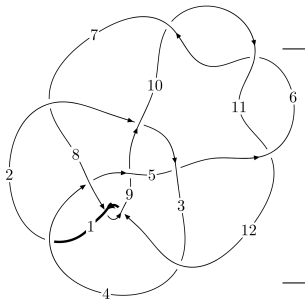
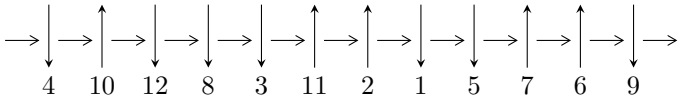
$12a_{1198}$ $(K12a_{1198})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 4.66736 \times 10^{443} u^{144} - 4.79119 \times 10^{444} u^{143} + \cdots + 1.30096 \times 10^{445} b - 6.96891 \times 10^{445},$$
$$7.40283 \times 10^{445} u^{144} - 2.14361 \times 10^{446} u^{143} + \cdots + 1.30096 \times 10^{445} a + 1.08136 \times 10^{447},$$
$$u^{145} - 3u^{144} + \cdots + 30u + 1 \rangle$$

$$I_2^u = \langle 20500548319041 u^{33} - 275174690960662 u^{32} + \cdots + 673397680793441 b - 65230091246849,$$
$$528075704142869 u^{33} + 297599063074788 u^{32} + \cdots + 673397680793441 a + 2532338124697314,$$
$$u^{34} + 18u^{32} + \cdots + 2u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 179 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. $\boldsymbol{I_1^u = \langle 4.67 \times 10^{443} u^{144} - 4.79 \times 10^{444} u^{143} + \cdots + 1.30 \times 10^{445} b - 6.97 \times 10^{445},\ 7.40 \times 10^{445} u^{144} - 2.14 \times 10^{446} u^{143} + \cdots + 1.30 \times 10^{445} a + 1.08 \times 10^{447},\ u^{145} - 3u^{144} + \cdots + 30u + 1 \rangle}$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} -5.69028u^{144} + 16.4771u^{143} + \cdots - 1416.60u - 83.1200 \\ -0.0358763u^{144} + 0.368281u^{143} + \cdots + 115.079u + 5.35674 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -5.48647u^{144} + 15.6291u^{143} + \cdots - 1397.04u - 82.6558 \\ 0.164018u^{144} + 0.220810u^{143} + \cdots + 141.533u + 6.05755 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.97186u^{144} - 6.26110u^{143} + \cdots + 519.259u + 16.7480 \\ 1.02742u^{144} - 2.88351u^{143} + \cdots + 105.297u + 5.45072 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -5.94131u^{144} + 17.0043u^{143} + \cdots - 1432.32u - 83.4530 \\ 0.215160u^{144} - 0.158920u^{143} + \cdots + 130.797u + 5.68982 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 2.01176u^{144} - 6.54341u^{143} + \cdots + 128.662u - 4.11881 \\ 0.344088u^{144} - 1.16477u^{143} + \cdots + 140.826u + 6.88706 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -3.88338u^{144} + 11.9704u^{143} + \cdots - 1279.86u - 85.6891 \\ -0.158624u^{144} + 0.126640u^{143} + \cdots + 80.8831u + 4.76537 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 5.50348u^{144} - 17.0024u^{143} + \cdots + 1340.19u + 68.7005 \\ 0.135896u^{144} - 0.505632u^{143} + \cdots - 7.74655u + 0.862548 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0387298u^{144} + 1.57838u^{143} + \cdots + 204.001u + 8.73476$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{145}+6u^{144}+\cdots-16u+1$
c_2	$u^{145}+4u^{144}+\cdots+185515060u+38279399$
c_3	$u^{145}-35u^{143}+\cdots-85631889u+14144791$
c_4	$u^{145}+u^{144}+\cdots+2u+1$
c_5	$u^{145}+12u^{144}+\cdots-13174228u+7328689$
c_6, c_{10}, c_{11}	$u^{145}-3u^{144}+\cdots+30u+1$
c_7	$u^{145}-2u^{144}+\cdots+14370450736u+2642976587$
c_8, c_{12}	$u^{145}+49u^{143}+\cdots+1759u+541$
c_9	$u^{145}-u^{144}+\cdots+962205u+328951$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{145} - 16y^{144} + \cdots - 758y - 1$
c_2	$y^{145} + 64y^{144} + \cdots - 46211062606405672y - 1465312387801201$
c_3	$y^{145} - 70y^{144} + \cdots + 9065639520733613y - 200075112433681$
c_4	$y^{145} + y^{144} + \cdots - 30y - 1$
c_5	$y^{145} - 46y^{144} + \cdots + 2078737869821982y - 53709682458721$
c_6, c_{10}, c_{11}	$y^{145} + 151y^{144} + \cdots + 224y - 1$
c_7	$y^{145} + 92y^{144} + \cdots - 3.02 \times 10^{20}y - 6.99 \times 10^{18}$
c_8, c_{12}	$y^{145} + 98y^{144} + \cdots - 20435091y - 292681$
c_9	$y^{145} - 15y^{144} + \cdots + 1990900220177y - 108208760401$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.556225 + 0.825178I$ $a = -0.642250 - 0.113886I$ $b = -0.549441 + 0.390152I$	$-0.98641 + 5.89965I$	0
$u = 0.556225 - 0.825178I$ $a = -0.642250 + 0.113886I$ $b = -0.549441 - 0.390152I$	$-0.98641 - 5.89965I$	0
$u = 0.624539 + 0.774639I$ $a = 0.650404 - 0.195995I$ $b = 0.296229 + 0.396389I$	$1.22895 + 2.67342I$	0
$u = 0.624539 - 0.774639I$ $a = 0.650404 + 0.195995I$ $b = 0.296229 - 0.396389I$	$1.22895 - 2.67342I$	0
$u = -0.461064 + 0.896003I$ $a = -0.328974 - 0.451183I$ $b = -0.038803 - 0.414851I$	$3.99268 - 5.21091I$	0
$u = -0.461064 - 0.896003I$ $a = -0.328974 + 0.451183I$ $b = -0.038803 + 0.414851I$	$3.99268 + 5.21091I$	0
$u = -0.814275 + 0.598530I$ $a = 0.531502 - 0.489949I$ $b = 0.801664 + 0.014554I$	$-4.83166 - 9.34281I$	0
$u = -0.814275 - 0.598530I$ $a = 0.531502 + 0.489949I$ $b = 0.801664 - 0.014554I$	$-4.83166 + 9.34281I$	0
$u = 0.268368 + 0.984195I$ $a = 0.239016 - 0.542346I$ $b = -0.617928 + 0.932521I$	$-1.03551 + 1.06476I$	0
$u = 0.268368 - 0.984195I$ $a = 0.239016 + 0.542346I$ $b = -0.617928 - 0.932521I$	$-1.03551 - 1.06476I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.831486 + 0.608016I$ $a = 0.567344 + 0.572549I$ $b = 0.750347 - 0.119663I$	$-0.9751 + 15.4421I$	0
$u = 0.831486 - 0.608016I$ $a = 0.567344 - 0.572549I$ $b = 0.750347 + 0.119663I$	$-0.9751 - 15.4421I$	0
$u = 0.314618 + 0.987524I$ $a = 0.440419 + 0.325660I$ $b = -1.07228 - 1.17355I$	$0.00642 - 3.18413I$	0
$u = 0.314618 - 0.987524I$ $a = 0.440419 - 0.325660I$ $b = -1.07228 + 1.17355I$	$0.00642 + 3.18413I$	0
$u = 0.829458 + 0.625826I$ $a = -0.256361 - 0.647722I$ $b = -0.572982 + 0.100892I$	$-2.75410 + 3.14936I$	0
$u = 0.829458 - 0.625826I$ $a = -0.256361 + 0.647722I$ $b = -0.572982 - 0.100892I$	$-2.75410 - 3.14936I$	0
$u = -0.880427 + 0.572298I$ $a = -0.049833 - 0.547892I$ $b = 0.323661 - 0.448848I$	$-4.66504 + 3.72932I$	0
$u = -0.880427 - 0.572298I$ $a = -0.049833 + 0.547892I$ $b = 0.323661 + 0.448848I$	$-4.66504 - 3.72932I$	0
$u = 0.845795 + 0.633543I$ $a = 0.564688 + 0.294872I$ $b = 0.587663 + 0.436303I$	$1.05971 + 2.93819I$	0
$u = 0.845795 - 0.633543I$ $a = 0.564688 - 0.294872I$ $b = 0.587663 - 0.436303I$	$1.05971 - 2.93819I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.881992 + 0.588045I$ $a = 0.054193 - 0.456185I$ $b = -0.576587 - 0.134071I$	$-2.57032 + 2.58753I$	0
$u = 0.881992 - 0.588045I$ $a = 0.054193 + 0.456185I$ $b = -0.576587 + 0.134071I$	$-2.57032 - 2.58753I$	0
$u = 0.301316 + 0.886369I$ $a = 0.182491 + 0.204939I$ $b = -0.214326 + 0.398617I$	$-0.58432 + 1.86220I$	0
$u = 0.301316 - 0.886369I$ $a = 0.182491 - 0.204939I$ $b = -0.214326 - 0.398617I$	$-0.58432 - 1.86220I$	0
$u = -0.782451 + 0.502344I$ $a = -0.567424 + 1.000280I$ $b = -0.540958 - 0.208296I$	$-1.99261 - 6.01306I$	0
$u = -0.782451 - 0.502344I$ $a = -0.567424 - 1.000280I$ $b = -0.540958 + 0.208296I$	$-1.99261 + 6.01306I$	0
$u = 0.919012 + 0.570141I$ $a = -0.207431 + 0.457950I$ $b = 0.371977 + 0.477396I$	$-0.76501 - 9.68728I$	0
$u = 0.919012 - 0.570141I$ $a = -0.207431 - 0.457950I$ $b = 0.371977 - 0.477396I$	$-0.76501 + 9.68728I$	0
$u = -0.370483 + 0.808138I$ $a = 0.214317 - 1.287740I$ $b = -0.121966 - 0.078133I$	$1.27250 + 4.48458I$	0
$u = -0.370483 - 0.808138I$ $a = 0.214317 + 1.287740I$ $b = -0.121966 + 0.078133I$	$1.27250 - 4.48458I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.402766+0.783717I$ $a=\ \ 0.012063+0.733731I$ $b=-0.423670-1.059380I$	$-0.65449-2.56138I$	0
$u=-0.402766-0.783717I$ $a=\ \ 0.012063-0.733731I$ $b=-0.423670+1.059380I$	$-0.65449+2.56138I$	0
$u=\ \ 0.785549+0.331316I$ $a=\ \ 0.209417-0.240366I$ $b=-0.109209+0.642695I$	$2.34000+2.19166I$	0
$u=\ \ 0.785549-0.331316I$ $a=\ \ 0.209417+0.240366I$ $b=-0.109209-0.642695I$	$2.34000-2.19166I$	0
$u=-0.659761+0.535821I$ $a=\ \ 0.278189+0.370634I$ $b=-0.712055+0.496101I$	$-2.29633+1.12360I$	0
$u=-0.659761-0.535821I$ $a=\ \ 0.278189-0.370634I$ $b=-0.712055-0.496101I$	$-2.29633-1.12360I$	0
$u=\ \ 0.645870+0.545359I$ $a=\ \ 0.500659+0.937110I$ $b=\ \ 0.087253+0.371968I$	$-0.07189+2.85317I$	0
$u=\ \ 0.645870-0.545359I$ $a=\ \ 0.500659-0.937110I$ $b=\ \ 0.087253-0.371968I$	$-0.07189-2.85317I$	0
$u=-0.414681+0.614320I$ $a=-1.173390+0.020581I$ $b=-0.710045-0.116799I$	$-2.15798-3.91536I$	0
$u=-0.414681-0.614320I$ $a=-1.173390-0.020581I$ $b=-0.710045+0.116799I$	$-2.15798+3.91536I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.696492+0.241114I$ $a=1.203250-0.005069I$ $b=0.005953-0.293743I$	$1.00024-1.42873I$	0
$u=-0.696492-0.241114I$ $a=1.203250+0.005069I$ $b=0.005953+0.293743I$	$1.00024+1.42873I$	0
$u=0.649828+0.339284I$ $a=0.488675+0.264243I$ $b=1.038040-0.008671I$	$0.56143+1.38537I$	0
$u=0.649828-0.339284I$ $a=0.488675-0.264243I$ $b=1.038040+0.008671I$	$0.56143-1.38537I$	0
$u=-0.615624+0.251939I$ $a=0.863900-0.556432I$ $b=0.518522+0.525567I$	$5.81429+1.43027I$	0
$u=-0.615624-0.251939I$ $a=0.863900+0.556432I$ $b=0.518522-0.525567I$	$5.81429-1.43027I$	0
$u=-0.363995+0.529843I$ $a=0.068291+0.292945I$ $b=-0.697896+0.795322I$	$-2.05598+1.17146I$	0
$u=-0.363995-0.529843I$ $a=0.068291-0.292945I$ $b=-0.697896-0.795322I$	$-2.05598-1.17146I$	0
$u=-0.577464+0.275522I$ $a=0.367696-0.624397I$ $b=1.182590+0.583160I$	$2.86659-7.96547I$	0
$u=-0.577464-0.275522I$ $a=0.367696+0.624397I$ $b=1.182590-0.583160I$	$2.86659+7.96547I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.011086 + 1.362460I$ $a = -1.74360 - 1.02253I$ $b = 2.58269 + 1.40945I$	$-1.47440 - 3.20190I$	0
$u = 0.011086 - 1.362460I$ $a = -1.74360 + 1.02253I$ $b = 2.58269 - 1.40945I$	$-1.47440 + 3.20190I$	0
$u = 0.613954 + 0.160874I$ $a = -1.24264 - 1.97486I$ $b = -0.279995 + 0.036511I$	$2.48344 + 6.68813I$	0
$u = 0.613954 - 0.160874I$ $a = -1.24264 + 1.97486I$ $b = -0.279995 - 0.036511I$	$2.48344 - 6.68813I$	0
$u = 0.512043 + 0.322084I$ $a = 0.801982 + 0.116758I$ $b = 0.503416 + 0.149811I$	$0.90298 + 1.17967I$	0
$u = 0.512043 - 0.322084I$ $a = 0.801982 - 0.116758I$ $b = 0.503416 - 0.149811I$	$0.90298 - 1.17967I$	0
$u = -0.159027 + 1.388920I$ $a = 0.886144 - 0.204515I$ $b = -1.75051 - 0.51269I$	$-3.99702 - 4.37393I$	0
$u = -0.159027 - 1.388920I$ $a = 0.886144 + 0.204515I$ $b = -1.75051 + 0.51269I$	$-3.99702 + 4.37393I$	0
$u = -0.078233 + 1.396290I$ $a = -1.74441 + 0.41548I$ $b = 2.14122 - 0.79943I$	$-6.12205 - 1.05917I$	0
$u = -0.078233 - 1.396290I$ $a = -1.74441 - 0.41548I$ $b = 2.14122 + 0.79943I$	$-6.12205 + 1.05917I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.599831 + 0.040076I$ $a = 1.190960 - 0.274972I$ $b = -0.039198 + 0.415994I$	$1.67251 + 2.09370I$	0
$u = 0.599831 - 0.040076I$ $a = 1.190960 + 0.274972I$ $b = -0.039198 - 0.415994I$	$1.67251 - 2.09370I$	0
$u = 0.144519 + 1.393790I$ $a = -2.15037 - 0.16683I$ $b = 3.82249 - 0.00908I$	$-2.41754 + 9.23186I$	0
$u = 0.144519 - 1.393790I$ $a = -2.15037 + 0.16683I$ $b = 3.82249 + 0.00908I$	$-2.41754 - 9.23186I$	0
$u = -0.159444 + 1.398360I$ $a = 1.66404 + 0.32023I$ $b = -2.27102 - 0.59587I$	$0.572053 - 1.261620I$	0
$u = -0.159444 - 1.398360I$ $a = 1.66404 - 0.32023I$ $b = -2.27102 + 0.59587I$	$0.572053 + 1.261620I$	0
$u = 0.002679 + 1.413300I$ $a = 0.189723 + 0.121423I$ $b = -0.524514 + 1.073580I$	$-1.90797 + 2.82831I$	0
$u = 0.002679 - 1.413300I$ $a = 0.189723 - 0.121423I$ $b = -0.524514 - 1.073580I$	$-1.90797 - 2.82831I$	0
$u = 0.20342 + 1.41117I$ $a = -1.012290 + 0.105557I$ $b = 1.146200 + 0.258691I$	$-3.04588 + 5.60141I$	0
$u = 0.20342 - 1.41117I$ $a = -1.012290 - 0.105557I$ $b = 1.146200 - 0.258691I$	$-3.04588 - 5.60141I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.16790 + 1.42579I$ $a = 2.09350 + 0.28074I$ $b = -2.61565 + 0.16346I$	$-5.01431 + 4.23456I$	0
$u = 0.16790 - 1.42579I$ $a = 2.09350 - 0.28074I$ $b = -2.61565 - 0.16346I$	$-5.01431 - 4.23456I$	0
$u = -0.15288 + 1.43683I$ $a = 2.50034 + 0.20967I$ $b = -2.97643 - 0.51409I$	$-2.66393 - 10.46700I$	0
$u = -0.15288 - 1.43683I$ $a = 2.50034 - 0.20967I$ $b = -2.97643 + 0.51409I$	$-2.66393 + 10.46700I$	0
$u = -0.339278 + 0.416126I$ $a = -2.17221 + 0.08923I$ $b = -0.614615 + 0.091771I$	$-1.96611 - 3.88117I$	$-7.85296 + 9.48396I$
$u = -0.339278 - 0.416126I$ $a = -2.17221 - 0.08923I$ $b = -0.614615 - 0.091771I$	$-1.96611 + 3.88117I$	$-7.85296 - 9.48396I$
$u = -1.19148 + 0.85231I$ $a = -0.099600 + 0.135325I$ $b = -0.248930 + 0.045305I$	$2.99437 - 4.05829I$	0
$u = -1.19148 - 0.85231I$ $a = -0.099600 - 0.135325I$ $b = -0.248930 - 0.045305I$	$2.99437 + 4.05829I$	0
$u = 0.13978 + 1.45948I$ $a = 1.39508 + 0.29976I$ $b = -2.13322 + 0.18996I$	$-4.92661 + 3.43848I$	0
$u = 0.13978 - 1.45948I$ $a = 1.39508 - 0.29976I$ $b = -2.13322 - 0.18996I$	$-4.92661 - 3.43848I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.04326+1.47620I$ $a=\ \ 0.95565-1.80194I$ $b=-1.31941+1.36860I$	$-8.78089-3.47176I$	0
$u=-0.04326-1.47620I$ $a=\ \ 0.95565+1.80194I$ $b=-1.31941-1.36860I$	$-8.78089+3.47176I$	0
$u=\ \ 0.01351+1.48077I$ $a=-1.387630+0.095475I$ $b=\ \ 2.06095-1.14207I$	$-7.98025-0.12386I$	0
$u=\ \ 0.01351-1.48077I$ $a=-1.387630-0.095475I$ $b=\ \ 2.06095+1.14207I$	$-7.98025+0.12386I$	0
$u=-0.08357+1.47991I$ $a=-2.03859-0.34510I$ $b=\ \ 3.42322+1.22186I$	$-8.17057-5.30912I$	0
$u=-0.08357-1.47991I$ $a=-2.03859+0.34510I$ $b=\ \ 3.42322-1.22186I$	$-8.17057+5.30912I$	0
$u=-0.04842+1.48526I$ $a=\ \ 1.16217-1.00881I$ $b=-2.12740+2.70114I$	$-5.90082-8.50106I$	0
$u=-0.04842-1.48526I$ $a=\ \ 1.16217+1.00881I$ $b=-2.12740-2.70114I$	$-5.90082+8.50106I$	0
$u=\ \ 0.04934+1.48620I$ $a=-1.95966+0.85257I$ $b=\ \ 2.76707-0.63128I$	$-7.54314+3.73004I$	0
$u=\ \ 0.04934-1.48620I$ $a=-1.95966-0.85257I$ $b=\ \ 2.76707+0.63128I$	$-7.54314-3.73004I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.002750+0.503827I$ $a=\ \ 2.32769+2.38667I$ $b=-0.015462-0.441723I$	$-3.65445+2.01067I$	$-16.9425-2.9920I$
$u=-0.002750-0.503827I$ $a=\ \ 2.32769-2.38667I$ $b=-0.015462+0.441723I$	$-3.65445-2.01067I$	$-16.9425+2.9920I$
$u=-0.03679+1.50398I$ $a=-1.80947-0.64392I$ $b=\ \ 2.48538+0.23724I$	$-8.67360-1.09683I$	0
$u=-0.03679-1.50398I$ $a=-1.80947+0.64392I$ $b=\ \ 2.48538-0.23724I$	$-8.67360+1.09683I$	0
$u=\ \ 0.149193+0.469925I$ $a=\ \ 0.250751-0.938106I$ $b=\ \ 1.29066+1.27443I$	$-0.23888+7.86583I$	$-8.95712-10.69616I$
$u=\ \ 0.149193-0.469925I$ $a=\ \ 0.250751+0.938106I$ $b=\ \ 1.29066-1.27443I$	$-0.23888-7.86583I$	$-8.95712+10.69616I$
$u=\ \ 0.05556+1.50776I$ $a=\ \ 1.61208+1.50841I$ $b=-2.11858-1.14663I$	$-6.84902+8.67644I$	0
$u=\ \ 0.05556-1.50776I$ $a=\ \ 1.61208-1.50841I$ $b=-2.11858+1.14663I$	$-6.84902-8.67644I$	0
$u=\ \ 0.01681+1.51070I$ $a=\ \ 1.51137+0.84635I$ $b=-2.83678-2.17734I$	$-10.36880+2.17523I$	0
$u=\ \ 0.01681-1.51070I$ $a=\ \ 1.51137-0.84635I$ $b=-2.83678+2.17734I$	$-10.36880-2.17523I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.02686+1.51709I$ $a=-1.69096+1.03137I$ $b=\ \ 2.24639-0.95207I$	$-8.98511+0.25144I$	0
$u=-0.02686-1.51709I$ $a=-1.69096-1.03137I$ $b=\ \ 2.24639+0.95207I$	$-8.98511-0.25144I$	0
$u=-0.27396+1.51191I$ $a=-1.065490+0.721316I$ $b=\ \ 1.65870-0.54965I$	$-8.77771-2.39234I$	0
$u=-0.27396-1.51191I$ $a=-1.065490-0.721316I$ $b=\ \ 1.65870+0.54965I$	$-8.77771+2.39234I$	0
$u=-0.02930+1.55208I$ $a=-1.57364-0.91840I$ $b=\ \ 2.04533+0.77832I$	$-8.45921-3.53543I$	0
$u=-0.02930-1.55208I$ $a=-1.57364+0.91840I$ $b=\ \ 2.04533-0.77832I$	$-8.45921+3.53543I$	0
$u=\ \ 0.24475+1.53419I$ $a=\ \ 1.275070+0.460213I$ $b=-2.42370-0.55813I$	$-6.86736+6.22232I$	0
$u=\ \ 0.24475-1.53419I$ $a=\ \ 1.275070-0.460213I$ $b=-2.42370+0.55813I$	$-6.86736-6.22232I$	0
$u=\ \ 0.02696+1.55350I$ $a=\ \ 1.331580-0.387022I$ $b=-2.37229+1.10929I$	$-6.99520+4.12836I$	0
$u=\ \ 0.02696-1.55350I$ $a=\ \ 1.331580+0.387022I$ $b=-2.37229-1.10929I$	$-6.99520-4.12836I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.27441+1.53613I$ $a=-1.79612+0.02907I$ $b=\ \ 2.82489+0.15516I$	$-8.66548-9.89629I$	0
$u=-0.27441-1.53613I$ $a=-1.79612-0.02907I$ $b=\ \ 2.82489-0.15516I$	$-8.66548+9.89629I$	0
$u=-0.129810+0.419122I$ $a=-0.90541+1.63988I$ $b=-0.719659-0.794911I$	$-2.20034-0.51145I$	$-10.54171-3.12088I$
$u=-0.129810-0.419122I$ $a=-0.90541-1.63988I$ $b=-0.719659+0.794911I$	$-2.20034+0.51145I$	$-10.54171+3.12088I$
$u=-0.16631+1.56922I$ $a=-1.84655-0.27700I$ $b=\ \ 2.91304+0.80603I$	$-9.53924-6.26121I$	0
$u=-0.16631-1.56922I$ $a=-1.84655+0.27700I$ $b=\ \ 2.91304-0.80603I$	$-9.53924+6.26121I$	0
$u=\ \ 0.27314+1.56711I$ $a=\ \ 1.53347+0.17871I$ $b=-2.69322+0.39570I$	$-6.11859+6.98842I$	0
$u=\ \ 0.27314-1.56711I$ $a=\ \ 1.53347-0.17871I$ $b=-2.69322-0.39570I$	$-6.11859-6.98842I$	0
$u=-0.27503+1.56700I$ $a=\ \ 1.75338-0.06534I$ $b=-2.78582-0.45380I$	$-11.9244-13.3505I$	0
$u=-0.27503-1.56700I$ $a=\ \ 1.75338+0.06534I$ $b=-2.78582+0.45380I$	$-11.9244+13.3505I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.28254 + 1.57247I$ $a = 1.78600 - 0.02515I$ $b = -2.82696 + 0.51833I$	$-8.1103 + 19.5477I$	0
$u = 0.28254 - 1.57247I$ $a = 1.78600 + 0.02515I$ $b = -2.82696 - 0.51833I$	$-8.1103 - 19.5477I$	0
$u = 0.26915 + 1.58076I$ $a = -1.58925 - 0.10118I$ $b = 2.44552 - 0.13609I$	$-10.01570 + 7.18294I$	0
$u = 0.26915 - 1.58076I$ $a = -1.58925 + 0.10118I$ $b = 2.44552 + 0.13609I$	$-10.01570 - 7.18294I$	0
$u = 0.28356 + 1.58476I$ $a = -1.299760 - 0.257756I$ $b = 2.00561 + 0.01852I$	$-9.75896 + 6.86286I$	0
$u = 0.28356 - 1.58476I$ $a = -1.299760 + 0.257756I$ $b = 2.00561 - 0.01852I$	$-9.75896 - 6.86286I$	0
$u = 0.114893 + 0.357825I$ $a = -2.01526 - 1.07058I$ $b = -0.681152 + 0.998277I$	$-1.33203 + 3.04555I$	$-5.86875 - 6.87636I$
$u = 0.114893 - 0.357825I$ $a = -2.01526 + 1.07058I$ $b = -0.681152 - 0.998277I$	$-1.33203 - 3.04555I$	$-5.86875 + 6.87636I$
$u = -0.27713 + 1.60094I$ $a = 1.009440 - 0.370641I$ $b = -1.79791 + 0.34651I$	$-11.91210 - 0.60022I$	0
$u = -0.27713 - 1.60094I$ $a = 1.009440 + 0.370641I$ $b = -1.79791 - 0.34651I$	$-11.91210 + 0.60022I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.131261+0.349208I$ $a=1.71716-5.02126I$ $b=0.007135+0.538342I$	$0.27748-7.80456I$	$-10.0473+15.4807I$
$u=-0.131261-0.349208I$ $a=1.71716+5.02126I$ $b=0.007135-0.538342I$	$0.27748+7.80456I$	$-10.0473-15.4807I$
$u=0.20239+1.62346I$ $a=-1.59932+0.39885I$ $b=2.49299-0.93396I$	$-9.18549+8.93541I$	0
$u=0.20239-1.62346I$ $a=-1.59932-0.39885I$ $b=2.49299+0.93396I$	$-9.18549-8.93541I$	0
$u=-0.170594+0.294674I$ $a=0.87129+1.12273I$ $b=0.76290-1.58100I$	$-2.80159-2.76069I$	$-10.6385+14.5729I$
$u=-0.170594-0.294674I$ $a=0.87129-1.12273I$ $b=0.76290+1.58100I$	$-2.80159+2.76069I$	$-10.6385-14.5729I$
$u=0.28509+1.64694I$ $a=0.866929+0.347649I$ $b=-1.51633-0.28537I$	$-8.17833-5.02771I$	0
$u=0.28509-1.64694I$ $a=0.866929-0.347649I$ $b=-1.51633+0.28537I$	$-8.17833+5.02771I$	0
$u=-0.029024+0.316489I$ $a=-1.19753+3.06941I$ $b=-0.665602-0.558870I$	$-1.91054-0.20378I$	$-9.98005+1.13945I$
$u=-0.029024-0.316489I$ $a=-1.19753-3.06941I$ $b=-0.665602+0.558870I$	$-1.91054+0.20378I$	$-9.98005-1.13945I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.30637+1.65978I$ $a=-0.946117-0.183118I$ $b=\ \ 1.54528+0.60575I$	$-5.37186-9.32028I$	0
$u=-0.30637-1.65978I$ $a=-0.946117+0.183118I$ $b=\ \ 1.54528-0.60575I$	$-5.37186+9.32028I$	0
$u=-0.230136$ $a=\ \ 2.72654$ $b=-0.845972$	-1.47401	-7.26200
$u=-0.0764042+0.0179609I$ $a=-10.8740-12.0224I$ $b=-0.399482+0.864665I$	$2.97615+2.97617I$	$6.03236-2.34474I$
$u=-0.0764042-0.0179609I$ $a=-10.8740+12.0224I$ $b=-0.399482-0.864665I$	$2.97615-2.97617I$	$6.03236+2.34474I$

II. $I_2^u =$
$\langle 2.05\times10^{13}u^{33}-2.75\times10^{14}u^{32}+\cdots+6.73\times10^{14}b-6.52\times10^{13},\ 5.28\times10^{14}u^{33}+$
$2.98\times10^{14}u^{32}+\cdots+6.73\times10^{14}a+2.53\times10^{15},\ u^{34}+18u^{32}+\cdots+2u+1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.784196u^{33}-0.441937u^{32}+\cdots-3.17647u-3.76054\\-0.0304434u^{33}+0.408636u^{32}+\cdots-0.785232u+0.0968671\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-1.12387u^{33}+0.182378u^{32}+\cdots-1.77297u-3.21512\\0.415872u^{33}+0.405597u^{32}+\cdots-0.290691u+0.0179715\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.194085u^{33}+0.401120u^{32}+\cdots-3.08724u+1.04965\\0.0317780u^{33}-0.513316u^{32}+\cdots-1.55479u+0.156733\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-1.46786u^{33}-0.283442u^{32}+\cdots-4.05771u-3.79384\\0.653220u^{33}+0.250141u^{32}+\cdots+0.0960079u+0.130167\end{pmatrix}$$
$$a_8 = \begin{pmatrix}2.28345u^{33}-1.07653u^{32}+\cdots+1.74237u-0.642498\\-1.18448u^{33}+0.501430u^{32}+\cdots-1.92968u+1.47950\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-1.08573u^{33}-0.678426u^{32}+\cdots-6.97850u+0.904777\\-0.0432217u^{33}+0.549395u^{32}+\cdots+1.87265u-0.471583\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-1.42406u^{33}+0.214879u^{32}+\cdots-5.54292u-2.73659\\0.127175u^{33}+0.490092u^{32}+\cdots+2.92140u+0.808714\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= \frac{374181169371643}{673397680793441}u^{33}-\frac{51522030673023}{673397680793441}u^{32}+\cdots+\frac{1392673442680760}{673397680793441}u+\frac{580167133223485}{673397680793441}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{34} - 15u^{33} + \cdots + 4u + 1$
c_2	$u^{34} + u^{33} + \cdots + 8u^2 + 1$
c_3	$u^{34} - 5u^{33} + \cdots + 61u + 13$
c_4	$u^{34} - u^{32} + \cdots - u^2 + 1$
c_5	$u^{34} + 13u^{33} + \cdots + 14u + 1$
c_6	$u^{34} + 18u^{32} + \cdots + 2u + 1$
c_7	$u^{34} - u^{33} + \cdots + 2u + 1$
c_8	$u^{34} + u^{33} + \cdots + u + 1$
c_9	$u^{34} + 9u^{32} + \cdots - u + 1$
c_{10}, c_{11}	$u^{34} + 18u^{32} + \cdots - 2u + 1$
c_{12}	$u^{34} - u^{33} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{34} - 15y^{33} + \cdots - 26y + 1$
c_2	$y^{34} + 17y^{33} + \cdots + 16y + 1$
c_3	$y^{34} - 17y^{33} + \cdots - 2161y + 169$
c_4	$y^{34} - 2y^{33} + \cdots - 2y + 1$
c_5	$y^{34} - 5y^{33} + \cdots - 14y + 1$
c_6, c_{10}, c_{11}	$y^{34} + 36y^{33} + \cdots + 24y + 1$
c_7	$y^{34} + 29y^{33} + \cdots + 26y + 1$
c_8, c_{12}	$y^{34} + 31y^{33} + \cdots + 11y + 1$
c_9	$y^{34} + 18y^{33} + \cdots - 13y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.050149+1.080630I$ $a=\ \ 0.558112-0.632588I$ $b=-1.06739+1.65093I$	$0.85767+2.68073I$	$2.65649-2.24463I$
$u=-0.050149-1.080630I$ $a=\ \ 0.558112+0.632588I$ $b=-1.06739-1.65093I$	$0.85767-2.68073I$	$2.65649+2.24463I$
$u=-0.849388+0.672851I$ $a=-0.485925+0.297958I$ $b=-0.477027+0.402807I$	$0.91656-2.97982I$	$-21.3615+18.4493I$
$u=-0.849388-0.672851I$ $a=-0.485925-0.297958I$ $b=-0.477027-0.402807I$	$0.91656+2.97982I$	$-21.3615-18.4493I$
$u=\ \ 0.592743+0.630762I$ $a=-0.857092-0.570157I$ $b=-0.557373+0.308256I$	$-1.37198+4.99600I$	$-3.59435-5.55838I$
$u=\ \ 0.592743-0.630762I$ $a=-0.857092+0.570157I$ $b=-0.557373-0.308256I$	$-1.37198-4.99600I$	$-3.59435+5.55838I$
$u=-0.467438+0.715973I$ $a=\ \ 0.055006+0.746532I$ $b=-0.103357-0.354613I$	$-1.51256-1.74783I$	$-7.39460+3.09836I$
$u=-0.467438-0.715973I$ $a=\ \ 0.055006-0.746532I$ $b=-0.103357+0.354613I$	$-1.51256+1.74783I$	$-7.39460-3.09836I$
$u=-0.134263+0.785669I$ $a=-1.12712-1.26754I$ $b=\ \ 0.151364+0.263874I$	$1.96774-3.29644I$	$-0.01860+3.76880I$
$u=-0.134263-0.785669I$ $a=-1.12712+1.26754I$ $b=\ \ 0.151364-0.263874I$	$1.96774+3.29644I$	$-0.01860-3.76880I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.200452 + 0.751911I$ $a = -0.011074 - 0.160901I$ $b = -0.829886 - 0.701876I$	$-1.51373 - 1.91428I$	$-4.59715 + 3.70449I$
$u = 0.200452 - 0.751911I$ $a = -0.011074 + 0.160901I$ $b = -0.829886 + 0.701876I$	$-1.51373 + 1.91428I$	$-4.59715 - 3.70449I$
$u = -0.323827 + 0.698155I$ $a = -0.155502 + 0.647525I$ $b = -0.574162 - 0.607817I$	$-1.65916 - 1.62456I$	$-8.63993 + 3.64820I$
$u = -0.323827 - 0.698155I$ $a = -0.155502 - 0.647525I$ $b = -0.574162 + 0.607817I$	$-1.65916 + 1.62456I$	$-8.63993 - 3.64820I$
$u = 0.111447 + 1.377410I$ $a = 1.44684 + 1.15811I$ $b = -2.16965 - 0.92077I$	$-6.74261 + 3.46575I$	$-8.50814 - 3.55598I$
$u = 0.111447 - 1.377410I$ $a = 1.44684 - 1.15811I$ $b = -2.16965 + 0.92077I$	$-6.74261 - 3.46575I$	$-8.50814 + 3.55598I$
$u = -0.098705 + 1.379750I$ $a = 2.06677 - 0.91536I$ $b = -3.09713 + 1.29826I$	$-3.52417 - 8.60502I$	$-6.80536 + 6.62951I$
$u = -0.098705 - 1.379750I$ $a = 2.06677 + 0.91536I$ $b = -3.09713 - 1.29826I$	$-3.52417 + 8.60502I$	$-6.80536 - 6.62951I$
$u = 1.102000 + 0.886127I$ $a = 0.093369 - 0.184609I$ $b = 0.165485 + 0.282525I$	$3.09564 + 3.87217I$	$8.26686 + 10.56624I$
$u = 1.102000 - 0.886127I$ $a = 0.093369 + 0.184609I$ $b = 0.165485 - 0.282525I$	$3.09564 - 3.87217I$	$8.26686 - 10.56624I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.01635+1.50401I$ $a=-1.020430-0.761407I$ $b=\ \ 1.54351+0.27104I$	$-9.09667-2.04354I$	$-11.30380+2.56759I$
$u=-0.01635-1.50401I$ $a=-1.020430+0.761407I$ $b=\ \ 1.54351-0.27104I$	$-9.09667+2.04354I$	$-11.30380-2.56759I$
$u=-0.02843+1.52417I$ $a=-1.86924-0.37582I$ $b=\ \ 2.68194+0.21544I$	$-8.88561-2.28821I$	$-11.10986+0.I$
$u=-0.02843-1.52417I$ $a=-1.86924+0.37582I$ $b=\ \ 2.68194-0.21544I$	$-8.88561+2.28821I$	$-11.10986+0.I$
$u=\ \ 0.04427+1.54980I$ $a=\ \ 0.287181+0.091111I$ $b=-0.305424+0.709925I$	$-6.14558+6.86008I$	$-6.94133-5.61399I$
$u=\ \ 0.04427-1.54980I$ $a=\ \ 0.287181-0.091111I$ $b=-0.305424-0.709925I$	$-6.14558-6.86008I$	$-6.94133+5.61399I$
$u=-0.25332+1.56977I$ $a=-1.46344+0.15883I$ $b=\ \ 2.61729+0.22435I$	$-6.45104-6.86437I$	0
$u=-0.25332-1.56977I$ $a=-1.46344-0.15883I$ $b=\ \ 2.61729-0.22435I$	$-6.45104+6.86437I$	0
$u=\ \ 0.22453+1.59292I$ $a=-1.67536+0.21937I$ $b=\ \ 2.58655-0.59098I$	$-8.87362+8.20730I$	0
$u=\ \ 0.22453-1.59292I$ $a=-1.67536-0.21937I$ $b=\ \ 2.58655+0.59098I$	$-8.87362-8.20730I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.225771+0.219829I$ $a=-3.98660-0.14851I$ $b=\ \ 0.703549+0.590300I$	$0.66190+7.39119I$	$0.87593-3.89767I$
$u=-0.225771-0.219829I$ $a=-3.98660+0.14851I$ $b=\ \ 0.703549-0.590300I$	$0.66190-7.39119I$	$0.87593+3.89767I$
$u=\ \ 0.172193+0.259880I$ $a=-2.35550-0.01078I$ $b=\ \ 0.231721-1.135250I$	$-2.71573-2.25151I$	$-7.22080+0.25597I$
$u=\ \ 0.172193-0.259880I$ $a=-2.35550+0.01078I$ $b=\ \ 0.231721+1.135250I$	$-2.71573+2.25151I$	$-7.22080-0.25597I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{34}-15u^{33}+\cdots+4u+1)(u^{145}+6u^{144}+\cdots-16u+1)$
c_2	$(u^{34}+u^{33}+\cdots+8u^2+1)$ $\cdot(u^{145}+4u^{144}+\cdots+185515060u+38279399)$
c_3	$(u^{34}-5u^{33}+\cdots+61u+13)$ $\cdot(u^{145}-35u^{143}+\cdots-85631889u+14144791)$
c_4	$(u^{34}-u^{32}+\cdots-u^2+1)(u^{145}+u^{144}+\cdots+2u+1)$
c_5	$(u^{34}+13u^{33}+\cdots+14u+1)$ $\cdot(u^{145}+12u^{144}+\cdots-13174228u+7328689)$
c_6	$(u^{34}+18u^{32}+\cdots+2u+1)(u^{145}-3u^{144}+\cdots+30u+1)$
c_7	$(u^{34}-u^{33}+\cdots+2u+1)$ $\cdot(u^{145}-2u^{144}+\cdots+14370450736u+2642976587)$
c_8	$(u^{34}+u^{33}+\cdots+u+1)(u^{145}+49u^{143}+\cdots+1759u+541)$
c_9	$(u^{34}+9u^{32}+\cdots-u+1)(u^{145}-u^{144}+\cdots+962205u+328951)$
c_{10}, c_{11}	$(u^{34}+18u^{32}+\cdots-2u+1)(u^{145}-3u^{144}+\cdots+30u+1)$
c_{12}	$(u^{34}-u^{33}+\cdots-u+1)(u^{145}+49u^{143}+\cdots+1759u+541)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{34}-15y^{33}+\cdots-26y+1)(y^{145}-16y^{144}+\cdots-758y-1)$
c_2	$(y^{34}+17y^{33}+\cdots+16y+1)$ $\cdot(y^{145}+64y^{144}+\cdots-46211062606405672y-1465312387801201)$
c_3	$(y^{34}-17y^{33}+\cdots-2161y+169)$ $\cdot(y^{145}-70y^{144}+\cdots+9065639520733613y-200075112433681)$
c_4	$(y^{34}-2y^{33}+\cdots-2y+1)(y^{145}+y^{144}+\cdots-30y-1)$
c_5	$(y^{34}-5y^{33}+\cdots-14y+1)$ $\cdot(y^{145}-46y^{144}+\cdots+2078737869821982y-53709682458721)$
c_6, c_{10}, c_{11}	$(y^{34}+36y^{33}+\cdots+24y+1)(y^{145}+151y^{144}+\cdots+224y-1)$
c_7	$(y^{34}+29y^{33}+\cdots+26y+1)$ $\cdot(y^{145}+92y^{144}+\cdots-3.02\times10^{20}y-6.99\times10^{18})$
c_8, c_{12}	$(y^{34}+31y^{33}+\cdots+11y+1)$ $\cdot(y^{145}+98y^{144}+\cdots-20435091y-292681)$
c_9	$(y^{34}+18y^{33}+\cdots-13y+1)$ $\cdot(y^{145}-15y^{144}+\cdots+1990900220177y-108208760401)$