216759I$	$-1.94255 + 3.48862I$	0
$u = -0.657534 - 1.021660I$ $a = 0.74158 - 1.26501I$ $b = 0.599931 + 0.216759I$	$-1.94255 - 3.48862I$	0
$u = -0.704744 + 0.342394I$ $a = 0.598345 + 0.433707I$ $b = -0.397487 + 0.234388I$	$-1.73414 + 0.42031I$	0
$u = -0.704744 - 0.342394I$ $a = 0.598345 - 0.433707I$ $b = -0.397487 - 0.234388I$	$-1.73414 - 0.42031I$	0
$u = 0.392679 + 1.153440I$ $a = 0.451564 - 1.175000I$ $b = 0.419492 + 1.107660I$	$4.07026 - 0.23665I$	0
$u = 0.392679 - 1.153440I$ $a = 0.451564 + 1.175000I$ $b = 0.419492 - 1.107660I$	$4.07026 + 0.23665I$	0
$u = 0.559349 + 1.086500I$ $a = 0.37419 - 1.62828I$ $b = 0.620678 + 0.330927I$	$-2.57643 - 8.94798I$	0
$u = 0.559349 - 1.086500I$ $a = 0.37419 + 1.62828I$ $b = 0.620678 - 0.330927I$	$-2.57643 + 8.94798I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.623648 + 1.051540I$ $a = -0.41061 + 1.89133I$ $b = -1.21628 - 1.09040I$	$-2.90172 - 7.35977I$	0
$u = 0.623648 - 1.051540I$ $a = -0.41061 - 1.89133I$ $b = -1.21628 + 1.09040I$	$-2.90172 + 7.35977I$	0
$u = -0.505282 + 1.133330I$ $a = 1.57995 + 0.19432I$ $b = -2.06261 - 1.90658I$	$-0.48305 + 12.21950I$	0
$u = -0.505282 - 1.133330I$ $a = 1.57995 - 0.19432I$ $b = -2.06261 + 1.90658I$	$-0.48305 - 12.21950I$	0
$u = 0.708735 + 0.271454I$ $a = 0.328930 + 0.522119I$ $b = -0.420112 + 0.981316I$	$0.10838 + 2.96781I$	0
$u = 0.708735 - 0.271454I$ $a = 0.328930 - 0.522119I$ $b = -0.420112 - 0.981316I$	$0.10838 - 2.96781I$	0
$u = 0.554969 + 1.115840I$ $a = 1.093910 - 0.222214I$ $b = 0.865301 + 0.173101I$	$-1.13669 - 13.27950I$	0
$u = 0.554969 - 1.115840I$ $a = 1.093910 + 0.222214I$ $b = 0.865301 - 0.173101I$	$-1.13669 + 13.27950I$	0
$u = 0.541335 + 1.124640I$ $a = -0.76257 + 1.56292I$ $b = -0.70017 - 1.67069I$	$2.54978 - 7.72927I$	0
$u = 0.541335 - 1.124640I$ $a = -0.76257 - 1.56292I$ $b = -0.70017 + 1.67069I$	$2.54978 + 7.72927I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.280334+1.219630I$ $a=-0.034098-1.017110I$ $b=-0.246460+1.146720I$	$1.60736+2.19808I$	0
$u=-0.280334-1.219630I$ $a=-0.034098+1.017110I$ $b=-0.246460-1.146720I$	$1.60736-2.19808I$	0
$u=0.187277+1.250400I$ $a=0.183226+0.515366I$ $b=1.195310-0.568096I$	$0.95424+5.17065I$	0
$u=0.187277-1.250400I$ $a=0.183226-0.515366I$ $b=1.195310+0.568096I$	$0.95424-5.17065I$	0
$u=-0.496784+1.168490I$ $a=-0.848633-0.344984I$ $b=1.54198+1.32968I$	$-1.71606+3.97059I$	0
$u=-0.496784-1.168490I$ $a=-0.848633+0.344984I$ $b=1.54198-1.32968I$	$-1.71606-3.97059I$	0
$u=-1.175100+0.486185I$ $a=-0.0247902-0.0481327I$ $b=-1.11039-1.04334I$	$-3.5144-15.9740I$	0
$u=-1.175100-0.486185I$ $a=-0.0247902+0.0481327I$ $b=-1.11039+1.04334I$	$-3.5144+15.9740I$	0
$u=0.619812+0.375116I$ $a=1.06651+0.93827I$ $b=0.795310+0.003165I$	$-4.61305+4.21927I$	0
$u=0.619812-0.375116I$ $a=1.06651-0.93827I$ $b=0.795310-0.003165I$	$-4.61305-4.21927I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.360511+0.618781I$ $a=-0.491556-0.180722I$ $b=-1.297180-0.412313I$	$-5.19544+0.55391I$	0
$u=-0.360511-0.618781I$ $a=-0.491556+0.180722I$ $b=-1.297180+0.412313I$	$-5.19544-0.55391I$	0
$u=0.530239+1.171340I$ $a=-0.540358-0.291941I$ $b=0.345501-0.299130I$	$-2.52764+5.11610I$	0
$u=0.530239-1.171340I$ $a=-0.540358+0.291941I$ $b=0.345501+0.299130I$	$-2.52764-5.11610I$	0
$u=0.649694+0.276206I$ $a=2.77171-1.42666I$ $b=0.540666-0.502818I$	$-3.46813+8.52907I$	0
$u=0.649694-0.276206I$ $a=2.77171+1.42666I$ $b=0.540666+0.502818I$	$-3.46813-8.52907I$	0
$u=-0.574654+1.163260I$ $a=0.985421+0.340376I$ $b=0.871306-0.190630I$	$-1.92793+5.23828I$	0
$u=-0.574654-1.163260I$ $a=0.985421-0.340376I$ $b=0.871306+0.190630I$	$-1.92793-5.23828I$	0
$u=-0.325185+1.259550I$ $a=0.363230-0.549553I$ $b=-2.03094+0.06515I$	$0.55014-3.77548I$	0
$u=-0.325185-1.259550I$ $a=0.363230+0.549553I$ $b=-2.03094-0.06515I$	$0.55014+3.77548I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.572487 + 1.173140I$ $a = -0.30851 + 1.74636I$ $b = -0.584321 - 1.102290I$	$3.59458 - 13.38720I$	0
$u = 0.572487 - 1.173140I$ $a = -0.30851 - 1.74636I$ $b = -0.584321 + 1.102290I$	$3.59458 + 13.38720I$	0
$u = 0.587014 + 1.166200I$ $a = -0.381946 + 0.589784I$ $b = -0.281455 - 0.102161I$	$1.99143 - 0.02870I$	0
$u = 0.587014 - 1.166200I$ $a = -0.381946 - 0.589784I$ $b = -0.281455 + 0.102161I$	$1.99143 + 0.02870I$	0
$u = 0.512286 + 0.466442I$ $a = -0.245867 + 0.108013I$ $b = 1.200040 - 0.707497I$	$-5.07828 + 8.26864I$	0
$u = 0.512286 - 0.466442I$ $a = -0.245867 - 0.108013I$ $b = 1.200040 + 0.707497I$	$-5.07828 - 8.26864I$	0
$u = -0.442518 + 1.232830I$ $a = 0.515268 - 0.390577I$ $b = -0.674760 + 0.021847I$	$-3.01948 + 3.61413I$	0
$u = -0.442518 - 1.232830I$ $a = 0.515268 + 0.390577I$ $b = -0.674760 - 0.021847I$	$-3.01948 - 3.61413I$	0
$u = -0.687406 + 0.060035I$ $a = 2.71865 + 0.38950I$ $b = 0.585965 + 0.750059I$	$-4.90051 - 0.39494I$	0
$u = -0.687406 - 0.060035I$ $a = 2.71865 - 0.38950I$ $b = 0.585965 - 0.750059I$	$-4.90051 + 0.39494I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.050812 + 1.310600I$ $a = -0.644467 + 0.962774I$ $b = 0.564064 - 0.767917I$	$4.74285 + 4.88143I$	0
$u = 0.050812 - 1.310600I$ $a = -0.644467 - 0.962774I$ $b = 0.564064 + 0.767917I$	$4.74285 - 4.88143I$	0
$u = 0.646446 + 1.144660I$ $a = 0.37477 - 1.79929I$ $b = 1.13897 + 0.95714I$	$0.77917 - 13.57310I$	0
$u = 0.646446 - 1.144660I$ $a = 0.37477 + 1.79929I$ $b = 1.13897 - 0.95714I$	$0.77917 + 13.57310I$	0
$u = 0.115431 + 0.673993I$ $a = 1.36946 - 1.33804I$ $b = -0.138965 + 0.931232I$	$0.52679 + 2.12111I$	0
$u = 0.115431 - 0.673993I$ $a = 1.36946 + 1.33804I$ $b = -0.138965 - 0.931232I$	$0.52679 - 2.12111I$	0
$u = 1.219760 + 0.498630I$ $a = 0.0581481 + 0.0694450I$ $b = -1.03412 + 1.13498I$	$-4.86335 + 7.32809I$	0
$u = 1.219760 - 0.498630I$ $a = 0.0581481 - 0.0694450I$ $b = -1.03412 - 1.13498I$	$-4.86335 - 7.32809I$	0
$u = 0.841360 + 1.014940I$ $a = 0.85499 - 1.59429I$ $b = 1.38493 + 0.92988I$	$1.12587 - 8.65816I$	0
$u = 0.841360 - 1.014940I$ $a = 0.85499 + 1.59429I$ $b = 1.38493 - 0.92988I$	$1.12587 + 8.65816I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.179734+0.651471I$ $a=-1.27851+0.68712I$ $b=\ \ 1.65168+0.48073I$	$-0.83124-4.08696I$	0
$u=-0.179734-0.651471I$ $a=-1.27851-0.68712I$ $b=\ \ 1.65168-0.48073I$	$-0.83124+4.08696I$	0
$u=-0.158139+1.318910I$ $a=\ \ 0.608249+1.129930I$ $b=-0.187800-0.994373I$	$7.26540+4.87993I$	0
$u=-0.158139-1.318910I$ $a=\ \ 0.608249-1.129930I$ $b=-0.187800+0.994373I$	$7.26540-4.87993I$	0
$u=-0.675398+1.147530I$ $a=-0.441176-0.338815I$ $b=\ \ 0.368057+0.751310I$	$1.45359+4.40130I$	0
$u=-0.675398-1.147530I$ $a=-0.441176+0.338815I$ $b=\ \ 0.368057-0.751310I$	$1.45359-4.40130I$	0
$u=\ \ 0.118138+0.650649I$ $a=-1.16260+1.10002I$ $b=-1.000170-0.504791I$	$-1.25477-2.58890I$	0
$u=\ \ 0.118138-0.650649I$ $a=-1.16260-1.10002I$ $b=-1.000170+0.504791I$	$-1.25477+2.58890I$	0
$u=\ \ 0.905220+0.998015I$ $a=-0.510512+0.436722I$ $b=-0.193686-0.374961I$	$0.78243-6.40133I$	0
$u=\ \ 0.905220-0.998015I$ $a=-0.510512-0.436722I$ $b=-0.193686+0.374961I$	$0.78243+6.40133I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.339687+0.550024I$		
$a=$	$0.293902+0.438593I$	$-4.59296-8.98709I$	0
$b=$	$1.093250+0.345602I$		
$u=$	$0.339687-0.550024I$		
$a=$	$0.293902-0.438593I$	$-4.59296+8.98709I$	0
$b=$	$1.093250-0.345602I$		
$u=$	$0.240229+1.341060I$		
$a=$	$0.654067-0.959220I$	$5.86194+4.15009I$	0
$b=$	$0.088470+0.807045I$		
$u=$	$0.240229-1.341060I$		
$a=$	$0.654067+0.959220I$	$5.86194-4.15009I$	0
$b=$	$0.088470-0.807045I$		
$u=$	$-0.514654+1.261720I$		
$a=$	$-0.076930+1.233380I$	$0.84157+7.73617I$	0
$b=$	$1.14737-1.07873I$		
$u=$	$-0.514654-1.261720I$		
$a=$	$-0.076930-1.233380I$	$0.84157-7.73617I$	0
$b=$	$1.14737+1.07873I$		
$u=$	$-0.653861+1.197330I$		
$a=$	$0.073252-0.751821I$	$0.96423+5.38607I$	0
$b=$	$-0.457293+0.328628I$		
$u=$	$-0.653861-1.197330I$		
$a=$	$0.073252+0.751821I$	$0.96423-5.38607I$	0
$b=$	$-0.457293-0.328628I$		
$u=$	$-0.464878+0.432268I$		
$a=$	$-0.21898-2.56225I$	$-0.62172-7.51909I$	0
$b=$	$-1.50649-0.63070I$		
$u=$	$-0.464878-0.432268I$		
$a=$	$-0.21898+2.56225I$	$-0.62172+7.51909I$	0
$b=$	$-1.50649+0.63070I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.567938+1.247760I$ $a=\ \ 0.12040+1.65871I$ $b=\ \ 1.15760-1.01081I$	$1.08778+13.19630I$	0
$u=-0.567938-1.247760I$ $a=\ \ 0.12040-1.65871I$ $b=\ \ 1.15760+1.01081I$	$1.08778-13.19630I$	0
$u=-0.626067+0.015567I$ $a=-3.65913-1.13062I$ $b=-1.016600-0.955930I$	$-3.28439+7.93333I$	0
$u=-0.626067-0.015567I$ $a=-3.65913+1.13062I$ $b=-1.016600+0.955930I$	$-3.28439-7.93333I$	0
$u=-1.290130+0.492764I$ $a=\ \ 0.0678845-0.0069204I$ $b=\ \ 1.003830+0.980191I$	$-4.87955-6.11042I$	0
$u=-1.290130-0.492764I$ $a=\ \ 0.0678845+0.0069204I$ $b=\ \ 1.003830-0.980191I$	$-4.87955+6.11042I$	0
$u=-0.184714+1.377160I$ $a=\ \ 0.373286-1.328840I$ $b=-0.59170+1.44235I$	$3.99308+3.52022I$	0
$u=-0.184714-1.377160I$ $a=\ \ 0.373286+1.328840I$ $b=-0.59170-1.44235I$	$3.99308-3.52022I$	0
$u=-0.451961+0.399880I$ $a=\ \ 0.229732-0.270476I$ $b=-1.177890+0.224397I$	$-5.54311+0.28160I$	0
$u=-0.451961-0.399880I$ $a=\ \ 0.229732+0.270476I$ $b=-1.177890-0.224397I$	$-5.54311-0.28160I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.597938+1.273550I$ $a=-0.28168-1.51181I$ $b=-0.781362+1.161210I$	$4.01985+4.93406I$	0
$u=-0.597938-1.273550I$ $a=-0.28168+1.51181I$ $b=-0.781362-1.161210I$	$4.01985-4.93406I$	0
$u=0.388482+0.423014I$ $a=1.30124-0.72593I$ $b=0.191033+0.869736I$	$0.58315+2.07889I$	$-4.00000-4.68459I$
$u=0.388482-0.423014I$ $a=1.30124+0.72593I$ $b=0.191033-0.869736I$	$0.58315-2.07889I$	$-4.00000+4.68459I$
$u=-0.14943+1.42104I$ $a=0.327068-1.236130I$ $b=-0.436791+1.344920I$	$3.96822+3.56519I$	0
$u=-0.14943-1.42104I$ $a=0.327068+1.236130I$ $b=-0.436791-1.344920I$	$3.96822-3.56519I$	0
$u=0.264521+0.504332I$ $a=-2.81221-0.60939I$ $b=1.43555-0.51127I$	$-4.03685-4.31979I$	$-14.6906+6.6158I$
$u=0.264521-0.504332I$ $a=-2.81221+0.60939I$ $b=1.43555+0.51127I$	$-4.03685+4.31979I$	$-14.6906-6.6158I$
$u=-0.74371+1.23572I$ $a=-0.42548-1.57816I$ $b=-1.30117+1.15820I$	$-1.0816+22.7813I$	0
$u=-0.74371-1.23572I$ $a=-0.42548+1.57816I$ $b=-1.30117-1.15820I$	$-1.0816-22.7813I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.29659+0.64567I$ $a=0.0280902+0.0915184I$ $b=0.473674+0.074156I$	$-3.48064+1.30854I$	0
$u=-1.29659-0.64567I$ $a=0.0280902-0.0915184I$ $b=0.473674-0.074156I$	$-3.48064-1.30854I$	0
$u=0.74374+1.24839I$ $a=-0.42041+1.54455I$ $b=-1.27619-1.25191I$	$-2.3653-14.2523I$	0
$u=0.74374-1.24839I$ $a=-0.42041-1.54455I$ $b=-1.27619+1.25191I$	$-2.3653+14.2523I$	0
$u=0.383983+0.371536I$ $a=0.789160+0.435257I$ $b=0.851781-0.482726I$	$1.80543+3.36565I$	$-1.20330-3.86240I$
$u=0.383983-0.371536I$ $a=0.789160-0.435257I$ $b=0.851781+0.482726I$	$1.80543-3.36565I$	$-1.20330+3.86240I$
$u=0.475203+0.239285I$ $a=0.670122-0.483216I$ $b=0.676496+0.560876I$	$2.45507-0.95682I$	$2.12085+3.40331I$
$u=0.475203-0.239285I$ $a=0.670122+0.483216I$ $b=0.676496-0.560876I$	$2.45507+0.95682I$	$2.12085-3.40331I$
$u=-0.80421+1.22975I$ $a=0.166290+0.698036I$ $b=0.753387-0.423751I$	$-1.46617+6.08459I$	0
$u=-0.80421-1.22975I$ $a=0.166290-0.698036I$ $b=0.753387+0.423751I$	$-1.46617-6.08459I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.379592 + 0.349198I$ $a = -2.66261 + 4.33711I$ $b = -0.613223 + 0.372479I$	$-5.50416 - 0.24441I$	$-16.0868 + 5.6067I$
$u = 0.379592 - 0.349198I$ $a = -2.66261 - 4.33711I$ $b = -0.613223 - 0.372479I$	$-5.50416 + 0.24441I$	$-16.0868 - 5.6067I$
$u = -0.76635 + 1.27161I$ $a = 0.40261 + 1.44122I$ $b = 1.22158 - 1.05317I$	$-2.27917 + 13.29770I$	0
$u = -0.76635 - 1.27161I$ $a = 0.40261 - 1.44122I$ $b = 1.22158 + 1.05317I$	$-2.27917 - 13.29770I$	0
$u = 0.82175 + 1.24813I$ $a = 0.124822 - 0.727051I$ $b = 0.703672 + 0.374860I$	$-0.39589 - 14.12430I$	0
$u = 0.82175 - 1.24813I$ $a = 0.124822 + 0.727051I$ $b = 0.703672 - 0.374860I$	$-0.39589 + 14.12430I$	0
$u = 1.50759$ $a = -1.54914$ $b = -1.90626$	-7.62823	0
$u = -0.487493$ $a = 0.559144$ $b = -0.689808$	-1.19551	-7.78570
$u = 0.79819 + 1.28508I$ $a = -0.112708 + 0.437236I$ $b = -0.301504 - 0.211112I$	$2.34632 - 4.12821I$	0
$u = 0.79819 - 1.28508I$ $a = -0.112708 - 0.437236I$ $b = -0.301504 + 0.211112I$	$2.34632 + 4.12821I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.238448 + 0.421318I$ $a = -1.83854 + 6.10264I$ $b = -0.74448 - 1.34720I$	$-5.32954 + 0.00576I$	$-22.8070 + 5.7292I$
$u = 0.238448 - 0.421318I$ $a = -1.83854 - 6.10264I$ $b = -0.74448 + 1.34720I$	$-5.32954 - 0.00576I$	$-22.8070 - 5.7292I$
$u = 1.54186 + 0.11701I$ $a = 0.0128913 - 0.0479381I$ $b = -0.091255 - 0.808982I$	$-1.93888 - 5.54446I$	0
$u = 1.54186 - 0.11701I$ $a = 0.0128913 + 0.0479381I$ $b = -0.091255 + 0.808982I$	$-1.93888 + 5.54446I$	0
$u = 0.14420 + 1.54965I$ $a = 0.276774 + 1.043040I$ $b = -0.595891 - 1.244810I$	$4.98065 - 11.79980I$	0
$u = 0.14420 - 1.54965I$ $a = 0.276774 - 1.043040I$ $b = -0.595891 + 1.244810I$	$4.98065 + 11.79980I$	0
$u = -0.327073 + 0.294183I$ $a = -3.23842 - 2.06976I$ $b = -1.024870 + 0.787905I$	$-0.43795 + 7.81386I$	$-1.24918 - 6.63006I$
$u = -0.327073 - 0.294183I$ $a = -3.23842 + 2.06976I$ $b = -1.024870 - 0.787905I$	$-0.43795 - 7.81386I$	$-1.24918 + 6.63006I$
$u = 0.16067 + 1.57771I$ $a = -0.097591 - 0.963190I$ $b = 0.470845 + 1.178820I$	$4.19482 - 1.17074I$	0
$u = 0.16067 - 1.57771I$ $a = -0.097591 + 0.963190I$ $b = 0.470845 - 1.178820I$	$4.19482 + 1.17074I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.68902$ $a=\ \ 1.31400$ $b=\ \ 1.63955$	-6.75080	0
$u=-0.15637+1.68781I$ $a=-0.070996-0.728473I$ $b=\ \ 0.017411+1.056910I$	$3.63576-1.53443I$	0
$u=-0.15637-1.68781I$ $a=-0.070996+0.728473I$ $b=\ \ 0.017411-1.056910I$	$3.63576+1.53443I$	0
$u=-0.246777+0.154996I$ $a=\ \ 2.33298-0.77968I$ $b=\ \ 0.171204+0.690881I$	$-0.96281+3.18231I$	$-2.50774-1.70404I$
$u=-0.246777-0.154996I$ $a=\ \ 2.33298+0.77968I$ $b=\ \ 0.171204-0.690881I$	$-0.96281-3.18231I$	$-2.50774+1.70404I$
$u=-0.042280+0.276603I$ $a=-4.44428-12.41500I$ $b=-0.084141+1.402610I$	$-3.35354-8.11717I$	$-21.6720+20.8445I$
$u=-0.042280-0.276603I$ $a=-4.44428+12.41500I$ $b=-0.084141-1.402610I$	$-3.35354+8.11717I$	$-21.6720-20.8445I$
$u=\ \ 1.54792+0.76381I$ $a=\ \ 0.0361230-0.0059448I$ $b=\ \ 0.327552-0.038317I$	$-2.49181+6.32420I$	0
$u=\ \ 1.54792-0.76381I$ $a=\ \ 0.0361230+0.0059448I$ $b=\ \ 0.327552+0.038317I$	$-2.49181-6.32420I$	0

II.

$\boldsymbol{I_2^u = \langle -2.55\times 10^{91}u^{59} - 2.66\times 10^{92}u^{58} + \cdots + 1.33\times 10^{91}b + 1.11\times 10^{93},\ 6.50\times 10^{93}u^{59} + 1.67\times 10^{94}u^{58} + \cdots + 9.29\times 10^{91}a - 1.04\times 10^{94},\ u^{60} + 2u^{59} + \cdots - 2u - 1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -69.9880u^{59} - 180.221u^{58} + \cdots + 225.627u + 112.415 \\ 1.91846u^{59} + 20.0248u^{58} + \cdots - 19.5670u - 83.7959 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 102.677u^{59} + 210.005u^{58} + \cdots - 485.634u - 46.6793 \\ 22.2798u^{59} + 38.1364u^{58} + \cdots - 87.9445u + 18.7902 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -68.0696u^{59} - 160.196u^{58} + \cdots + 206.060u + 28.6186 \\ 1.91846u^{59} + 20.0248u^{58} + \cdots - 19.5670u - 83.7959 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -84.4488u^{59} - 209.675u^{58} + \cdots + 1012.51u + 257.671 \\ 32.2664u^{59} + 40.4505u^{58} + \cdots - 130.850u + 85.5489 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -48.3393u^{59} - 89.1272u^{58} + \cdots + 83.8139u - 8.75673 \\ -24.9796u^{59} - 26.6359u^{58} + \cdots - 19.2558u - 102.244 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 133.215u^{59} + 202.720u^{58} + \cdots - 542.480u + 209.247 \\ 52.3243u^{59} + 106.512u^{58} + \cdots - 399.112u - 0.862565 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 78.9813u^{59} + 187.967u^{58} + \cdots - 834.169u - 173.862 \\ -1.57917u^{59} + 7.47530u^{58} + \cdots - 101.161u - 44.0109 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -41.3068u^{59} - 71.8844u^{58} + \cdots + 34.9865u - 26.6643 \\ -19.3259u^{59} - 13.0587u^{58} + \cdots - 54.6951u - 116.974 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -227.159u^{59} - 547.164u^{58} + \cdots + 1849.68u + 518.601$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{60} - 14u^{59} + \cdots + 14u + 1$
c_2	$u^{60} - 20u^{58} + \cdots + 721u - 49$
c_3	$u^{60} + 16u^{59} + \cdots - 230u - 100$
c_4	$7(7u^{60} - 13u^{59} + \cdots - 3u + 1)$
c_5	$7(7u^{60} + 8u^{59} + \cdots + 925u + 31)$
c_6	$u^{60} - 5u^{59} + \cdots - 103u + 7$
c_7	$u^{60} + 2u^{59} + \cdots - 2u - 1$
c_8	$7(7u^{60} + 39u^{59} + \cdots + 13u - 1)$
c_9	$7(7u^{60} + 60u^{59} + \cdots - 774u - 52)$
c_{10}	$u^{60} - 6u^{59} + \cdots + 61u + 7$
c_{11}	$u^{60} - 2u^{59} + \cdots + 2u - 1$
c_{12}	$u^{60} + u^{59} + \cdots + 266u + 49$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{60} - 28y^{59} + \cdots - 74y + 1$
c_2	$y^{60} - 40y^{59} + \cdots - 79429y + 2401$
c_3	$y^{60} - 24y^{59} + \cdots + 19700y + 10000$
c_4	$49(49y^{60} + 811y^{59} + \cdots - 27y + 1)$
c_5	$49(49y^{60} + 664y^{59} + \cdots - 816689y + 961)$
c_6	$y^{60} - 9y^{59} + \cdots - 431y + 49$
c_7, c_{11}	$y^{60} + 26y^{59} + \cdots + 62y + 1$
c_8	$49(49y^{60} - 2081y^{59} + \cdots - 75y + 1)$
c_9	$49(49y^{60} - 170y^{59} + \cdots - 486652y + 2704)$
c_{10}	$y^{60} - 8y^{59} + \cdots + 1543y + 49$
c_{12}	$y^{60} - 15y^{59} + \cdots + 6762y + 2401$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.405698+0.890220I$ $a=\ \ 0.13870+2.14844I$ $b=\ \ 1.64962-0.24323I$	$4.24161+1.67576I$	0
$u=-0.405698-0.890220I$ $a=\ \ 0.13870-2.14844I$ $b=\ \ 1.64962+0.24323I$	$4.24161-1.67576I$	0
$u=\ \ 0.251859+0.939907I$ $a=-0.45764-2.13023I$ $b=\ \ 1.47551+0.50144I$	$5.44578-1.04886I$	0
$u=\ \ 0.251859-0.939907I$ $a=-0.45764+2.13023I$ $b=\ \ 1.47551-0.50144I$	$5.44578+1.04886I$	0
$u=\ \ 0.499578+0.834812I$ $a=-1.39758-3.20352I$ $b=-0.179402+0.193066I$	$0.0155762-0.0242982I$	$0.-48.6653I$
$u=\ \ 0.499578-0.834812I$ $a=-1.39758+3.20352I$ $b=-0.179402-0.193066I$	$0.0155762+0.0242982I$	$0.+48.6653I$
$u=-0.604361+0.731311I$ $a=-1.29693-2.65379I$ $b=-1.30455+0.92592I$	$-0.69056+8.92102I$	0
$u=-0.604361-0.731311I$ $a=-1.29693+2.65379I$ $b=-1.30455-0.92592I$	$-0.69056-8.92102I$	0
$u=\ \ 0.070358+1.059050I$ $a=-1.015200-0.164829I$ $b=\ \ 0.733591-0.176588I$	$-2.71132-4.09425I$	0
$u=\ \ 0.070358-1.059050I$ $a=-1.015200+0.164829I$ $b=\ \ 0.733591+0.176588I$	$-2.71132+4.09425I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.311360 + 0.855026I$ $a = -1.56802 + 0.57231I$ $b = -0.766234 - 0.272296I$	$-0.75205 - 3.91817I$	$0. + 5.98305I$
$u = 0.311360 - 0.855026I$ $a = -1.56802 - 0.57231I$ $b = -0.766234 + 0.272296I$	$-0.75205 + 3.91817I$	$0. - 5.98305I$
$u = 1.081440 + 0.179187I$ $a = -0.194684 - 0.132164I$ $b = -0.794257 - 0.519602I$	$-3.37507 - 3.31270I$	0
$u = 1.081440 - 0.179187I$ $a = -0.194684 + 0.132164I$ $b = -0.794257 + 0.519602I$	$-3.37507 + 3.31270I$	0
$u = -0.411831 + 0.798747I$ $a = -0.587314 + 0.518488I$ $b = 1.50408 - 0.04527I$	$-0.87800 + 5.39251I$	$0. - 6.51135I$
$u = -0.411831 - 0.798747I$ $a = -0.587314 - 0.518488I$ $b = 1.50408 + 0.04527I$	$-0.87800 - 5.39251I$	$0. + 6.51135I$
$u = 0.499449 + 0.647660I$ $a = 0.04335 + 1.61332I$ $b = 0.512282 - 0.708230I$	$0.389411 - 0.219467I$	$-2.27769 - 2.13122I$
$u = 0.499449 - 0.647660I$ $a = 0.04335 - 1.61332I$ $b = 0.512282 + 0.708230I$	$0.389411 + 0.219467I$	$-2.27769 + 2.13122I$
$u = -0.246246 + 0.779860I$ $a = -0.809569 - 1.153670I$ $b = 0.857931 + 0.222330I$	$2.92929 + 4.61309I$	$4.80102 - 6.19237I$
$u = -0.246246 - 0.779860I$ $a = -0.809569 + 1.153670I$ $b = 0.857931 - 0.222330I$	$2.92929 - 4.61309I$	$4.80102 + 6.19237I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.318334+1.153330I$ $a=-0.522378-0.042599I$ $b=\ \ 1.74520+0.44326I$	$-1.57796+4.98226I$	0
$u=-0.318334-1.153330I$ $a=-0.522378+0.042599I$ $b=\ \ 1.74520-0.44326I$	$-1.57796-4.98226I$	0
$u=\ \ 0.588121+1.046910I$ $a=-0.552032+0.678475I$ $b=-0.985869-0.304491I$	$-1.68655-4.59466I$	0
$u=\ \ 0.588121-1.046910I$ $a=-0.552032-0.678475I$ $b=-0.985869+0.304491I$	$-1.68655+4.59466I$	0
$u=-0.029938+1.204800I$ $a=-0.68739-1.29075I$ $b=\ \ 0.390150+0.772136I$	$5.00249-3.38015I$	0
$u=-0.029938-1.204800I$ $a=-0.68739+1.29075I$ $b=\ \ 0.390150-0.772136I$	$5.00249+3.38015I$	0
$u=-1.221620+0.229004I$ $a=-0.00467740-0.00775316I$ $b=\ \ 0.826093+0.898636I$	$-3.61807-6.96414I$	0
$u=-1.221620-0.229004I$ $a=-0.00467740+0.00775316I$ $b=\ \ 0.826093-0.898636I$	$-3.61807+6.96414I$	0
$u=-0.547893+1.129490I$ $a=\ \ 0.568909-0.284766I$ $b=-1.51790-0.71025I$	$0.06279+12.00860I$	0
$u=-0.547893-1.129490I$ $a=\ \ 0.568909+0.284766I$ $b=-1.51790+0.71025I$	$0.06279-12.00860I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.372200+1.198990I$ $a=\ \ 0.506337+0.235111I$ $b=-1.59656-0.89009I$	$1.33776-4.46559I$	0
$u=-0.372200-1.198990I$ $a=\ \ 0.506337-0.235111I$ $b=-1.59656+0.89009I$	$1.33776+4.46559I$	0
$u=\ \ 0.461144+1.210000I$ $a=\ \ 0.13224+1.52173I$ $b=-1.34121-1.20743I$	$1.17234-7.58998I$	0
$u=\ \ 0.461144-1.210000I$ $a=\ \ 0.13224-1.52173I$ $b=-1.34121+1.20743I$	$1.17234+7.58998I$	0
$u=-0.556281+1.189490I$ $a=-0.360690-0.330323I$ $b=\ \ 0.432233+0.580010I$	$2.46404+3.53311I$	0
$u=-0.556281-1.189490I$ $a=-0.360690+0.330323I$ $b=\ \ 0.432233-0.580010I$	$2.46404-3.53311I$	0
$u=\ \ 1.160020+0.621578I$ $a=-0.325140+0.129256I$ $b=-0.360682+0.058927I$	$-3.23927-1.38815I$	0
$u=\ \ 1.160020-0.621578I$ $a=-0.325140-0.129256I$ $b=-0.360682-0.058927I$	$-3.23927+1.38815I$	0
$u=\ \ 0.710600+1.143560I$ $a=-0.101356+0.708198I$ $b=-0.320030-0.324912I$	$0.91258-5.08481I$	0
$u=\ \ 0.710600-1.143560I$ $a=-0.101356-0.708198I$ $b=-0.320030+0.324912I$	$0.91258+5.08481I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.621328+1.218620I$ $a=\ \ 0.24461+1.66396I$ $b=\ \ 1.09061-1.03553I$	$-0.38574+13.02280I$	0
$u=-0.621328-1.218620I$ $a=\ \ 0.24461-1.66396I$ $b=\ \ 1.09061+1.03553I$	$-0.38574-13.02280I$	0
$u=\ \ 0.136557+0.570184I$ $a=\ \ 2.29709+1.70944I$ $b=-1.73396+0.22988I$	$-1.77734+4.69554I$	$-7.64002-9.11529I$
$u=\ \ 0.136557-0.570184I$ $a=\ \ 2.29709-1.70944I$ $b=-1.73396-0.22988I$	$-1.77734-4.69554I$	$-7.64002+9.11529I$
$u=\ \ 0.22024+1.40678I$ $a=-0.277771-1.330550I$ $b=\ \ 0.51824+1.49656I$	$3.95510-3.40383I$	0
$u=\ \ 0.22024-1.40678I$ $a=-0.277771+1.330550I$ $b=\ \ 0.51824-1.49656I$	$3.95510+3.40383I$	0
$u=\ \ 0.061739+0.508020I$ $a=-0.30685+6.48528I$ $b=-0.578081-1.008190I$	$-5.03914+0.09440I$	$4.19579-1.18250I$
$u=\ \ 0.061739-0.508020I$ $a=-0.30685-6.48528I$ $b=-0.578081+1.008190I$	$-5.03914-0.09440I$	$4.19579+1.18250I$
$u=-0.111454+0.458063I$ $a=-2.69660-7.98850I$ $b=-0.081202+1.268250I$	$-3.20743-7.99758I$	$11.63807-6.09672I$
$u=-0.111454-0.458063I$ $a=-2.69660+7.98850I$ $b=-0.081202-1.268250I$	$-3.20743+7.99758I$	$11.63807+6.09672I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.40400+0.60865I$ $a=-0.193460-0.097923I$ $b=-0.342276+0.121740I$	$-2.42309-6.23624I$	0
$u=-1.40400-0.60865I$ $a=-0.193460+0.097923I$ $b=-0.342276-0.121740I$	$-2.42309+6.23624I$	0
$u=-1.56514$ $a=\ \ 1.47637$ $b=\ \ 1.97563$	-7.53852	0
$u=-0.021034+0.394433I$ $a=-0.035834-1.204500I$ $b=-1.242810-0.308665I$	$-4.96817-0.00944I$	$-1.75848+1.50331I$
$u=-0.021034-0.394433I$ $a=-0.035834+1.204500I$ $b=-1.242810+0.308665I$	$-4.96817+0.00944I$	$-1.75848-1.50331I$
$u=-0.119337+0.362397I$ $a=\ \ 0.611828-0.898845I$ $b=\ \ 1.153420+0.525984I$	$-4.44040-8.43939I$	$-0.83974+3.37088I$
$u=-0.119337-0.362397I$ $a=\ \ 0.611828+0.898845I$ $b=\ \ 1.153420-0.525984I$	$-4.44040+8.43939I$	$-0.83974-3.37088I$
$u=\ \ 1.68261$ $a=-1.32235$ $b=-1.61451$	-6.77201	0
$u=-0.11964+1.69318I$ $a=-0.086104-0.751337I$ $b=\ \ 0.075496+1.108060I$	$3.54731-1.46395I$	0
$u=-0.11964-1.69318I$ $a=-0.086104+0.751337I$ $b=\ \ 0.075496-1.108060I$	$3.54731+1.46395I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{60}-14u^{59}+\cdots+14u+1)(u^{229}+13u^{228}+\cdots-211u+4)$
c_2	$(u^{60}-20u^{58}+\cdots+721u-49)$ $\cdot(u^{229}+u^{228}+\cdots+22552586u-1584023)$
c_3	$(u^{60}+16u^{59}+\cdots-230u-100)$ $\cdot(u^{229}-9u^{228}+\cdots-2711301018u-134641844)$
c_4	$49(7u^{60}-13u^{59}+\cdots-3u+1)$ $\cdot(7u^{229}-72u^{228}+\cdots-235032u+85717)$
c_5	$49(7u^{60}+8u^{59}+\cdots+925u+31)$ $\cdot(7u^{229}-79u^{228}+\cdots+1394317795u+53007850)$
c_6	$(u^{60}-5u^{59}+\cdots-103u+7)(u^{229}-16u^{228}+\cdots-127u+14)$
c_7	$(u^{60}+2u^{59}+\cdots-2u-1)(u^{229}-u^{228}+\cdots-473u-1849)$
c_8	$49(7u^{60}+39u^{59}+\cdots+13u-1)(7u^{229}-34u^{228}+\cdots+4u-1)$
c_9	$49(7u^{60}+60u^{59}+\cdots-774u-52)$ $\cdot(7u^{229}-69u^{228}+\cdots-35824679457122u-6391723061348)$
c_{10}	$(u^{60}-6u^{59}+\cdots+61u+7)(u^{229}-13u^{228}+\cdots+14718u-497)$
c_{11}	$(u^{60}-2u^{59}+\cdots+2u-1)(u^{229}-u^{228}+\cdots-473u-1849)$
c_{12}	$(u^{60}+u^{59}+\cdots+266u+49)$ $\cdot(u^{229}+4u^{227}+\cdots+603279267u+17477887)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{60}-28y^{59}+\cdots-74y+1)(y^{229}-25y^{228}+\cdots-1479y-16)$
c_2	$(y^{60}-40y^{59}+\cdots-79429y+2401)$ $\cdot(y^{229}-57y^{228}+\cdots+343601616258474y-2509128864529)$
c_3	$(y^{60}-24y^{59}+\cdots+19700y+10000)$ $\cdot(y^{229}+11y^{228}+\cdots+2.46\times10^{19}y-1.81\times10^{16})$
c_4	$2401(49y^{60}+811y^{59}+\cdots-27y+1)$ $\cdot(49y^{229}-1978y^{228}+\cdots+837638759056y-7347404089)$
c_5	$2401(49y^{60}+664y^{59}+\cdots-816689y+961)$ $\cdot(49y^{229}-1733y^{228}+\cdots+1.47\times10^{18}y-2.81\times10^{15})$
c_6	$(y^{60}-9y^{59}+\cdots-431y+49)(y^{229}-30y^{228}+\cdots-50315y-196)$
c_7, c_{11}	$(y^{60}+26y^{59}+\cdots+62y+1)$ $\cdot(y^{229}+105y^{228}+\cdots-189798001y-3418801)$
c_8	$2401(49y^{60}-2081y^{59}+\cdots-75y+1)$ $\cdot(49y^{229}+734y^{228}+\cdots+264y-1)$
c_9	$2401(49y^{60}-170y^{59}+\cdots-486652y+2704)$ $\cdot(49y^{229}+6369y^{228}+\cdots+3.98\times10^{27}y-4.09\times10^{25})$
c_{10}	$(y^{60}-8y^{59}+\cdots+1543y+49)$ $\cdot(y^{229}+11y^{228}+\cdots+96513510y-247009)$
c_{12}	$(y^{60}-15y^{59}+\cdots+6762y+2401)$ $\cdot(y^{229}+8y^{228}+\cdots-17329253455415529y-305476533984769)$