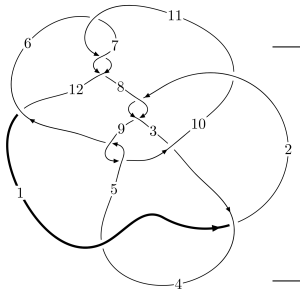
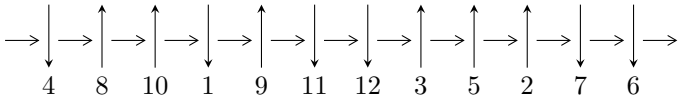
$12a_{1150}$ $(K12a_{1150})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -4.18666 \times 10^{494} u^{127} + 2.74078 \times 10^{495} u^{126} + \cdots + 1.23879 \times 10^{495} b + 3.23336 \times 10^{498},$$
$$1.00423 \times 10^{498} u^{127} - 1.10804 \times 10^{498} u^{126} + \cdots + 3.70768 \times 10^{498} a + 1.56668 \times 10^{502},$$
$$u^{128} - 5u^{127} + \cdots - 37733u + 2993 \rangle$$
$$I_2^u = \langle -91u^{29} - 497u^{28} + \cdots + b + 50,\ -70u^{29} - 382u^{28} + \cdots + a + 55,\ u^{30} + 6u^{29} + \cdots + 6u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 158 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. $\boldsymbol{I_1^u = \langle -4.19 \times 10^{494} u^{127} + 2.74 \times 10^{495} u^{126} + \cdots + 1.24 \times 10^{495} b + 3.23 \times 10^{498},\ 1.00 \times 10^{498} u^{127} - 1.11 \times 10^{498} u^{126} + \cdots + 3.71 \times 10^{498} a + 1.57 \times 10^{502},\ u^{128} - 5u^{127} + \cdots - 37733u + 2993 \rangle}$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.270850u^{127} + 0.298849u^{126} + \cdots + 50757.1u - 4225.51 \\ 0.337965u^{127} - 2.21247u^{126} + \cdots + 33868.8u - 2610.11 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.384978u^{127} + 1.44361u^{126} + \cdots + 19097.1u - 1722.59 \\ 0.324551u^{127} - 2.32033u^{126} + \cdots + 43523.8u - 3394.67 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0501633u^{127} - 0.309816u^{126} + \cdots + 817.493u - 38.3816 \\ -0.716970u^{127} + 3.31831u^{126} + \cdots + 3376.46u - 487.291 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.608816u^{127} + 2.51132u^{126} + \cdots + 16888.3u - 1615.40 \\ 0.337965u^{127} - 2.21247u^{126} + \cdots + 33868.8u - 2610.11 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.600314u^{127} + 2.76359u^{126} + \cdots + 4022.01u - 506.130 \\ 0.686853u^{127} - 3.07003u^{126} + \cdots - 7881.20u + 865.155 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.649052u^{127} + 2.99315u^{126} + \cdots + 3309.65u - 514.316 \\ 0.573111u^{127} - 3.23839u^{126} + \cdots + 25753.4u - 1897.48 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.569116u^{127} - 2.75613u^{126} + \cdots + 8486.27u - 524.923 \\ -0.629164u^{127} + 3.75298u^{126} + \cdots - 38783.8u + 2966.12 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.878184u^{127} + 4.15605u^{126} + \cdots - 2864.11u - 4.06930 \\ 0.780784u^{127} - 4.23061u^{126} + \cdots + 24973.4u - 1806.56 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.12057u^{127} - 22.6616u^{126} + \cdots + 152682.u - 11111.6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{128} - 5u^{127} + \cdots - 37733u + 2993$
c_2, c_8	$u^{128} - u^{127} + \cdots - 2402u + 1871$
c_3	$u^{128} + u^{127} + \cdots + 84348u + 15303$
c_5, c_9	$u^{128} - 3u^{127} + \cdots - 955u + 179$
c_6, c_7, c_{11}	$u^{128} - u^{127} + \cdots - 937u + 143$
c_{10}	$u^{128} - 3u^{127} + \cdots - 39993003u + 7355933$
c_{12}	$u^{128} + 3u^{127} + \cdots - 26436489u + 2658513$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{128} + 75y^{127} + \cdots + 244890043y + 8958049$
c_2, c_8	$y^{128} - 81y^{127} + \cdots - 72261202y + 3500641$
c_3	$y^{128} - 19y^{127} + \cdots - 4223297496y + 234181809$
c_5, c_9	$y^{128} + 73y^{127} + \cdots + 2549835y + 32041$
c_6, c_7, c_{11}	$y^{128} - 113y^{127} + \cdots + 182233y + 20449$
c_{10}	$y^{128} - 45y^{127} + \cdots - 1476176757846483y + 54109750300489$
c_{12}	$y^{128} + 51y^{127} + \cdots - 67685477032551y + 7067691371169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.423354 + 0.902893I$ $a = -1.39619 - 1.02441I$ $b = -0.324360 + 0.161030I$	$4.94577 - 2.91555I$	0
$u = 0.423354 - 0.902893I$ $a = -1.39619 + 1.02441I$ $b = -0.324360 - 0.161030I$	$4.94577 + 2.91555I$	0
$u = -0.470432 + 0.860380I$ $a = -2.28098 + 0.02782I$ $b = -1.01766 - 1.07293I$	$-2.74363 + 8.62780I$	0
$u = -0.470432 - 0.860380I$ $a = -2.28098 - 0.02782I$ $b = -1.01766 + 1.07293I$	$-2.74363 - 8.62780I$	0
$u = 0.269356 + 0.934960I$ $a = -1.67062 + 0.12646I$ $b = -0.623816 + 1.131530I$	$0.52021 - 3.03294I$	0
$u = 0.269356 - 0.934960I$ $a = -1.67062 - 0.12646I$ $b = -0.623816 - 1.131530I$	$0.52021 + 3.03294I$	0
$u = 0.332825 + 0.907786I$ $a = 1.89264 - 0.14341I$ $b = 0.67875 - 1.40723I$	$-5.27226 - 6.09872I$	0
$u = 0.332825 - 0.907786I$ $a = 1.89264 + 0.14341I$ $b = 0.67875 + 1.40723I$	$-5.27226 + 6.09872I$	0
$u = -0.153513 + 0.953315I$ $a = 0.464942 - 0.477788I$ $b = 0.46739 - 1.60953I$	$-3.94532 + 0.22982I$	0
$u = -0.153513 - 0.953315I$ $a = 0.464942 + 0.477788I$ $b = 0.46739 + 1.60953I$	$-3.94532 - 0.22982I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.039560 + 0.050533I$ $a = -0.310651 - 0.248253I$ $b = -0.421096 + 1.086510I$	$-0.38641 - 3.63335I$	0
$u = 1.039560 - 0.050533I$ $a = -0.310651 + 0.248253I$ $b = -0.421096 - 1.086510I$	$-0.38641 + 3.63335I$	0
$u = -0.192728 + 1.025270I$ $a = -1.39190 + 1.46602I$ $b = -0.307475 - 1.120000I$	$-0.13297 + 7.89186I$	0
$u = -0.192728 - 1.025270I$ $a = -1.39190 - 1.46602I$ $b = -0.307475 + 1.120000I$	$-0.13297 - 7.89186I$	0
$u = -0.915669 + 0.273360I$ $a = 0.139300 + 0.340268I$ $b = 0.033842 - 1.028560I$	$-3.38727 + 0.73845I$	0
$u = -0.915669 - 0.273360I$ $a = 0.139300 - 0.340268I$ $b = 0.033842 + 1.028560I$	$-3.38727 - 0.73845I$	0
$u = 0.073999 + 0.950161I$ $a = -2.42086 - 0.59686I$ $b = -0.274415 - 0.563450I$	$4.87783 - 2.63292I$	0
$u = 0.073999 - 0.950161I$ $a = -2.42086 + 0.59686I$ $b = -0.274415 + 0.563450I$	$4.87783 + 2.63292I$	0
$u = 0.198301 + 0.932064I$ $a = 0.763066 - 0.271450I$ $b = 0.17277 - 1.64237I$	$-5.24560 - 5.34813I$	0
$u = 0.198301 - 0.932064I$ $a = 0.763066 + 0.271450I$ $b = 0.17277 + 1.64237I$	$-5.24560 + 5.34813I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.075277+1.046560I$ $a=\ \ 2.32846-0.90486I$ $b=\ \ 0.333042+0.944205I$	$5.67957+2.84471I$	0
$u=-0.075277-1.046560I$ $a=\ \ 2.32846+0.90486I$ $b=\ \ 0.333042-0.944205I$	$5.67957-2.84471I$	0
$u=-0.473178+0.966880I$ $a=\ \ 1.88834+0.04267I$ $b=\ \ 0.999230+0.980247I$	$2.06874+5.40864I$	0
$u=-0.473178-0.966880I$ $a=\ \ 1.88834-0.04267I$ $b=\ \ 0.999230-0.980247I$	$2.06874-5.40864I$	0
$u=-0.748511+0.514113I$ $a=-0.398608+0.382557I$ $b=\ \ 0.071652+0.186617I$	$-4.60215+2.63504I$	0
$u=-0.748511-0.514113I$ $a=-0.398608-0.382557I$ $b=\ \ 0.071652-0.186617I$	$-4.60215-2.63504I$	0
$u=-0.219229+1.070890I$ $a=-1.41289-0.73386I$ $b=-0.776318-1.002210I$	$1.14984+3.20219I$	0
$u=-0.219229-1.070890I$ $a=-1.41289+0.73386I$ $b=-0.776318+1.002210I$	$1.14984-3.20219I$	0
$u=-0.938054+0.581548I$ $a=-0.022995-0.530499I$ $b=-0.093052+1.204950I$	$-8.71597+1.94076I$	0
$u=-0.938054-0.581548I$ $a=-0.022995+0.530499I$ $b=-0.093052-1.204950I$	$-8.71597-1.94076I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.545180+0.707470I$ $a=-0.146995+0.611732I$ $b=-0.67536+1.29878I$	$-3.18002-4.47787I$	0
$u=-0.545180-0.707470I$ $a=-0.146995-0.611732I$ $b=-0.67536-1.29878I$	$-3.18002+4.47787I$	0
$u=0.791849+0.778586I$ $a=0.729297+1.009260I$ $b=-0.121777-0.665758I$	$1.77742-0.84102I$	0
$u=0.791849-0.778586I$ $a=0.729297-1.009260I$ $b=-0.121777+0.665758I$	$1.77742+0.84102I$	0
$u=-0.146701+0.875530I$ $a=1.82038+1.46602I$ $b=0.778709+1.143600I$	$-4.18946+1.21239I$	0
$u=-0.146701-0.875530I$ $a=1.82038-1.46602I$ $b=0.778709-1.143600I$	$-4.18946-1.21239I$	0
$u=0.039449+0.861072I$ $a=-0.672246+0.474979I$ $b=-0.29952+1.56926I$	$-0.39829-2.34817I$	0
$u=0.039449-0.861072I$ $a=-0.672246-0.474979I$ $b=-0.29952-1.56926I$	$-0.39829+2.34817I$	0
$u=0.125197+0.843825I$ $a=1.41138-0.40601I$ $b=0.314913-0.865753I$	$0.113590+0.590861I$	0
$u=0.125197-0.843825I$ $a=1.41138+0.40601I$ $b=0.314913+0.865753I$	$0.113590-0.590861I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.381458 + 0.761500I$ $a = -1.069820 + 0.915367I$ $b = 0.17656 + 1.45583I$	$-5.72841 + 2.99182I$	0
$u = 0.381458 - 0.761500I$ $a = -1.069820 - 0.915367I$ $b = 0.17656 - 1.45583I$	$-5.72841 - 2.99182I$	0
$u = -0.775718 + 0.320411I$ $a = 0.144068 + 0.523487I$ $b = -0.585538 + 0.904972I$	$-3.35095 + 2.24467I$	0
$u = -0.775718 - 0.320411I$ $a = 0.144068 - 0.523487I$ $b = -0.585538 - 0.904972I$	$-3.35095 - 2.24467I$	0
$u = 1.156770 + 0.107470I$ $a = 0.182059 - 0.265880I$ $b = 0.529516 + 1.118880I$	$2.16947 + 7.95562I$	0
$u = 1.156770 - 0.107470I$ $a = 0.182059 + 0.265880I$ $b = 0.529516 - 1.118880I$	$2.16947 - 7.95562I$	0
$u = 0.817865 + 0.157574I$ $a = 0.061112 + 1.005170I$ $b = -0.794327 - 0.308821I$	$-0.25545 - 6.89438I$	0
$u = 0.817865 - 0.157574I$ $a = 0.061112 - 1.005170I$ $b = -0.794327 + 0.308821I$	$-0.25545 + 6.89438I$	0
$u = 0.435891 + 1.086600I$ $a = 1.44473 + 0.69295I$ $b = 1.145620 - 0.288410I$	$-0.69495 - 3.59503I$	0
$u = 0.435891 - 1.086600I$ $a = 1.44473 - 0.69295I$ $b = 1.145620 + 0.288410I$	$-0.69495 + 3.59503I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.438944 + 0.683700I$ $a = 0.842488 - 0.603146I$ $b = -0.014221 - 1.266580I$	$-0.0338986 + 0.1035340I$	0
$u = 0.438944 - 0.683700I$ $a = 0.842488 + 0.603146I$ $b = -0.014221 + 1.266580I$	$-0.0338986 - 0.1035340I$	0
$u = 0.429309 + 1.134560I$ $a = 2.07058 - 0.20797I$ $b = 0.426216 - 1.267090I$	$-5.53270 - 8.26272I$	0
$u = 0.429309 - 1.134560I$ $a = 2.07058 + 0.20797I$ $b = 0.426216 + 1.267090I$	$-5.53270 + 8.26272I$	0
$u = 1.196870 + 0.209781I$ $a = -0.120996 + 0.274123I$ $b = -0.586193 - 1.161350I$	$-2.78042 + 12.11600I$	0
$u = 1.196870 - 0.209781I$ $a = -0.120996 - 0.274123I$ $b = -0.586193 + 1.161350I$	$-2.78042 - 12.11600I$	0
$u = -0.548550 + 1.087530I$ $a = -1.52557 + 0.11719I$ $b = -1.062690 - 0.818162I$	$-1.13485 + 2.66609I$	0
$u = -0.548550 - 1.087530I$ $a = -1.52557 - 0.11719I$ $b = -1.062690 + 0.818162I$	$-1.13485 - 2.66609I$	0
$u = 0.675623 + 0.370526I$ $a = 0.024879 - 0.788771I$ $b = 0.340779 + 1.331790I$	$-7.93751 + 4.01591I$	0
$u = 0.675623 - 0.370526I$ $a = 0.024879 + 0.788771I$ $b = 0.340779 - 1.331790I$	$-7.93751 - 4.01591I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.254648 + 0.720694I$ $a = -1.74942 + 0.83229I$ $b = 0.020300 + 1.144070I$	$-5.68013 + 3.12898I$	0
$u = 0.254648 - 0.720694I$ $a = -1.74942 - 0.83229I$ $b = 0.020300 - 1.144070I$	$-5.68013 - 3.12898I$	0
$u = -0.590268 + 0.478730I$ $a = -0.031022 - 0.681384I$ $b = 0.587078 - 1.128660I$	$0.705326 - 1.170080I$	0
$u = -0.590268 - 0.478730I$ $a = -0.031022 + 0.681384I$ $b = 0.587078 + 1.128660I$	$0.705326 + 1.170080I$	0
$u = -0.588385 + 1.101620I$ $a = -1.58219 - 0.03166I$ $b = -0.240364 - 1.082140I$	$-6.90568 + 3.64139I$	0
$u = -0.588385 - 1.101620I$ $a = -1.58219 + 0.03166I$ $b = -0.240364 + 1.082140I$	$-6.90568 - 3.64139I$	0
$u = 0.303713 + 1.215440I$ $a = -1.39167 - 0.45088I$ $b = -1.044330 - 0.454714I$	$6.29803 - 2.92255I$	0
$u = 0.303713 - 1.215440I$ $a = -1.39167 + 0.45088I$ $b = -1.044330 + 0.454714I$	$6.29803 + 2.92255I$	0
$u = -0.121115 + 1.280280I$ $a = 1.051200 - 0.054909I$ $b = 0.887799 - 0.407011I$	$1.35345 - 1.06976I$	0
$u = -0.121115 - 1.280280I$ $a = 1.051200 + 0.054909I$ $b = 0.887799 + 0.407011I$	$1.35345 + 1.06976I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.095327+0.706839I$ $a=\ \ 3.29028+1.23932I$ $b=-0.155225+0.611571I$	$-1.30741-6.25513I$	0
$u=-0.095327-0.706839I$ $a=\ \ 3.29028-1.23932I$ $b=-0.155225-0.611571I$	$-1.30741+6.25513I$	0
$u=\ \ 0.667779+0.225418I$ $a=\ \ 0.104680-1.227050I$ $b=\ \ 0.647149+0.222067I$	$4.63149-3.35773I$	0
$u=\ \ 0.667779-0.225418I$ $a=\ \ 0.104680+1.227050I$ $b=\ \ 0.647149-0.222067I$	$4.63149+3.35773I$	0
$u=\ \ 0.194459+1.281650I$ $a=-1.63007+1.22146I$ $b=-0.382864+0.960220I$	$3.65455-5.91414I$	0
$u=\ \ 0.194459-1.281650I$ $a=-1.63007-1.22146I$ $b=-0.382864-0.960220I$	$3.65455+5.91414I$	0
$u=\ \ 0.379039+1.252740I$ $a=\ \ 1.271800+0.516126I$ $b=\ \ 1.249390+0.422652I$	$8.82873-7.18518I$	0
$u=\ \ 0.379039-1.252740I$ $a=\ \ 1.271800-0.516126I$ $b=\ \ 1.249390-0.422652I$	$8.82873+7.18518I$	0
$u=-0.267487+1.289610I$ $a=-1.025600+0.071613I$ $b=-0.914394+0.173486I$	$4.85246+2.70467I$	0
$u=-0.267487-1.289610I$ $a=-1.025600-0.071613I$ $b=-0.914394-0.173486I$	$4.85246-2.70467I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.024371+1.321040I$ $a=\ \ 0.46778-1.74210I$ $b=\ \ 0.252389-0.764683I$	$6.40555+0.15850I$	0
$u=-0.024371-1.321040I$ $a=\ \ 0.46778+1.74210I$ $b=\ \ 0.252389+0.764683I$	$6.40555-0.15850I$	0
$u=\ \ 0.429341+1.259990I$ $a=-1.215920-0.570991I$ $b=-1.36842-0.38754I$	$3.86166-11.26440I$	0
$u=\ \ 0.429341-1.259990I$ $a=-1.215920+0.570991I$ $b=-1.36842+0.38754I$	$3.86166+11.26440I$	0
$u=-0.502319+1.244240I$ $a=\ \ 1.269080+0.158183I$ $b=\ \ 0.525525+0.964652I$	$-0.23134+4.44224I$	0
$u=-0.502319-1.244240I$ $a=\ \ 1.269080-0.158183I$ $b=\ \ 0.525525-0.964652I$	$-0.23134-4.44224I$	0
$u=-1.307740+0.337807I$ $a=\ \ 0.034811-0.339470I$ $b=-0.320421+0.905853I$	$-1.68224-1.34484I$	0
$u=-1.307740-0.337807I$ $a=\ \ 0.034811+0.339470I$ $b=-0.320421-0.905853I$	$-1.68224+1.34484I$	0
$u=-0.373635+1.309580I$ $a=\ \ 1.042210-0.076280I$ $b=\ \ 0.988623+0.033998I$	$0.67345+6.50937I$	0
$u=-0.373635-1.309580I$ $a=\ \ 1.042210+0.076280I$ $b=\ \ 0.988623-0.033998I$	$0.67345-6.50937I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.582815 + 0.223681I$ $a = -0.920612 - 0.215948I$ $b = -0.239613 + 1.177980I$	$-1.11989 - 3.34116I$	0
$u = 0.582815 - 0.223681I$ $a = -0.920612 + 0.215948I$ $b = -0.239613 - 1.177980I$	$-1.11989 + 3.34116I$	0
$u = -0.246611 + 1.356420I$ $a = 0.385584 + 1.135380I$ $b = -0.116625 + 0.594161I$	$1.97184 + 5.63065I$	0
$u = -0.246611 - 1.356420I$ $a = 0.385584 - 1.135380I$ $b = -0.116625 - 0.594161I$	$1.97184 - 5.63065I$	0
$u = 0.666562 + 1.212220I$ $a = 0.953218 + 0.568200I$ $b = 0.516916 - 0.935423I$	$6.89732 - 1.99617I$	0
$u = 0.666562 - 1.212220I$ $a = 0.953218 - 0.568200I$ $b = 0.516916 + 0.935423I$	$6.89732 + 1.99617I$	0
$u = -1.318670 + 0.446959I$ $a = -0.054259 + 0.363498I$ $b = 0.387689 - 1.019090I$	$-6.27448 - 4.79291I$	0
$u = -1.318670 - 0.446959I$ $a = -0.054259 - 0.363498I$ $b = 0.387689 + 1.019090I$	$-6.27448 + 4.79291I$	0
$u = 0.777759 + 1.168700I$ $a = -0.861089 - 0.628995I$ $b = -0.356819 + 0.999999I$	$2.97089 - 5.41302I$	0
$u = 0.777759 - 1.168700I$ $a = -0.861089 + 0.628995I$ $b = -0.356819 - 0.999999I$	$2.97089 + 5.41302I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.390120+0.210059I$ $a=-0.036535+0.297951I$ $b=\ \ 0.267493-0.696940I$	$-5.00338+1.79716I$	0
$u=-1.390120-0.210059I$ $a=-0.036535-0.297951I$ $b=\ \ 0.267493+0.696940I$	$-5.00338-1.79716I$	0
$u=\ \ 0.576758+1.285830I$ $a=-0.998102-0.463798I$ $b=-0.673268+0.941963I$	$2.88329+1.50919I$	0
$u=\ \ 0.576758-1.285830I$ $a=-0.998102+0.463798I$ $b=-0.673268-0.941963I$	$2.88329-1.50919I$	0
$u=-0.45013+1.34922I$ $a=\ \ 1.131640+0.165026I$ $b=\ \ 0.682783+1.014900I$	$-0.39658+4.48309I$	0
$u=-0.45013-1.34922I$ $a=\ \ 1.131640-0.165026I$ $b=\ \ 0.682783-1.014900I$	$-0.39658-4.48309I$	0
$u=\ \ 0.50896+1.32969I$ $a=-1.55941+0.19995I$ $b=-0.659551+1.201960I$	$3.85059-9.04957I$	0
$u=\ \ 0.50896-1.32969I$ $a=-1.55941-0.19995I$ $b=-0.659551-1.201960I$	$3.85059+9.04957I$	0
$u=\ \ 0.58471+1.34056I$ $a=\ \ 1.50888-0.06372I$ $b=\ \ 0.72372-1.26671I$	$6.0642-14.0681I$	0
$u=\ \ 0.58471-1.34056I$ $a=\ \ 1.50888+0.06372I$ $b=\ \ 0.72372+1.26671I$	$6.0642+14.0681I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.63416 + 1.32634I$ $a = -1.50810 - 0.02469I$ $b = -0.74389 + 1.32454I$	$0.7740 - 18.5422I$	0
$u = \quad 0.63416 - 1.32634I$ $a = -1.50810 + 0.02469I$ $b = -0.74389 - 1.32454I$	$0.7740 + 18.5422I$	0
$u = \quad 0.502535 + 0.156954I$ $a = -0.515389 + 0.527646I$ $b = \quad 0.755712 + 0.145258I$	$-3.26948 - 0.11627I$	0
$u = \quad 0.502535 - 0.156954I$ $a = -0.515389 - 0.527646I$ $b = \quad 0.755712 - 0.145258I$	$-3.26948 + 0.11627I$	0
$u = -0.62510 + 1.34114I$ $a = -1.185310 + 0.022749I$ $b = -0.578983 - 1.192310I$	$1.86885 + 8.06224I$	0
$u = -0.62510 - 1.34114I$ $a = -1.185310 - 0.022749I$ $b = -0.578983 + 1.192310I$	$1.86885 - 8.06224I$	0
$u = -0.69366 + 1.33451I$ $a = \quad 1.190500 - 0.099997I$ $b = \quad 0.548531 + 1.274220I$	$-3.14054 + 11.88380I$	0
$u = -0.69366 - 1.33451I$ $a = \quad 1.190500 + 0.099997I$ $b = \quad 0.548531 - 1.274220I$	$-3.14054 - 11.88380I$	0
$u = \quad 0.50877 + 1.43094I$ $a = -0.193554 - 0.423536I$ $b = -0.388233 - 0.704916I$	$3.90743 - 2.25656I$	0
$u = \quad 0.50877 - 1.43094I$ $a = -0.193554 + 0.423536I$ $b = -0.388233 + 0.704916I$	$3.90743 + 2.25656I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.480083 + 0.013636I$ $a = -1.365300 + 0.151956I$ $b = -0.663750 - 0.006370I$	$2.52359 - 0.00082I$	$3.29186 + 0.I$
$u = 0.480083 - 0.013636I$ $a = -1.365300 - 0.151956I$ $b = -0.663750 + 0.006370I$	$2.52359 + 0.00082I$	$3.29186 + 0.I$
$u = 0.35636 + 1.50928I$ $a = 0.333478 + 0.402454I$ $b = 0.506094 + 0.686857I$	$7.67386 + 2.19286I$	0
$u = 0.35636 - 1.50928I$ $a = 0.333478 - 0.402454I$ $b = 0.506094 - 0.686857I$	$7.67386 - 2.19286I$	0
$u = 0.21307 + 1.55318I$ $a = -0.464465 - 0.372127I$ $b = -0.619283 - 0.694054I$	$3.60287 + 6.55929I$	0
$u = 0.21307 - 1.55318I$ $a = -0.464465 + 0.372127I$ $b = -0.619283 + 0.694054I$	$3.60287 - 6.55929I$	0
$u = -0.150462 + 0.345676I$ $a = 0.820513 - 0.930269I$ $b = -0.072329 - 0.354993I$	$0.038578 + 0.880167I$	$0.95764 - 7.56234I$
$u = -0.150462 - 0.345676I$ $a = 0.820513 + 0.930269I$ $b = -0.072329 + 0.354993I$	$0.038578 - 0.880167I$	$0.95764 + 7.56234I$

II. $I_2^u = \langle -91u^{29} - 497u^{28} + \cdots + b + 50,\ -70u^{29} - 382u^{28} + \cdots + a + 55,\ u^{30} + 6u^{29} + \cdots + 6u + 1 \rangle$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 70u^{29} + 382u^{28} + \cdots - 155u - 55 \\ 91u^{29} + 497u^{28} + \cdots - 73u - 50 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 23u^{29} + 142u^{28} + \cdots + 88u + 8 \\ 127u^{29} + 695u^{28} + \cdots - 111u - 71 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 7u^{29} + 46u^{28} + \cdots + 83u + 10 \\ -u^{28} - 6u^{27} + \cdots - 6u - 2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -21u^{29} - 115u^{28} + \cdots - 82u - 5 \\ 91u^{29} + 497u^{28} + \cdots - 73u - 50 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -9u^{29} - 50u^{28} + \cdots + 14u + 12 \\ u^{27} + 5u^{26} + \cdots + 21u + 6 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 6u^{29} + 62u^{28} + \cdots + 292u + 49 \\ 96u^{29} + 574u^{28} + \cdots + 544u + 63 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 66u^{29} + 377u^{28} + \cdots + 297u + 24 \\ 6u^{29} + 27u^{28} + \cdots - 10u - 15 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 7u^{29} + 6u^{28} + \cdots - 378u - 70 \\ -25u^{29} - 175u^{28} + \cdots - 577u - 103 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -89u^{29} - 478u^{28} - 1856u^{27} - 5566u^{26} - 13825u^{25} - 30077u^{24} - 57891u^{23} - 100858u^{22} - 160626u^{21} - 235206u^{20} - 319830u^{19} - 404362u^{18} - 477852u^{17} - 528974u^{16} - 547958u^{15} - 532250u^{14} - 482550u^{13} - 407418u^{12} - 319239u^{11} - 229672u^{10} - 151087u^9 - 89184u^8 - 46261u^7 - 20641u^6 - 7161u^5 - 1616u^4 + 84u^3 + 330u^2 + 135u + 46$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 6u^{29} + \cdots - 6u + 1$
c_2	$u^{30} - 9u^{28} + \cdots - u + 1$
c_3	$u^{30} + 8u^{27} + \cdots + u + 1$
c_4	$u^{30} + 6u^{29} + \cdots + 6u + 1$
c_5	$u^{30} - 2u^{29} + \cdots + 13u^2 + 1$
c_6, c_7	$u^{30} - 15u^{28} + \cdots - 4u + 1$
c_8	$u^{30} - 9u^{28} + \cdots + u + 1$
c_9	$u^{30} + 2u^{29} + \cdots + 13u^2 + 1$
c_{10}	$u^{30} - 4u^{29} + \cdots - 8u^2 + 1$
c_{11}	$u^{30} - 15u^{28} + \cdots + 4u + 1$
c_{12}	$u^{30} + 5u^{28} + \cdots + 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{30} + 14y^{29} + \cdots + 18y + 1$
c_2, c_8	$y^{30} - 18y^{29} + \cdots - 15y + 1$
c_3	$y^{30} - 32y^{27} + \cdots + 27y + 1$
c_5, c_9	$y^{30} + 24y^{29} + \cdots + 26y + 1$
c_6, c_7, c_{11}	$y^{30} - 30y^{29} + \cdots + 12y + 1$
c_{10}	$y^{30} - 6y^{29} + \cdots - 16y + 1$
c_{12}	$y^{30} + 10y^{29} + \cdots + 8y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.378258 + 0.883373I$ $a = 1.95966 + 1.13437I$ $b = 0.320797 - 0.708719I$	$4.47639 - 3.54899I$	$1.44810 + 9.20793I$
$u = 0.378258 - 0.883373I$ $a = 1.95966 - 1.13437I$ $b = 0.320797 + 0.708719I$	$4.47639 + 3.54899I$	$1.44810 - 9.20793I$
$u = -1.025390 + 0.192437I$ $a = 0.312559 - 0.328200I$ $b = -0.187470 + 0.956226I$	$-2.12848 - 0.76173I$	$-1.90714 - 0.73496I$
$u = -1.025390 - 0.192437I$ $a = 0.312559 + 0.328200I$ $b = -0.187470 - 0.956226I$	$-2.12848 + 0.76173I$	$-1.90714 + 0.73496I$
$u = 0.684928 + 0.810211I$ $a = -0.70485 - 1.28589I$ $b = -0.392226 + 0.482949I$	$2.24688 - 1.53568I$	$3.00308 + 5.38194I$
$u = 0.684928 - 0.810211I$ $a = -0.70485 + 1.28589I$ $b = -0.392226 - 0.482949I$	$2.24688 + 1.53568I$	$3.00308 - 5.38194I$
$u = -0.339986 + 1.009810I$ $a = 2.01244 + 0.31701I$ $b = 0.71084 + 1.34611I$	$-4.76836 + 6.54683I$	$1.93977 - 7.54432I$
$u = -0.339986 - 1.009810I$ $a = 2.01244 - 0.31701I$ $b = 0.71084 - 1.34611I$	$-4.76836 - 6.54683I$	$1.93977 + 7.54432I$
$u = -0.846739 + 0.194866I$ $a = -0.641699 + 0.639981I$ $b = 0.224761 - 1.146510I$	$-6.98574 - 3.64810I$	$-7.08519 + 2.49973I$
$u = -0.846739 - 0.194866I$ $a = -0.641699 - 0.639981I$ $b = 0.224761 + 1.146510I$	$-6.98574 + 3.64810I$	$-7.08519 - 2.49973I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.380248+1.108220I$ $a=-1.57363-0.28723I$ $b=-0.805200-0.974065I$	$1.13084+4.50277I$	$2.70462-6.00137I$
$u=-0.380248-1.108220I$ $a=-1.57363+0.28723I$ $b=-0.805200+0.974065I$	$1.13084-4.50277I$	$2.70462+6.00137I$
$u=-0.485184+1.115980I$ $a=1.329940-0.107632I$ $b=1.051990+0.741038I$	$-2.22066+3.44269I$	$-5.03899-5.12646I$
$u=-0.485184-1.115980I$ $a=1.329940+0.107632I$ $b=1.051990-0.741038I$	$-2.22066-3.44269I$	$-5.03899+5.12646I$
$u=0.230432+0.713808I$ $a=-2.66758-1.73121I$ $b=-0.463737+0.900862I$	$-1.37207-7.19043I$	$-0.94999+7.77330I$
$u=0.230432-0.713808I$ $a=-2.66758+1.73121I$ $b=-0.463737-0.900862I$	$-1.37207+7.19043I$	$-0.94999-7.77330I$
$u=-0.231738+0.705276I$ $a=-0.763634-1.064930I$ $b=0.31971-1.61241I$	$-5.98302-3.79538I$	$-4.56146+5.07261I$
$u=-0.231738-0.705276I$ $a=-0.763634+1.064930I$ $b=0.31971+1.61241I$	$-5.98302+3.79538I$	$-4.56146-5.07261I$
$u=-1.275900+0.259324I$ $a=-0.155221+0.082102I$ $b=0.188351-0.731444I$	$-5.41418+1.87870I$	$-14.01944+0.I$
$u=-1.275900-0.259324I$ $a=-0.155221-0.082102I$ $b=0.188351+0.731444I$	$-5.41418-1.87870I$	$-14.01944+0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.140831 + 1.297010I$ $a = -0.90075 + 1.18730I$ $b = 0.064857 + 0.660110I$	$6.36769 + 1.15674I$	$5.85426 - 4.29393I$
$u = 0.140831 - 1.297010I$ $a = -0.90075 - 1.18730I$ $b = 0.064857 - 0.660110I$	$6.36769 - 1.15674I$	$5.85426 + 4.29393I$
$u = -0.147099 + 0.663454I$ $a = -0.295957 + 1.076260I$ $b = -0.39730 + 1.46494I$	$-0.91352 - 1.91053I$	$-4.53131 - 0.55207I$
$u = -0.147099 - 0.663454I$ $a = -0.295957 - 1.076260I$ $b = -0.39730 - 1.46494I$	$-0.91352 + 1.91053I$	$-4.53131 + 0.55207I$
$u = 0.527748 + 1.219920I$ $a = 1.009070 + 0.156319I$ $b = 0.144065 - 0.526205I$	$3.76825 - 3.71539I$	0
$u = 0.527748 - 1.219920I$ $a = 1.009070 - 0.156319I$ $b = 0.144065 + 0.526205I$	$3.76825 + 3.71539I$	0
$u = -0.128088 + 1.385300I$ $a = -0.302692 - 1.047710I$ $b = -0.298412 - 0.635721I$	$2.00202 + 6.41708I$	0
$u = -0.128088 - 1.385300I$ $a = -0.302692 + 1.047710I$ $b = -0.298412 + 0.635721I$	$2.00202 - 6.41708I$	0
$u = -0.101822 + 0.590546I$ $a = 1.38234 - 1.81774I$ $b = 0.51899 - 1.41882I$	$-5.01044 - 0.32624I$	$-6.82891 + 0.59322I$
$u = -0.101822 - 0.590546I$ $a = 1.38234 + 1.81774I$ $b = 0.51899 + 1.41882I$	$-5.01044 + 0.32624I$	$-6.82891 - 0.59322I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{30}-6u^{29}+\cdots-6u+1)(u^{128}-5u^{127}+\cdots-37733u+2993)$
c_2	$(u^{30}-9u^{28}+\cdots-u+1)(u^{128}-u^{127}+\cdots-2402u+1871)$
c_3	$(u^{30}+8u^{27}+\cdots+u+1)(u^{128}+u^{127}+\cdots+84348u+15303)$
c_4	$(u^{30}+6u^{29}+\cdots+6u+1)(u^{128}-5u^{127}+\cdots-37733u+2993)$
c_5	$(u^{30}-2u^{29}+\cdots+13u^2+1)(u^{128}-3u^{127}+\cdots-955u+179)$
c_6, c_7	$(u^{30}-15u^{28}+\cdots-4u+1)(u^{128}-u^{127}+\cdots-937u+143)$
c_8	$(u^{30}-9u^{28}+\cdots+u+1)(u^{128}-u^{127}+\cdots-2402u+1871)$
c_9	$(u^{30}+2u^{29}+\cdots+13u^2+1)(u^{128}-3u^{127}+\cdots-955u+179)$
c_{10}	$(u^{30}-4u^{29}+\cdots-8u^2+1)$ $\cdot(u^{128}-3u^{127}+\cdots-39993003u+7355933)$
c_{11}	$(u^{30}-15u^{28}+\cdots+4u+1)(u^{128}-u^{127}+\cdots-937u+143)$
c_{12}	$(u^{30}+5u^{28}+\cdots+4u+1)$ $\cdot(u^{128}+3u^{127}+\cdots-26436489u+2658513)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{30}+14y^{29}+\cdots+18y+1)$ $\cdot(y^{128}+75y^{127}+\cdots+244890043y+8958049)$
c_2, c_8	$(y^{30}-18y^{29}+\cdots-15y+1)$ $\cdot(y^{128}-81y^{127}+\cdots-72261202y+3500641)$
c_3	$(y^{30}-32y^{27}+\cdots+27y+1)$ $\cdot(y^{128}-19y^{127}+\cdots-4223297496y+234181809)$
c_5, c_9	$(y^{30}+24y^{29}+\cdots+26y+1)$ $\cdot(y^{128}+73y^{127}+\cdots+2549835y+32041)$
c_6, c_7, c_{11}	$(y^{30}-30y^{29}+\cdots+12y+1)$ $\cdot(y^{128}-113y^{127}+\cdots+182233y+20449)$
c_{10}	$(y^{30}-6y^{29}+\cdots-16y+1)$ $\cdot(y^{128}-45y^{127}+\cdots-1476176757846483y+54109750300489)$
c_{12}	$(y^{30}+10y^{29}+\cdots+8y+1)$ $\cdot(y^{128}+51y^{127}+\cdots-67685477032551y+7067691371169)$