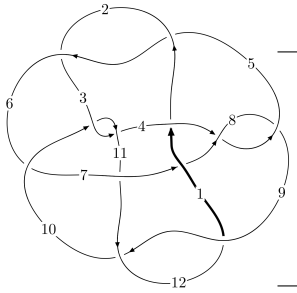
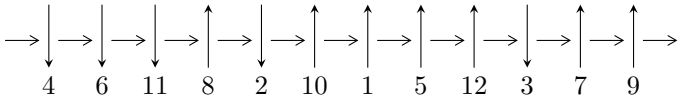
$12a_{0979}$ $(K12a_{0979})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.28281 \times 10^{609} u^{152} + 5.70333 \times 10^{609} u^{151} + \cdots + 1.62531 \times 10^{610} b + 4.43748 \times 10^{612},$$
$$9.86064 \times 10^{612} u^{152} + 3.28103 \times 10^{613} u^{151} + \cdots + 4.53298 \times 10^{613} a + 4.56455 \times 10^{616},$$
$$u^{153} + 3u^{152} + \cdots - 5927u - 2789 \rangle$$
$$I_2^u = \langle -4.96325 \times 10^{19} u^{36} - 1.68009 \times 10^{20} u^{35} + \cdots + 5.82980 \times 10^{17} b + 9.18197 \times 10^{19},$$
$$2.83565 \times 10^{19} u^{36} + 9.47056 \times 10^{19} u^{35} + \cdots + 5.82980 \times 10^{17} a - 7.12118 \times 10^{19},\ u^{37} + 4u^{36} + \cdots - 8u - 1 \rangle$$
$$I_3^u = \langle b,\ a - u - 1,\ u^3 + u^2 - 1 \rangle$$
$$I_4^u = \langle b,\ a - 1,\ u - 1 \rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 194 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. $\boldsymbol{I_1^u = \langle 1.28 \times 10^{609} u^{152} + 5.70 \times 10^{609} u^{151} + \cdots + 1.63 \times 10^{610} b + 4.44 \times 10^{612},\ 9.86 \times 10^{612} u^{152} + 3.28 \times 10^{613} u^{151} + \cdots + 4.53 \times 10^{613} a + 4.56 \times 10^{616},\ u^{153} + 3u^{152} + \cdots - 5927u - 2789 \rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -0.217531u^{152} - 0.723812u^{151} + \cdots - 2983.07u - 1006.96 \\ -0.0789275u^{152} - 0.350907u^{151} + \cdots - 1126.14u - 273.024 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.104395u^{152} - 0.284179u^{151} + \cdots - 1526.20u - 473.627 \\ -0.0380832u^{152} - 0.244056u^{151} + \cdots - 1673.44u - 526.835 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.88754u^{152} + 7.27310u^{151} + \cdots + 19454.7u + 5679.34 \\ -0.431277u^{152} - 1.74643u^{151} + \cdots - 5970.32u - 1834.41 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2.38322u^{152} + 9.22443u^{151} + \cdots + 26525.4u + 8607.01 \\ -0.204594u^{152} - 1.05976u^{151} + \cdots - 5337.10u - 1970.55 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.138603u^{152} - 0.372904u^{151} + \cdots - 1856.93u - 733.940 \\ -0.0789275u^{152} - 0.350907u^{151} + \cdots - 1126.14u - 273.024 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.501318u^{152} - 2.22897u^{151} + \cdots - 9009.17u - 2879.10 \\ 0.247246u^{152} + 1.06495u^{151} + \cdots + 2246.96u + 849.901 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 6.22371u^{152} + 24.5377u^{151} + \cdots + 57732.8u + 18511.5 \\ -0.738844u^{152} - 3.16251u^{151} + \cdots - 6523.56u - 2353.66 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -6.52573u^{152} - 26.1053u^{151} + \cdots - 59538.9u - 18890.0 \\ 0.571964u^{152} + 2.31321u^{151} + \cdots + 3012.92u + 903.759 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 5.81594u^{152} + 24.7068u^{151} + \cdots + 47717.7u + 16629.8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{153} - 12u^{152} + \cdots - 56332u + 7874$
c_2, c_5	$u^{153} + 9u^{152} + \cdots - 508434u - 176401$
c_3, c_{10}	$u^{153} - 3u^{152} + \cdots + 28708u - 3617$
c_4, c_8	$u^{153} + 3u^{152} + \cdots - 5927u - 2789$
c_6	$u^{153} - 7u^{152} + \cdots - 4234131617u - 264250321$
c_7	$u^{153} + 3u^{152} + \cdots + 1096u - 428$
c_9, c_{12}	$u^{153} + 10u^{152} + \cdots + 6400u - 2432$
c_{11}	$u^{153} + 15u^{152} + \cdots + 331308u - 100816$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{153} + 20y^{152} + \cdots + 105095636y - 61999876$
c_2, c_5	$y^{153} - 193y^{152} + \cdots + 755521653094y - 31117312801$
c_3, c_{10}	$y^{153} - 105y^{152} + \cdots + 1173688910y - 13082689$
c_4, c_8	$y^{153} - 75y^{152} + \cdots + 149372347y - 7778521$
c_6	$y^{153} + 77y^{152} + \cdots + 1847642535511061561y - 69828232148603041$
c_7	$y^{153} - 75y^{152} + \cdots + 8936032y - 183184$
c_9, c_{12}	$y^{153} + 118y^{152} + \cdots + 647831552y - 5914624$
c_{11}	$y^{153} - 35y^{152} + \cdots + 290394396848y - 10163865856$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.997781$ $a = 8.75197$ $b = 0.0647899$	-0.00219509	0
$u = -0.341614 + 0.931233I$ $a = -0.370406 + 0.406647I$ $b = -0.185584 - 1.072250I$	$-3.61191 + 2.52822I$	0
$u = -0.341614 - 0.931233I$ $a = -0.370406 - 0.406647I$ $b = -0.185584 + 1.072250I$	$-3.61191 - 2.52822I$	0
$u = -0.072377 + 0.983268I$ $a = -0.318149 + 0.469174I$ $b = -0.300070 - 1.335890I$	$-5.26544 + 7.42458I$	0
$u = -0.072377 - 0.983268I$ $a = -0.318149 - 0.469174I$ $b = -0.300070 + 1.335890I$	$-5.26544 - 7.42458I$	0
$u = 0.864802 + 0.538644I$ $a = 1.02477 - 1.09021I$ $b = 0.244675 + 0.892365I$	$-0.76159 + 1.35256I$	0
$u = 0.864802 - 0.538644I$ $a = 1.02477 + 1.09021I$ $b = 0.244675 - 0.892365I$	$-0.76159 - 1.35256I$	0
$u = -0.827905 + 0.595560I$ $a = 1.304940 - 0.197851I$ $b = 0.12160 - 1.47494I$	$-8.89019 - 3.19697I$	0
$u = -0.827905 - 0.595560I$ $a = 1.304940 + 0.197851I$ $b = 0.12160 + 1.47494I$	$-8.89019 + 3.19697I$	0
$u = -0.025248 + 0.969006I$ $a = -0.299791 - 0.487821I$ $b = 0.906922 + 0.100199I$	$-2.14800 - 1.50633I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.025248-0.969006I$ $a=-0.299791+0.487821I$ $b=\ \ 0.906922-0.100199I$	$-2.14800+1.50633I$	0
$u=\ \ 0.989734+0.318008I$ $a=\ \ 0.22701+1.42246I$ $b=-0.70870+2.08315I$	$-7.32709+4.58957I$	0
$u=\ \ 0.989734-0.318008I$ $a=\ \ 0.22701-1.42246I$ $b=-0.70870-2.08315I$	$-7.32709-4.58957I$	0
$u=-0.902372+0.538652I$ $a=-1.090840-0.663576I$ $b=-0.13790+1.55018I$	$-9.00785-0.43770I$	0
$u=-0.902372-0.538652I$ $a=-1.090840+0.663576I$ $b=-0.13790-1.55018I$	$-9.00785+0.43770I$	0
$u=-0.862240+0.392691I$ $a=-0.29420-1.42358I$ $b=-0.161096+1.356630I$	$-9.38534-9.47300I$	0
$u=-0.862240-0.392691I$ $a=-0.29420+1.42358I$ $b=-0.161096-1.356630I$	$-9.38534+9.47300I$	0
$u=\ \ 0.832026+0.426042I$ $a=-0.293205+0.324712I$ $b=-0.48148+1.50098I$	$-9.63438-5.81743I$	0
$u=\ \ 0.832026-0.426042I$ $a=-0.293205-0.324712I$ $b=-0.48148-1.50098I$	$-9.63438+5.81743I$	0
$u=-0.119562+0.924520I$ $a=\ \ 0.096611-0.517704I$ $b=\ \ 0.349672+1.234820I$	$-2.18119+3.63455I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.119562-0.924520I$ $a=\ 0.096611+0.517704I$ $b=\ 0.349672-1.234820I$	$-2.18119-3.63455I$	0
$u=-0.826872+0.428150I$ $a=\ 0.252811+0.823012I$ $b=\ 0.093204-1.393210I$	$-5.75444-4.67554I$	0
$u=-0.826872-0.428150I$ $a=\ 0.252811-0.823012I$ $b=\ 0.093204+1.393210I$	$-5.75444+4.67554I$	0
$u=-0.726161+0.582004I$ $a=-0.737072+0.151735I$ $b=-0.00296+1.53384I$	$-9.17623-1.44438I$	0
$u=-0.726161-0.582004I$ $a=-0.737072-0.151735I$ $b=-0.00296-1.53384I$	$-9.17623+1.44438I$	0
$u=\ 0.882528+0.290522I$ $a=\ 1.85197-1.11541I$ $b=\ 0.383224-0.566013I$	$1.56920+3.18136I$	0
$u=\ 0.882528-0.290522I$ $a=\ 1.85197+1.11541I$ $b=\ 0.383224+0.566013I$	$1.56920-3.18136I$	0
$u=-0.899606+0.585036I$ $a=-0.394547+0.708643I$ $b=\ 0.043813+0.711490I$	$-0.935418+0.215869I$	0
$u=-0.899606-0.585036I$ $a=-0.394547-0.708643I$ $b=\ 0.043813-0.711490I$	$-0.935418-0.215869I$	0
$u=\ 0.861926+0.334675I$ $a=\ 2.55635+0.76486I$ $b=\ 0.56596+1.48467I$	$-5.08208+4.36622I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.861926 - 0.334675I$ $a = 2.55635 - 0.76486I$ $b = 0.56596 - 1.48467I$	$-5.08208 - 4.36622I$	0
$u = 0.088621 + 0.920266I$ $a = 0.031760 + 0.517902I$ $b = -0.981938 + 0.073899I$	$-6.10163 - 8.06042I$	0
$u = 0.088621 - 0.920266I$ $a = 0.031760 - 0.517902I$ $b = -0.981938 - 0.073899I$	$-6.10163 + 8.06042I$	0
$u = 0.824328 + 0.409646I$ $a = -2.59398 - 0.67280I$ $b = -0.69516 - 1.29223I$	$-9.66879 + 9.36370I$	0
$u = 0.824328 - 0.409646I$ $a = -2.59398 + 0.67280I$ $b = -0.69516 + 1.29223I$	$-9.66879 - 9.36370I$	0
$u = -0.800529 + 0.438940I$ $a = -2.50618 + 0.30716I$ $b = 0.081374 + 1.141410I$	$-5.83015 + 1.00845I$	0
$u = -0.800529 - 0.438940I$ $a = -2.50618 - 0.30716I$ $b = 0.081374 - 1.141410I$	$-5.83015 - 1.00845I$	0
$u = 1.045210 + 0.312312I$ $a = -1.042300 + 0.955080I$ $b = -0.333642 + 0.446226I$	$2.12407 - 0.35100I$	0
$u = 1.045210 - 0.312312I$ $a = -1.042300 - 0.955080I$ $b = -0.333642 - 0.446226I$	$2.12407 + 0.35100I$	0
$u = -0.247276 + 0.864800I$ $a = 0.349804 - 0.025716I$ $b = 0.427405 + 1.068930I$	$-5.34348 + 4.86562I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.247276-0.864800I$ $a=\ 0.349804+0.025716I$ $b=\ 0.427405-1.068930I$	$-5.34348-4.86562I$	0
$u=-0.809279+0.390526I$ $a=\ 3.04826-0.42221I$ $b=-0.138789-1.089010I$	$-9.56347+6.10996I$	0
$u=-0.809279-0.390526I$ $a=\ 3.04826+0.42221I$ $b=-0.138789+1.089010I$	$-9.56347-6.10996I$	0
$u=\ 0.826940+0.333273I$ $a=-0.405508+0.051029I$ $b=\ 0.27071-1.58027I$	$-5.19468-1.39926I$	0
$u=\ 0.826940-0.333273I$ $a=-0.405508-0.051029I$ $b=\ 0.27071+1.58027I$	$-5.19468+1.39926I$	0
$u=\ 1.098250+0.159299I$ $a=-0.807502+0.315922I$ $b=-0.252210+0.472759I$	$2.04815+0.14892I$	0
$u=\ 1.098250-0.159299I$ $a=-0.807502-0.315922I$ $b=-0.252210-0.472759I$	$2.04815-0.14892I$	0
$u=\ 0.882448+0.078541I$ $a=-2.64840+3.64459I$ $b=-0.00259-1.43722I$	$-5.21371+0.20813I$	0
$u=\ 0.882448-0.078541I$ $a=-2.64840-3.64459I$ $b=-0.00259+1.43722I$	$-5.21371-0.20813I$	0
$u=\ 1.040800+0.455931I$ $a=\ 2.37266+0.10421I$ $b=\ 0.294268+1.152880I$	$-0.60098+5.99532I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.040800 - 0.455931I$ $a = 2.37266 - 0.10421I$ $b = 0.294268 - 1.152880I$	$-0.60098 - 5.99532I$	0
$u = 0.855047$ $a = 2.44653$ $b = 0.623171$	0.683985	0
$u = -1.052750 + 0.475909I$ $a = 1.17176 + 0.80525I$ $b = 0.947447 + 0.572850I$	$-0.93849 - 4.41930I$	0
$u = -1.052750 - 0.475909I$ $a = 1.17176 - 0.80525I$ $b = 0.947447 - 0.572850I$	$-0.93849 + 4.41930I$	0
$u = -0.829950 + 0.155484I$ $a = -1.56712 - 0.63356I$ $b = -1.007240 - 0.465181I$	$-1.68823 - 1.09179I$	0
$u = -0.829950 - 0.155484I$ $a = -1.56712 + 0.63356I$ $b = -1.007240 + 0.465181I$	$-1.68823 + 1.09179I$	0
$u = -0.693252 + 0.480222I$ $a = 2.25022 + 0.61354I$ $b = -0.188654 - 1.271180I$	$-9.65386 - 3.75737I$	0
$u = -0.693252 - 0.480222I$ $a = 2.25022 - 0.61354I$ $b = -0.188654 + 1.271180I$	$-9.65386 + 3.75737I$	0
$u = -0.823391 + 0.166420I$ $a = -0.403071 - 0.970330I$ $b = -0.21061 - 1.49328I$	$-1.05457 - 3.16951I$	0
$u = -0.823391 - 0.166420I$ $a = -0.403071 + 0.970330I$ $b = -0.21061 + 1.49328I$	$-1.05457 + 3.16951I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.074790+0.461713I$ $a=-0.872623-0.779579I$ $b=-0.651069-0.667330I$	$0.45680-4.19166I$	0
$u=-1.074790-0.461713I$ $a=-0.872623+0.779579I$ $b=-0.651069+0.667330I$	$0.45680+4.19166I$	0
$u=1.068190+0.480580I$ $a=-1.80608+0.39287I$ $b=-0.321321-0.998354I$	$0.38913+2.69464I$	0
$u=1.068190-0.480580I$ $a=-1.80608-0.39287I$ $b=-0.321321+0.998354I$	$0.38913-2.69464I$	0
$u=-1.183880+0.094998I$ $a=1.054400-0.570452I$ $b=0.738664-1.066100I$	$2.04139-3.66981I$	0
$u=-1.183880-0.094998I$ $a=1.054400+0.570452I$ $b=0.738664+1.066100I$	$2.04139+3.66981I$	0
$u=0.364490+1.137200I$ $a=-0.077897-0.409675I$ $b=-0.48454+1.37028I$	$-10.6121-13.3462I$	0
$u=0.364490-1.137200I$ $a=-0.077897+0.409675I$ $b=-0.48454-1.37028I$	$-10.6121+13.3462I$	0
$u=1.113250+0.473616I$ $a=-1.64873-0.07451I$ $b=-0.223103-1.035910I$	$0.52843+2.52604I$	0
$u=1.113250-0.473616I$ $a=-1.64873+0.07451I$ $b=-0.223103+1.035910I$	$0.52843-2.52604I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.097490+0.521943I$ $a=-0.509017-0.345882I$ $b=-0.285983-0.449083I$	$0.28557-4.65072I$	0
$u=-1.097490-0.521943I$ $a=-0.509017+0.345882I$ $b=-0.285983+0.449083I$	$0.28557+4.65072I$	0
$u=1.168670+0.337131I$ $a=1.63363+1.06823I$ $b=0.058301+1.162300I$	$-3.04783+0.69043I$	0
$u=1.168670-0.337131I$ $a=1.63363-1.06823I$ $b=0.058301-1.162300I$	$-3.04783-0.69043I$	0
$u=-1.182420+0.321253I$ $a=1.42288+0.38962I$ $b=1.102580-0.025907I$	$5.46132-3.10520I$	0
$u=-1.182420-0.321253I$ $a=1.42288-0.38962I$ $b=1.102580+0.025907I$	$5.46132+3.10520I$	0
$u=-0.236778+0.722749I$ $a=0.278181-0.035120I$ $b=-0.292920-1.309310I$	$-7.12480+2.61572I$	0
$u=-0.236778-0.722749I$ $a=0.278181+0.035120I$ $b=-0.292920+1.309310I$	$-7.12480-2.61572I$	0
$u=0.734491+0.194000I$ $a=-3.26533-0.98574I$ $b=-1.22706-1.46656I$	$-8.38323-2.12065I$	0
$u=0.734491-0.194000I$ $a=-3.26533+0.98574I$ $b=-1.22706+1.46656I$	$-8.38323+2.12065I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.162880 + 0.438073I$ $a = -1.133890 + 0.352910I$ $b = -1.261010 + 0.096086I$	$-4.34991 + 0.42060I$	0
$u = 1.162880 - 0.438073I$ $a = -1.133890 - 0.352910I$ $b = -1.261010 - 0.096086I$	$-4.34991 - 0.42060I$	0
$u = -1.134370 + 0.510920I$ $a = -1.56551 + 0.26888I$ $b = -0.627093 + 1.266570I$	$-4.52703 - 7.27671I$	0
$u = -1.134370 - 0.510920I$ $a = -1.56551 - 0.26888I$ $b = -0.627093 - 1.266570I$	$-4.52703 + 7.27671I$	0
$u = 0.443567 + 1.170040I$ $a = -0.045839 + 0.427843I$ $b = 0.50619 - 1.34115I$	$-6.11410 - 6.82150I$	0
$u = 0.443567 - 1.170040I$ $a = -0.045839 - 0.427843I$ $b = 0.50619 + 1.34115I$	$-6.11410 + 6.82150I$	0
$u = -1.188910 + 0.394190I$ $a = -1.43237 - 0.32360I$ $b = -0.928790 + 0.106605I$	$3.07922 - 7.88184I$	0
$u = -1.188910 - 0.394190I$ $a = -1.43237 + 0.32360I$ $b = -0.928790 - 0.106605I$	$3.07922 + 7.88184I$	0
$u = 1.083140 + 0.642497I$ $a = -0.632980 + 0.526468I$ $b = -0.220938 - 0.375852I$	$1.95588 + 0.17301I$	0
$u = 1.083140 - 0.642497I$ $a = -0.632980 - 0.526468I$ $b = -0.220938 + 0.375852I$	$1.95588 - 0.17301I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.230520 + 0.285456I$ $a = 0.303618 - 0.480615I$ $b = 0.531964 - 0.824565I$	$2.64938 + 0.52879I$	0
$u = 1.230520 - 0.285456I$ $a = 0.303618 + 0.480615I$ $b = 0.531964 + 0.824565I$	$2.64938 - 0.52879I$	0
$u = -0.057350 + 0.727652I$ $a = 0.572425 + 0.940772I$ $b = -0.584339 + 0.227450I$	$-7.73358 + 3.67399I$	0
$u = -0.057350 - 0.727652I$ $a = 0.572425 - 0.940772I$ $b = -0.584339 - 0.227450I$	$-7.73358 - 3.67399I$	0
$u = -0.911566 + 0.909547I$ $a = 0.561740 + 0.901315I$ $b = 0.048986 - 1.082890I$	$-2.08708 - 0.28521I$	0
$u = -0.911566 - 0.909547I$ $a = 0.561740 - 0.901315I$ $b = 0.048986 + 1.082890I$	$-2.08708 + 0.28521I$	0
$u = -1.198840 + 0.494811I$ $a = 0.456784 - 0.358729I$ $b = -0.009708 + 0.142361I$	$-4.46263 - 8.22652I$	0
$u = -1.198840 - 0.494811I$ $a = 0.456784 + 0.358729I$ $b = -0.009708 - 0.142361I$	$-4.46263 + 8.22652I$	0
$u = 1.278550 + 0.223642I$ $a = 0.238216 - 0.887311I$ $b = 0.272328 - 0.736728I$	$-0.318757 - 1.181500I$	0
$u = 1.278550 - 0.223642I$ $a = 0.238216 + 0.887311I$ $b = 0.272328 + 0.736728I$	$-0.318757 + 1.181500I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.178150+0.567079I$ $a=\ 1.76441-0.13756I$ $b=\ 0.600713-1.064050I$	$-2.56385-10.10150I$	0
$u=-1.178150-0.567079I$ $a=\ 1.76441+0.13756I$ $b=\ 0.600713+1.064050I$	$-2.56385+10.10150I$	0
$u=-1.172480+0.600215I$ $a=-1.67947-0.00210I$ $b=-0.373130+1.089400I$	$-1.04559-8.07744I$	0
$u=-1.172480-0.600215I$ $a=-1.67947+0.00210I$ $b=-0.373130-1.089400I$	$-1.04559+8.07744I$	0
$u=\ 0.048406+0.678959I$ $a=-0.461341-0.341300I$ $b=-0.630635-0.209529I$	$-0.50865+3.99134I$	0
$u=\ 0.048406-0.678959I$ $a=-0.461341+0.341300I$ $b=-0.630635+0.209529I$	$-0.50865-3.99134I$	0
$u=-1.217280+0.525243I$ $a=\ 1.66710-0.13015I$ $b=\ 0.51662-1.35832I$	$1.13115-8.76605I$	0
$u=-1.217280-0.525243I$ $a=\ 1.66710+0.13015I$ $b=\ 0.51662+1.35832I$	$1.13115+8.76605I$	0
$u=\ 0.386880+0.545795I$ $a=\ 0.019599+0.401864I$ $b=\ 0.535227-0.054926I$	$1.331330+0.135841I$	0
$u=\ 0.386880-0.545795I$ $a=\ 0.019599-0.401864I$ $b=\ 0.535227+0.054926I$	$1.331330-0.135841I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.229420 + 0.521834I$ $a = -1.300530 + 0.536723I$ $b = -1.347630 - 0.158698I$	$-2.67038 + 13.18000I$	0
$u = 1.229420 - 0.521834I$ $a = -1.300530 - 0.536723I$ $b = -1.347630 + 0.158698I$	$-2.67038 - 13.18000I$	0
$u = -1.083090 + 0.788286I$ $a = -1.159790 - 0.595573I$ $b = -0.121507 + 1.098270I$	$-1.40267 - 6.25997I$	0
$u = -1.083090 - 0.788286I$ $a = -1.159790 + 0.595573I$ $b = -0.121507 - 1.098270I$	$-1.40267 + 6.25997I$	0
$u = 0.658027$ $a = -0.0661940$ $b = 0.390696$	1.05441	10.6590
$u = 1.261740 + 0.483853I$ $a = 1.252050 - 0.506803I$ $b = 1.53286 + 0.17527I$	$1.76560 + 6.51802I$	0
$u = 1.261740 - 0.483853I$ $a = 1.252050 + 0.506803I$ $b = 1.53286 - 0.17527I$	$1.76560 - 6.51802I$	0
$u = -1.254690 + 0.529603I$ $a = -1.69639 + 0.23211I$ $b = -0.42223 + 1.38623I$	$-1.65727 - 12.74040I$	0
$u = -1.254690 - 0.529603I$ $a = -1.69639 - 0.23211I$ $b = -0.42223 - 1.38623I$	$-1.65727 + 12.74040I$	0
$u = -0.398298 + 0.486792I$ $a = 1.58074 + 0.64029I$ $b = 0.838778 - 0.238634I$	$-2.81335 + 0.38459I$	$-2.77066 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.398298-0.486792I$ $a=\ 1.58074-0.64029I$ $b=\ 0.838778+0.238634I$	$-2.81335-0.38459I$	$-2.77066+0.I$
$u=\ 0.471508+0.413069I$ $a=\ 0.48452+1.47249I$ $b=\ 0.149745-1.217450I$	$-2.31181-2.20262I$	0
$u=\ 0.471508-0.413069I$ $a=\ 0.48452-1.47249I$ $b=\ 0.149745+1.217450I$	$-2.31181+2.20262I$	0
$u=-0.417327+0.465612I$ $a=-1.263600-0.237117I$ $b=-0.338519+0.294274I$	$-1.49143+0.36154I$	$-7.24646+0.I$
$u=-0.417327-0.465612I$ $a=-1.263600+0.237117I$ $b=-0.338519-0.294274I$	$-1.49143-0.36154I$	$-7.24646+0.I$
$u=\ 1.211930+0.654448I$ $a=\ 0.993767-0.422852I$ $b=\ 0.717888+0.753620I$	$3.17466+5.34859I$	0
$u=\ 1.211930-0.654448I$ $a=\ 0.993767+0.422852I$ $b=\ 0.717888-0.753620I$	$3.17466-5.34859I$	0
$u=-1.336130+0.348625I$ $a=\ 1.142270-0.017239I$ $b=\ 0.99874-1.01771I$	$2.37925-3.65891I$	0
$u=-1.336130-0.348625I$ $a=\ 1.142270+0.017239I$ $b=\ 0.99874+1.01771I$	$2.37925+3.65891I$	0
$u=\ 0.285400+0.540991I$ $a=-0.463903-1.102900I$ $b=\ 0.066989+1.098600I$	$-1.81329+1.62957I$	$0.-4.69464I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.285400 - 0.540991I$ $a = -0.463903 + 1.102900I$ $b = 0.066989 - 1.098600I$	$-1.81329 - 1.62957I$	$0. + 4.69464I$
$u = -1.353580 + 0.334412I$ $a = -1.009290 - 0.311841I$ $b = -0.973841 + 0.517886I$	$-1.44753 + 3.36539I$	0
$u = -1.353580 - 0.334412I$ $a = -1.009290 + 0.311841I$ $b = -0.973841 - 0.517886I$	$-1.44753 - 3.36539I$	0
$u = 0.486407 + 1.311050I$ $a = 0.121664 - 0.290404I$ $b = -0.465339 + 1.205790I$	$-11.41490 - 0.01711I$	0
$u = 0.486407 - 1.311050I$ $a = 0.121664 + 0.290404I$ $b = -0.465339 - 1.205790I$	$-11.41490 + 0.01711I$	0
$u = 1.25083 + 0.67685I$ $a = -1.61549 + 0.08361I$ $b = -0.56865 - 1.47360I$	$-7.7816 + 19.7699I$	0
$u = 1.25083 - 0.67685I$ $a = -1.61549 - 0.08361I$ $b = -0.56865 + 1.47360I$	$-7.7816 - 19.7699I$	0
$u = 1.24419 + 0.70048I$ $a = 1.51849 - 0.16660I$ $b = 0.57430 + 1.48281I$	$-3.47835 + 13.44060I$	0
$u = 1.24419 - 0.70048I$ $a = 1.51849 + 0.16660I$ $b = 0.57430 - 1.48281I$	$-3.47835 - 13.44060I$	0
$u = 1.26926 + 0.72078I$ $a = -1.328030 + 0.112243I$ $b = -0.59703 - 1.43379I$	$-8.67684 + 7.04237I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.26926 - 0.72078I$ $a = -1.328030 - 0.112243I$ $b = -0.59703 + 1.43379I$	$-8.67684 - 7.04237I$	0
$u = 1.43162 + 0.34643I$ $a = 0.000628 + 0.516965I$ $b = -0.243679 + 1.104630I$	$-0.39131 - 2.31110I$	0
$u = 1.43162 - 0.34643I$ $a = 0.000628 - 0.516965I$ $b = -0.243679 - 1.104630I$	$-0.39131 + 2.31110I$	0
$u = -1.47308 + 0.05715I$ $a = -0.607626 + 0.443165I$ $b = -0.573407 + 1.032710I$	$-3.15052 - 9.00420I$	0
$u = -1.47308 - 0.05715I$ $a = -0.607626 - 0.443165I$ $b = -0.573407 - 1.032710I$	$-3.15052 + 9.00420I$	0
$u = -0.51099 + 1.41149I$ $a = 0.003554 - 0.365713I$ $b = -0.000791 + 1.163130I$	$-10.88220 + 1.87551I$	0
$u = -0.51099 - 1.41149I$ $a = 0.003554 + 0.365713I$ $b = -0.000791 - 1.163130I$	$-10.88220 - 1.87551I$	0
$u = -1.30568 + 0.74372I$ $a = 1.094100 - 0.060933I$ $b = 0.144051 - 1.242120I$	$-8.00553 - 9.26939I$	0
$u = -1.30568 - 0.74372I$ $a = 1.094100 + 0.060933I$ $b = 0.144051 + 1.242120I$	$-8.00553 + 9.26939I$	0
$u = -0.25999 + 1.59207I$ $a = 0.145997 + 0.240124I$ $b = -0.191776 - 0.861933I$	$-9.30902 + 2.62774I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.25999-1.59207I$ $a=\ \ 0.145997-0.240124I$ $b=-0.191776+0.861933I$	$-9.30902-2.62774I$	0
$u=-0.130832+0.284403I$ $a=-2.28871-0.88948I$ $b=-0.449867+0.501349I$	$-1.67842+0.58174I$	$-3.95276+0.21148I$
$u=-0.130832-0.284403I$ $a=-2.28871+0.88948I$ $b=-0.449867-0.501349I$	$-1.67842-0.58174I$	$-3.95276-0.21148I$

II.

$\boldsymbol{I_2^u = \langle -4.96\times10^{19}u^{36}-1.68\times10^{20}u^{35}+\cdots+5.83\times10^{17}b+9.18\times10^{19},\ 2.84\times10^{19}u^{36}+9.47\times10^{19}u^{35}+\cdots+5.83\times10^{17}a-7.12\times10^{19},\ u^{37}+4u^{36}+\cdots-8u-1\rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -48.6405u^{36} - 162.451u^{35} + \cdots + 769.079u + 122.151 \\ 85.1357u^{36} + 288.189u^{35} + \cdots - 1002.32u - 157.500 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -65.6089u^{36} - 218.742u^{35} + \cdots + 970.329u + 152.834 \\ 96.6233u^{36} + 327.400u^{35} + \cdots - 1127.88u - 176.601 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -179.908u^{36} - 645.832u^{35} + \cdots + 1638.84u + 279.067 \\ 112.631u^{36} + 390.482u^{35} + \cdots - 1213.34u - 197.267 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 333.610u^{36} + 1121.78u^{35} + \cdots - 4105.83u - 657.046 \\ -25.4700u^{36} - 80.8433u^{35} + \cdots + 297.801u + 43.9902 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -133.776u^{36} - 450.640u^{35} + \cdots + 1771.40u + 279.652 \\ 85.1357u^{36} + 288.189u^{35} + \cdots - 1002.32u - 157.500 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -213.983u^{36} - 733.193u^{35} + \cdots + 2408.13u + 388.746 \\ -61.7426u^{36} - 212.174u^{35} + \cdots + 686.774u + 113.547 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 108.020u^{36} + 338.722u^{35} + \cdots - 2089.45u - 312.093 \\ -30.5461u^{36} - 72.7620u^{35} + \cdots + 760.104u + 106.365 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 317.979u^{36} + 1130.22u^{35} + \cdots - 2710.24u - 457.688 \\ -38.5625u^{36} - 158.873u^{35} + \cdots - 106.485u - 7.19371 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{309707479104250841599}{582980292410531251}u^{36} - \frac{1084973529995227481957}{582980292410531251}u^{35} + \cdots + \frac{8021401349665189962}{1729911846915523}u + \frac{448377740969530933741}{582980292410531251}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{37} - 4u^{36} + \cdots + 7u - 1$
c_2	$u^{37} - 13u^{35} + \cdots + 2u - 1$
c_3	$u^{37} - 12u^{35} + \cdots + 3u + 1$
c_4	$u^{37} - 4u^{36} + \cdots - 8u + 1$
c_5	$u^{37} - 13u^{35} + \cdots + 2u + 1$
c_6	$u^{37} + 7u^{35} + \cdots + 11u^2 + 1$
c_7	$u^{37} + 2u^{36} + \cdots - 28u + 4$
c_8	$u^{37} + 4u^{36} + \cdots - 8u - 1$
c_9	$u^{37} + 3u^{36} + \cdots + 51u - 23$
c_{10}	$u^{37} - 12u^{35} + \cdots + 3u - 1$
c_{11}	$u^{37} + 4u^{36} + \cdots - 10u - 1$
c_{12}	$u^{37} - 3u^{36} + \cdots + 51u + 23$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{37} + 8y^{36} + \cdots - 9y - 1$
c_2, c_5	$y^{37} - 26y^{36} + \cdots - 6y - 1$
c_3, c_{10}	$y^{37} - 24y^{36} + \cdots + 11y - 1$
c_4, c_8	$y^{37} - 14y^{36} + \cdots + 20y - 1$
c_6	$y^{37} + 14y^{36} + \cdots - 22y - 1$
c_7	$y^{37} + 12y^{36} + \cdots + 48y - 16$
c_9, c_{12}	$y^{37} + 37y^{36} + \cdots + 32087y - 529$
c_{11}	$y^{37} + 16y^{36} + \cdots + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.944692$ $a = 2.02152$ $b = 0.116966$	-0.0439988	-3.32010
$u = -0.995422 + 0.355549I$ $a = -0.624297 + 1.073420I$ $b = 0.39959 + 1.90063I$	$-6.98931 - 4.64264I$	$6.35251 + 8.83665I$
$u = -0.995422 - 0.355549I$ $a = -0.624297 - 1.073420I$ $b = 0.39959 - 1.90063I$	$-6.98931 + 4.64264I$	$6.35251 - 8.83665I$
$u = -0.304941 + 0.853735I$ $a = -0.310767 + 0.341351I$ $b = -0.315612 - 1.183650I$	$-3.72043 + 3.83403I$	$-3.12967 - 4.67200I$
$u = -0.304941 - 0.853735I$ $a = -0.310767 - 0.341351I$ $b = -0.315612 + 1.183650I$	$-3.72043 - 3.83403I$	$-3.12967 + 4.67200I$
$u = 0.972411 + 0.567656I$ $a = 1.73240 - 0.63340I$ $b = 0.130997 + 0.904141I$	$0.48267 + 4.38413I$	$0. - 6.21715I$
$u = 0.972411 - 0.567656I$ $a = 1.73240 + 0.63340I$ $b = 0.130997 - 0.904141I$	$0.48267 - 4.38413I$	$0. + 6.21715I$
$u = -1.022940 + 0.485830I$ $a = -1.107660 - 0.855277I$ $b = -0.582738 - 0.522232I$	$1.12745 - 4.79266I$	$5.55418 + 7.95156I$
$u = -1.022940 - 0.485830I$ $a = -1.107660 + 0.855277I$ $b = -0.582738 + 0.522232I$	$1.12745 + 4.79266I$	$5.55418 - 7.95156I$
$u = 0.846816 + 0.081504I$ $a = 2.09679 - 3.48558I$ $b = -0.00268 + 1.43121I$	$-5.26168 + 0.21555I$	$-64.1715 - 7.3346I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.846816 - 0.081504I$ $a = 2.09679 + 3.48558I$ $b = -0.00268 - 1.43121I$	$-5.26168 - 0.21555I$	$-64.1715 + 7.3346I$
$u = 0.797988 + 0.121711I$ $a = 0.786447 - 0.612142I$ $b = 0.137852 - 1.358060I$	$-0.90636 + 2.89655I$	$5.72453 + 4.24088I$
$u = 0.797988 - 0.121711I$ $a = 0.786447 + 0.612142I$ $b = 0.137852 + 1.358060I$	$-0.90636 - 2.89655I$	$5.72453 - 4.24088I$
$u = 0.995306 + 0.678343I$ $a = -0.970035 + 0.842092I$ $b = -0.162565 - 0.997622I$	$0.341123 + 0.738385I$	0
$u = 0.995306 - 0.678343I$ $a = -0.970035 - 0.842092I$ $b = -0.162565 + 0.997622I$	$0.341123 - 0.738385I$	0
$u = -0.774421 + 0.173860I$ $a = 3.13794 - 0.96170I$ $b = 0.98785 - 1.51125I$	$-8.17554 + 2.22695I$	$9.24303 - 9.12785I$
$u = -0.774421 - 0.173860I$ $a = 3.13794 + 0.96170I$ $b = 0.98785 + 1.51125I$	$-8.17554 - 2.22695I$	$9.24303 + 9.12785I$
$u = 1.173100 + 0.323813I$ $a = -0.069861 + 0.731728I$ $b = -0.188044 + 0.802950I$	$0.858771 - 0.851004I$	0
$u = 1.173100 - 0.323813I$ $a = -0.069861 - 0.731728I$ $b = -0.188044 - 0.802950I$	$0.858771 + 0.851004I$	0
$u = -0.109710 + 1.269750I$ $a = 0.075332 + 0.558562I$ $b = 0.206772 - 1.216090I$	$-10.67190 + 1.00730I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.109710-1.269750I$ $a=\ \ 0.075332-0.558562I$ $b=\ \ 0.206772+1.216090I$	$-10.67190-1.00730I$	0
$u=-1.160280+0.569290I$ $a=-1.83161+0.09277I$ $b=-0.462809+1.176410I$	$-1.13517-9.04893I$	0
$u=-1.160280-0.569290I$ $a=-1.83161-0.09277I$ $b=-0.462809-1.176410I$	$-1.13517+9.04893I$	0
$u=\ \ 1.243150+0.406209I$ $a=-1.302040+0.124095I$ $b=-0.874556-0.958317I$	$3.04009+3.47459I$	0
$u=\ \ 1.243150-0.406209I$ $a=-1.302040-0.124095I$ $b=-0.874556+0.958317I$	$3.04009-3.47459I$	0
$u=-0.308880+0.582581I$ $a=-0.810024-0.543350I$ $b=-0.639549+0.168643I$	$-0.618085+0.366189I$	$3.54182-0.00112I$
$u=-0.308880-0.582581I$ $a=-0.810024+0.543350I$ $b=-0.639549-0.168643I$	$-0.618085-0.366189I$	$3.54182+0.00112I$
$u=-1.256810+0.593453I$ $a=-0.991896-0.422756I$ $b=-1.028950+0.423412I$	$1.78377-5.63034I$	0
$u=-1.256810-0.593453I$ $a=-0.991896+0.422756I$ $b=-1.028950-0.423412I$	$1.78377+5.63034I$	0
$u=-1.32738+0.52407I$ $a=\ \ 1.062350-0.380731I$ $b=\ \ 0.491278-0.982868I$	$-4.96649-9.85576I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.32738-0.52407I$ $a=\ \ 1.062350+0.380731I$ $b=\ \ 0.491278+0.982868I$	$-4.96649+9.85576I$	0
$u=-0.561994+0.029803I$ $a=\ \ 3.27360+0.53544I$ $b=\ \ 0.384731-1.292170I$	$-9.38890-7.70197I$	$-2.24879+5.73769I$
$u=-0.561994-0.029803I$ $a=\ \ 3.27360-0.53544I$ $b=\ \ 0.384731+1.292170I$	$-9.38890+7.70197I$	$-2.24879-5.73769I$
$u=-0.314756+0.254189I$ $a=-2.60345-1.73640I$ $b=-0.274771+1.366580I$	$-5.65730-3.00951I$	$-0.73274+2.44772I$
$u=-0.314756-0.254189I$ $a=-2.60345+1.73640I$ $b=-0.274771-1.366580I$	$-5.65730+3.00951I$	$-0.73274-2.44772I$
$u=-0.36357+1.60215I$ $a=-0.053977-0.188346I$ $b=\ \ 0.234713+0.881288I$	$-9.33829+2.86115I$	0
$u=-0.36357-1.60215I$ $a=-0.053977+0.188346I$ $b=\ \ 0.234713-0.881288I$	$-9.33829-2.86115I$	0

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

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} u+1 \\ 0 \end{pmatrix}$$

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

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

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

$$a_7 = \begin{pmatrix} -u \\ u^2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.877439+0.744862I$ $a=0.122561+0.744862I$ $b=0$	0	$4.20216+0.37970I$
$u=-0.877439-0.744862I$ $a=0.122561-0.744862I$ $b=0$	0	$4.20216-0.37970I$
$u=0.754878$ $a=1.75488$ $b=0$	0	-1.40430

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u =$ 1.00000		
$a =$ 1.00000	0	0
$b =$ 0		

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u^3-u^2+2u-1)(u^{37}-4u^{36}+\cdots+7u-1)$ $\cdot(u^{153}-12u^{152}+\cdots-56332u+7874)$
c_2	$((u-1)^4)(u^{37}-13u^{35}+\cdots+2u-1)$ $\cdot(u^{153}+9u^{152}+\cdots-508434u-176401)$
c_3	$(u+1)(u^3-u^2+1)(u^{37}-12u^{35}+\cdots+3u+1)$ $\cdot(u^{153}-3u^{152}+\cdots+28708u-3617)$
c_4	$(u+1)(u^3-u^2+1)(u^{37}-4u^{36}+\cdots-8u+1)$ $\cdot(u^{153}+3u^{152}+\cdots-5927u-2789)$
c_5	$((u+1)^4)(u^{37}-13u^{35}+\cdots+2u+1)$ $\cdot(u^{153}+9u^{152}+\cdots-508434u-176401)$
c_6	$(u+1)(u^3+u^2+2u+1)(u^{37}+7u^{35}+\cdots+11u^2+1)$ $\cdot(u^{153}-7u^{152}+\cdots-4234131617u-264250321)$
c_7	$((u+1)^4)(u^{37}+2u^{36}+\cdots-28u+4)(u^{153}+3u^{152}+\cdots+1096u-428)$
c_8	$(u-1)(u^3+u^2-1)(u^{37}+4u^{36}+\cdots-8u-1)$ $\cdot(u^{153}+3u^{152}+\cdots-5927u-2789)$
c_9	$u^4(u^{37}+3u^{36}+\cdots+51u-23)(u^{153}+10u^{152}+\cdots+6400u-2432)$
c_{10}	$(u-1)(u^3+u^2-1)(u^{37}-12u^{35}+\cdots+3u-1)$ $\cdot(u^{153}-3u^{152}+\cdots+28708u-3617)$
c_{11}	$((u-1)^4)(u^{37}+4u^{36}+\cdots-10u-1)$ $\cdot(u^{153}+15u^{152}+\cdots+331308u-100816)$
c_{12}	$u^4(u^{37}-3u^{36}+\cdots+51u+23)(u^{153}+10u^{152}+\cdots+6400u-2432)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y(y^3+3y^2+2y-1)(y^{37}+8y^{36}+\cdots-9y-1)$ $\cdot(y^{153}+20y^{152}+\cdots+105095636y-61999876)$
c_2, c_5	$((y-1)^4)(y^{37}-26y^{36}+\cdots-6y-1)$ $\cdot(y^{153}-193y^{152}+\cdots+755521653094y-31117312801)$
c_3, c_{10}	$(y-1)(y^3-y^2+2y-1)(y^{37}-24y^{36}+\cdots+11y-1)$ $\cdot(y^{153}-105y^{152}+\cdots+1173688910y-13082689)$
c_4, c_8	$(y-1)(y^3-y^2+2y-1)(y^{37}-14y^{36}+\cdots+20y-1)$ $\cdot(y^{153}-75y^{152}+\cdots+149372347y-7778521)$
c_6	$(y-1)(y^3+3y^2+2y-1)(y^{37}+14y^{36}+\cdots-22y-1)$ $\cdot(y^{153}+77y^{152}+\cdots+1847642535511061561y-69828232148603041)$
c_7	$((y-1)^4)(y^{37}+12y^{36}+\cdots+48y-16)$ $\cdot(y^{153}-75y^{152}+\cdots+8936032y-183184)$
c_9, c_{12}	$y^4(y^{37}+37y^{36}+\cdots+32087y-529)$ $\cdot(y^{153}+118y^{152}+\cdots+647831552y-5914624)$
c_{11}	$((y-1)^4)(y^{37}+16y^{36}+\cdots+6y-1)$ $\cdot(y^{153}-35y^{152}+\cdots+290394396848y-10163865856)$