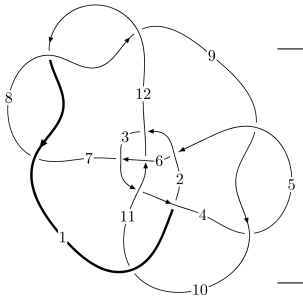
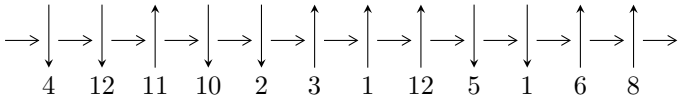
$12n_{0885}$ $(K12n_{0885})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -7.56659 \times 10^{393} u^{111} + 5.31853 \times 10^{393} u^{110} + \cdots + 6.91031 \times 10^{394} b + 9.38589 \times 10^{396},$$
$$5.28363 \times 10^{395} u^{111} - 1.20999 \times 10^{395} u^{110} + \cdots + 1.17475 \times 10^{396} a - 6.03150 \times 10^{398},$$
$$u^{112} + 2u^{111} + \cdots + 459u + 289 \rangle$$

$$I_2^u = \langle 2210073442011996 u^{37} + 2571675910997884 u^{36} + \cdots + 1239781505353333 b + 4009129869435240,$$
$$-5.10927 \times 10^{15} u^{37} - 2.87486 \times 10^{15} u^{36} + \cdots + 1.23978 \times 10^{14} a - 2.73599 \times 10^{15},\ u^{38} + u^{37} + \cdots + 8u +$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 150 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. $\boldsymbol{I_1^u = \langle -7.57 \times 10^{393} u^{111} + 5.32 \times 10^{393} u^{110} + \cdots + 6.91 \times 10^{394} b + 9.39 \times 10^{396},\ 5.28 \times 10^{395} u^{111} - 1.21 \times 10^{395} u^{110} + \cdots + 1.17 \times 10^{396} a - 6.03 \times 10^{398},\ u^{112} + 2u^{111} + \cdots + 459u + 289 \rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} -0.449765u^{111} + 0.103000u^{110} + \cdots + 624.384u + 513.428 \\ 0.109497u^{111} - 0.0769651u^{110} + \cdots - 103.765u - 135.824 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1.62871u^{111} + 2.34289u^{110} + \cdots - 75.5842u - 639.880 \\ -0.509787u^{111} - 1.11956u^{110} + \cdots - 328.017u - 70.2302 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.386026u^{111} + 0.114229u^{110} + \cdots + 604.557u + 480.705 \\ 0.0590533u^{111} - 0.163272u^{110} + \cdots - 118.876u - 136.698 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 2.32825u^{111} + 5.23070u^{110} + \cdots + 2599.85u + 493.752 \\ 2.02780u^{111} + 3.98309u^{110} + \cdots + 1426.33u - 5.42016 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.31050u^{111} + 1.18092u^{110} + \cdots - 634.760u - 1006.77 \\ -0.942003u^{111} - 2.32694u^{110} + \cdots - 1021.96u - 273.577 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.204868u^{111} - 0.104364u^{110} + \cdots - 296.422u + 33.2570 \\ -0.836701u^{111} - 2.01743u^{110} + \cdots - 1104.03u - 284.727 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.31050u^{111} + 1.18092u^{110} + \cdots - 634.760u - 1006.77 \\ -0.361452u^{111} - 1.80415u^{110} + \cdots - 1304.23u - 689.763 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.15892u^{111} + 12.5312u^{110} + \cdots + 6892.43u + 2672.74$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{112} + 11u^{111} + \cdots - 11u + 1$
c_2	$u^{112} + 2u^{111} + \cdots - 245060u + 69175$
c_3	$u^{112} + 3u^{111} + \cdots + 3092u + 3329$
c_4, c_9	$u^{112} + u^{111} + \cdots + 193u + 1$
c_5	$u^{112} - 2u^{111} + \cdots - 1572680u + 716581$
c_6	$u^{112} - 7u^{111} + \cdots + 312132u + 23423$
c_7, c_8, c_{12}	$u^{112} - 2u^{111} + \cdots - 459u + 289$
c_{10}	$u^{112} + u^{111} + \cdots + 72748u + 7829$
c_{11}	$u^{112} - 2u^{111} + \cdots + 16u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{112} - 15y^{111} + \cdots - 37y + 1$
c_2	$y^{112} + 20y^{111} + \cdots + 765903812450y + 4785180625$
c_3	$y^{112} + 17y^{111} + \cdots - 245986044y + 11082241$
c_4, c_9	$y^{112} + 97y^{111} + \cdots + 33271y + 1$
c_5	$y^{112} + 18y^{111} + \cdots - 11466541483818y + 513488329561$
c_6	$y^{112} - 9y^{111} + \cdots - 1897506918y + 548636929$
c_7, c_8, c_{12}	$y^{112} + 48y^{111} + \cdots + 4810983y + 83521$
c_{10}	$y^{112} + 39y^{111} + \cdots - 3571112828y + 61293241$
c_{11}	$y^{112} + 30y^{111} + \cdots + 192y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.010224 + 1.010630I$ $a = -0.565108 + 1.075190I$ $b = -0.481314 + 1.126550I$	$-2.39260 - 3.77429I$	0
$u = 0.010224 - 1.010630I$ $a = -0.565108 - 1.075190I$ $b = -0.481314 - 1.126550I$	$-2.39260 + 3.77429I$	0
$u = -0.812945 + 0.629113I$ $a = 1.006710 - 0.116134I$ $b = -1.064790 + 0.062857I$	$2.85892 - 1.65749I$	0
$u = -0.812945 - 0.629113I$ $a = 1.006710 + 0.116134I$ $b = -1.064790 - 0.062857I$	$2.85892 + 1.65749I$	0
$u = 0.717527 + 0.651268I$ $a = 0.88811 - 1.11391I$ $b = -1.20948 + 0.76438I$	$2.60302 - 1.92558I$	0
$u = 0.717527 - 0.651268I$ $a = 0.88811 + 1.11391I$ $b = -1.20948 - 0.76438I$	$2.60302 + 1.92558I$	0
$u = -0.593598 + 0.753642I$ $a = -0.688837 + 0.229659I$ $b = 0.628603 + 0.743308I$	$-0.256622 - 0.586000I$	0
$u = -0.593598 - 0.753642I$ $a = -0.688837 - 0.229659I$ $b = 0.628603 - 0.743308I$	$-0.256622 + 0.586000I$	0
$u = -0.605633 + 0.863987I$ $a = -1.14259 - 1.39421I$ $b = 0.441758 - 0.712141I$	$-0.56474 - 4.14412I$	0
$u = -0.605633 - 0.863987I$ $a = -1.14259 + 1.39421I$ $b = 0.441758 + 0.712141I$	$-0.56474 + 4.14412I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.600038+0.889896I$ $a=-1.318550-0.259925I$ $b=\ \ 0.324086-0.261126I$	$0.08866-2.33112I$	0
$u=-0.600038-0.889896I$ $a=-1.318550+0.259925I$ $b=\ \ 0.324086+0.261126I$	$0.08866+2.33112I$	0
$u=-0.128704+0.916543I$ $a=-1.10668-1.46919I$ $b=\ \ 0.646085-0.883968I$	$0.81583-5.97740I$	0
$u=-0.128704-0.916543I$ $a=-1.10668+1.46919I$ $b=\ \ 0.646085+0.883968I$	$0.81583+5.97740I$	0
$u=\ \ 0.707129+0.817332I$ $a=\ \ 0.518561-0.874958I$ $b=-0.627852+0.677662I$	$2.12801-3.19948I$	0
$u=\ \ 0.707129-0.817332I$ $a=\ \ 0.518561+0.874958I$ $b=-0.627852-0.677662I$	$2.12801+3.19948I$	0
$u=\ \ 0.703734+0.941380I$ $a=\ \ 1.77010-0.29305I$ $b=-0.822358-1.043520I$	$1.71948+8.64037I$	0
$u=\ \ 0.703734-0.941380I$ $a=\ \ 1.77010+0.29305I$ $b=-0.822358+1.043520I$	$1.71948-8.64037I$	0
$u=-0.772980+0.886031I$ $a=-0.641107-0.533275I$ $b=\ \ 0.670222+0.169400I$	$0.44460-1.60261I$	0
$u=-0.772980-0.886031I$ $a=-0.641107+0.533275I$ $b=\ \ 0.670222-0.169400I$	$0.44460+1.60261I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.840246+0.831516I$ $a=-1.228540-0.073457I$ $b=\ \ 0.894973-0.595162I$	$0.66730-4.44117I$	0
$u=-0.840246-0.831516I$ $a=-1.228540+0.073457I$ $b=\ \ 0.894973+0.595162I$	$0.66730+4.44117I$	0
$u=-0.840144+0.842227I$ $a=-1.65760-0.34454I$ $b=\ \ 1.48014-1.50201I$	$6.16132-7.16661I$	0
$u=-0.840144-0.842227I$ $a=-1.65760+0.34454I$ $b=\ \ 1.48014+1.50201I$	$6.16132+7.16661I$	0
$u=\ \ 0.954188+0.714485I$ $a=-0.800464+0.829167I$ $b=\ \ 1.321720-0.471927I$	$1.17560-5.72024I$	0
$u=\ \ 0.954188-0.714485I$ $a=-0.800464-0.829167I$ $b=\ \ 1.321720+0.471927I$	$1.17560+5.72024I$	0
$u=-0.059036+0.804581I$ $a=-3.99094-0.63958I$ $b=-0.255241-0.160120I$	$-2.07878-6.23665I$	0
$u=-0.059036-0.804581I$ $a=-3.99094+0.63958I$ $b=-0.255241+0.160120I$	$-2.07878+6.23665I$	0
$u=\ \ 0.089804+0.797050I$ $a=-0.999786+0.239726I$ $b=-0.245820+1.058670I$	$-1.51333-1.66775I$	0
$u=\ \ 0.089804-0.797050I$ $a=-0.999786-0.239726I$ $b=-0.245820-1.058670I$	$-1.51333+1.66775I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.448545+0.662618I$ $a=-0.546947+0.089449I$ $b=\ 0.086739+0.262305I$	$0.04786-1.76911I$	0
$u=-0.448545-0.662618I$ $a=-0.546947-0.089449I$ $b=\ 0.086739-0.262305I$	$0.04786+1.76911I$	0
$u=\ 1.101710+0.476207I$ $a=-0.808553+0.079696I$ $b=\ 1.091240-0.186893I$	$8.51602-4.13389I$	0
$u=\ 1.101710-0.476207I$ $a=-0.808553-0.079696I$ $b=\ 1.091240+0.186893I$	$8.51602+4.13389I$	0
$u=\ 0.851258+0.850692I$ $a=\ 0.766990-0.907488I$ $b=-0.295633-1.125820I$	$2.71011+8.27807I$	0
$u=\ 0.851258-0.850692I$ $a=\ 0.766990+0.907488I$ $b=-0.295633+1.125820I$	$2.71011-8.27807I$	0
$u=\ 0.353295+0.703837I$ $a=\ 0.428741+0.636394I$ $b=\ 0.36891-1.66008I$	$-2.96846+3.39223I$	0
$u=\ 0.353295-0.703837I$ $a=\ 0.428741-0.636394I$ $b=\ 0.36891+1.66008I$	$-2.96846-3.39223I$	0
$u=-0.885092+0.845173I$ $a=-0.552187+0.806856I$ $b=-1.00714-2.45174I$	$3.48223-7.89026I$	0
$u=-0.885092-0.845173I$ $a=-0.552187-0.806856I$ $b=-1.00714+2.45174I$	$3.48223+7.89026I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.168000+0.425870I$ $a=-0.974961-0.465503I$ $b=\ \ 1.39657+0.95645I$	$7.99615+2.91423I$	0
$u=-1.168000-0.425870I$ $a=-0.974961+0.465503I$ $b=\ \ 1.39657-0.95645I$	$7.99615-2.91423I$	0
$u=\ \ 0.153101+0.737841I$ $a=\ \ 3.02088-0.15622I$ $b=-1.64182-0.30778I$	$-1.82730+6.62412I$	0
$u=\ \ 0.153101-0.737841I$ $a=\ \ 3.02088+0.15622I$ $b=-1.64182+0.30778I$	$-1.82730-6.62412I$	0
$u=-0.112644+1.241550I$ $a=\ \ 0.153891+0.235932I$ $b=\ \ 0.778653+0.677481I$	$1.42418-1.09821I$	0
$u=-0.112644-1.241550I$ $a=\ \ 0.153891-0.235932I$ $b=\ \ 0.778653-0.677481I$	$1.42418+1.09821I$	0
$u=\ \ 0.864442+0.899652I$ $a=\ \ 1.182090-0.278870I$ $b=-0.572044-0.187611I$	$2.09442+3.19547I$	0
$u=\ \ 0.864442-0.899652I$ $a=\ \ 1.182090+0.278870I$ $b=-0.572044+0.187611I$	$2.09442-3.19547I$	0
$u=\ \ 0.669954+1.054250I$ $a=\ \ 1.63340-0.76545I$ $b=-1.23338-1.10889I$	$1.37396+7.30647I$	0
$u=\ \ 0.669954-1.054250I$ $a=\ \ 1.63340+0.76545I$ $b=-1.23338+1.10889I$	$1.37396-7.30647I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.843299 + 0.923345I$ $a = -1.270000 + 0.184509I$ $b = 1.021560 + 0.207033I$	$6.94915 + 8.95337I$	0
$u = 0.843299 - 0.923345I$ $a = -1.270000 - 0.184509I$ $b = 1.021560 - 0.207033I$	$6.94915 - 8.95337I$	0
$u = -0.034984 + 0.747340I$ $a = -0.49181 + 2.26827I$ $b = -0.023193 + 0.891633I$	$-2.96917 - 1.87590I$	0
$u = -0.034984 - 0.747340I$ $a = -0.49181 - 2.26827I$ $b = -0.023193 - 0.891633I$	$-2.96917 + 1.87590I$	0
$u = 0.862675 + 0.908381I$ $a = 1.19647 - 0.84731I$ $b = -1.80368 - 0.35487I$	$6.71889 + 3.19714I$	0
$u = 0.862675 - 0.908381I$ $a = 1.19647 + 0.84731I$ $b = -1.80368 + 0.35487I$	$6.71889 - 3.19714I$	0
$u = 0.867416 + 0.906743I$ $a = -0.957675 + 0.812797I$ $b = 0.831351 + 0.131063I$	$7.01588 - 2.60498I$	0
$u = 0.867416 - 0.906743I$ $a = -0.957675 - 0.812797I$ $b = 0.831351 - 0.131063I$	$7.01588 + 2.60498I$	0
$u = -0.028671 + 1.267850I$ $a = 0.108336 - 0.174158I$ $b = 0.503457 - 0.862215I$	$-6.65093 - 4.63965I$	0
$u = -0.028671 - 1.267850I$ $a = 0.108336 + 0.174158I$ $b = 0.503457 + 0.862215I$	$-6.65093 + 4.63965I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.821388+0.970905I$ $a=-0.282877-1.072230I$ $b=\ \ 1.70773+0.94201I$	$5.77564+0.96510I$	0
$u=-0.821388-0.970905I$ $a=-0.282877+1.072230I$ $b=\ \ 1.70773-0.94201I$	$5.77564-0.96510I$	0
$u=\ \ 0.033704+0.721762I$ $a=\ \ 1.81064-0.38034I$ $b=\ \ 0.118872+1.154120I$	$1.59669+5.57431I$	0
$u=\ \ 0.033704-0.721762I$ $a=\ \ 1.81064+0.38034I$ $b=\ \ 0.118872-1.154120I$	$1.59669-5.57431I$	0
$u=\ \ 0.174916+1.286800I$ $a=\ \ 0.616426+0.686059I$ $b=\ \ 0.414880-0.327866I$	$-4.99918+3.26807I$	0
$u=\ \ 0.174916-1.286800I$ $a=\ \ 0.616426-0.686059I$ $b=\ \ 0.414880+0.327866I$	$-4.99918-3.26807I$	0
$u=\ \ 0.212642+0.658814I$ $a=-2.15917+0.34791I$ $b=\ \ 1.56463+0.39719I$	$-3.62438-0.54544I$	0
$u=\ \ 0.212642-0.658814I$ $a=-2.15917-0.34791I$ $b=\ \ 1.56463-0.39719I$	$-3.62438+0.54544I$	0
$u=\ \ 1.140830+0.647861I$ $a=\ \ 0.897795-0.333185I$ $b=-1.50578+0.11998I$	$7.87514+2.68541I$	0
$u=\ \ 1.140830-0.647861I$ $a=\ \ 0.897795+0.333185I$ $b=-1.50578-0.11998I$	$7.87514-2.68541I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.998573+0.854753I$ $a=\ \ 0.975218+0.457198I$ $b=-1.77319+0.49323I$	$4.89520-3.41859I$	0
$u=-0.998573-0.854753I$ $a=\ \ 0.975218-0.457198I$ $b=-1.77319-0.49323I$	$4.89520+3.41859I$	0
$u=\ \ 0.869842+0.991031I$ $a=-0.169305+0.385479I$ $b=-0.466720+1.289420I$	$2.31179-1.90765I$	0
$u=\ \ 0.869842-0.991031I$ $a=-0.169305-0.385479I$ $b=-0.466720-1.289420I$	$2.31179+1.90765I$	0
$u=-1.204450+0.565041I$ $a=\ \ 0.844496+0.594811I$ $b=-1.55063-0.93005I$	$7.27555+11.72080I$	0
$u=-1.204450-0.565041I$ $a=\ \ 0.844496-0.594811I$ $b=-1.55063+0.93005I$	$7.27555-11.72080I$	0
$u=\ \ 0.808166+1.070570I$ $a=-1.33853+0.58619I$ $b=\ \ 1.41625+0.93683I$	$0.07313+12.19180I$	0
$u=\ \ 0.808166-1.070570I$ $a=-1.33853-0.58619I$ $b=\ \ 1.41625-0.93683I$	$0.07313-12.19180I$	0
$u=-0.725048+1.133240I$ $a=\ \ 0.562765+0.738364I$ $b=-0.833754+0.419374I$	$1.29566-4.18924I$	0
$u=-0.725048-1.133240I$ $a=\ \ 0.562765-0.738364I$ $b=-0.833754-0.419374I$	$1.29566+4.18924I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.882094+1.018760I$ $a=\ \ 1.145120-0.027396I$ $b=\ \ 0.05546+2.49898I$	$2.98824+1.36817I$	0
$u=-0.882094-1.018760I$ $a=\ \ 1.145120+0.027396I$ $b=\ \ 0.05546-2.49898I$	$2.98824-1.36817I$	0
$u=-0.193620+1.333660I$ $a=-0.407376+0.592281I$ $b=-0.261322+0.448925I$	$-3.37248-3.69505I$	0
$u=-0.193620-1.333660I$ $a=-0.407376-0.592281I$ $b=-0.261322-0.448925I$	$-3.37248+3.69505I$	0
$u=-0.946331+0.974359I$ $a=\ \ 0.813981+0.718416I$ $b=-1.81386+0.33000I$	$4.54955-3.62392I$	0
$u=-0.946331-0.974359I$ $a=\ \ 0.813981-0.718416I$ $b=-1.81386-0.33000I$	$4.54955+3.62392I$	0
$u=-0.061281+0.621635I$ $a=\ \ 3.88537+0.98413I$ $b=\ \ 0.107506-0.145973I$	$-3.40281+1.27636I$	$-12.26288-7.00920I$
$u=-0.061281-0.621635I$ $a=\ \ 3.88537-0.98413I$ $b=\ \ 0.107506+0.145973I$	$-3.40281-1.27636I$	$-12.26288+7.00920I$
$u=\ \ 0.775214+1.149470I$ $a=\ \ 0.748949-0.809684I$ $b=-1.226430-0.377536I$	$6.21815+4.16704I$	0
$u=\ \ 0.775214-1.149470I$ $a=\ \ 0.748949+0.809684I$ $b=-1.226430+0.377536I$	$6.21815-4.16704I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.75604 + 1.25684I$ $a = -0.670944 + 0.642989I$ $b = 0.863818 + 0.561419I$	$6.06867 + 10.85700I$	0
$u = 0.75604 - 1.25684I$ $a = -0.670944 - 0.642989I$ $b = 0.863818 - 0.561419I$	$6.06867 - 10.85700I$	0
$u = -0.82383 + 1.23170I$ $a = 1.24067 + 0.79563I$ $b = -1.41217 + 1.20906I$	$5.1520 - 18.9181I$	0
$u = -0.82383 - 1.23170I$ $a = 1.24067 - 0.79563I$ $b = -1.41217 - 1.20906I$	$5.1520 + 18.9181I$	0
$u = 0.160514 + 0.456663I$ $a = 0.214376 - 0.603944I$ $b = -0.36058 - 1.65122I$	$0.00787 + 4.61819I$	$11.4715 - 20.9048I$
$u = 0.160514 - 0.456663I$ $a = 0.214376 + 0.603944I$ $b = -0.36058 + 1.65122I$	$0.00787 - 4.61819I$	$11.4715 + 20.9048I$
$u = -0.78200 + 1.30530I$ $a = -1.14111 - 0.91394I$ $b = 1.35057 - 1.19576I$	$5.27061 - 9.92002I$	0
$u = -0.78200 - 1.30530I$ $a = -1.14111 + 0.91394I$ $b = 1.35057 + 1.19576I$	$5.27061 + 9.92002I$	0
$u = -0.039529 + 0.475721I$ $a = 1.27599 + 2.46240I$ $b = 0.297227 + 1.158780I$	$-3.21089 + 4.28979I$	$3.33448 - 5.18906I$
$u = -0.039529 - 0.475721I$ $a = 1.27599 - 2.46240I$ $b = 0.297227 - 1.158780I$	$-3.21089 - 4.28979I$	$3.33448 + 5.18906I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.422410+0.209414I$ $a=-0.555157-0.228123I$ $b=-0.469845+0.334236I$	$1.01948-1.23743I$	$4.20329+3.96512I$
$u=-0.422410-0.209414I$ $a=-0.555157+0.228123I$ $b=-0.469845-0.334236I$	$1.01948+1.23743I$	$4.20329-3.96512I$
$u=0.371033+0.270161I$ $a=-2.48164-0.01149I$ $b=0.500000+0.866025I$	$-1.90371-1.10694I$	$-0.37097-1.58941I$
$u=0.371033-0.270161I$ $a=-2.48164+0.01149I$ $b=0.500000-0.866025I$	$-1.90371+1.10694I$	$-0.37097+1.58941I$
$u=-0.09024+1.58410I$ $a=0.113578+0.098809I$ $b=0.281980+0.073712I$	$-7.89510-3.78041I$	0
$u=-0.09024-1.58410I$ $a=0.113578-0.098809I$ $b=0.281980-0.073712I$	$-7.89510+3.78041I$	0
$u=-0.133502+0.383101I$ $a=0.02333-2.26395I$ $b=-0.651010-0.850791I$	$0.67686+1.58940I$	$3.58641-3.73774I$
$u=-0.133502-0.383101I$ $a=0.02333+2.26395I$ $b=-0.651010+0.850791I$	$0.67686-1.58940I$	$3.58641+3.73774I$
$u=0.02446+1.62419I$ $a=-0.01693+1.80129I$ $b=0.25230+1.82144I$	$-8.41303-0.26302I$	0
$u=0.02446-1.62419I$ $a=-0.01693-1.80129I$ $b=0.25230-1.82144I$	$-8.41303+0.26302I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.02155+1.64538I$ $a=-0.318766-0.112674I$ $b=-1.308240-0.390378I$	$-1.26612+7.02528I$	0
$u=-0.02155-1.64538I$ $a=-0.318766+0.112674I$ $b=-1.308240+0.390378I$	$-1.26612-7.02528I$	0

II.

$\boldsymbol{I_2^u = \langle 2.21\times10^{15}u^{37}+2.57\times10^{15}u^{36}+\cdots+1.24\times10^{14}b+4.01\times10^{15},\ -5.11\times10^{15}u^{37}-2.87\times10^{15}u^{36}+\cdots+1.24\times10^{14}a-2.74\times10^{15},\ u^{38}+u^{37}+\cdots+8u+1\rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix}41.2110u^{37}+23.1884u^{36}+\cdots+114.160u+22.0683\\-17.8263u^{37}-20.7430u^{36}+\cdots-226.039u-32.3374\end{pmatrix}$$

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

$$a_6 = \begin{pmatrix}4.89655u^{37}+4.67887u^{36}+\cdots-340.218u-77.1373\\-14.7759u^{37}-12.3844u^{36}+\cdots+34.7831u+13.1159\end{pmatrix}$$

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

$$a_9 = \begin{pmatrix}u^2+1\\-u^4-2u^2\end{pmatrix}$$

$$a_2 = \begin{pmatrix}39.7874u^{37}+27.1666u^{36}+\cdots+192.541u+33.5465\\-16.0273u^{37}-21.6073u^{36}+\cdots-262.630u-38.4139\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-4.15000u^{37}+13.4658u^{36}+\cdots+91.2698u-2.12113\\4.91390u^{37}+9.47159u^{36}+\cdots-1.86500u-5.30295\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-22.7763u^{37}-30.8521u^{36}+\cdots-543.188u-89.0244\\7.40997u^{37}+9.61385u^{36}+\cdots+187.485u+30.2573\end{pmatrix}$$

$$a_4 = \begin{pmatrix}28.2968u^{37}+32.5127u^{36}+\cdots+322.063u+44.5534\\6.53872u^{37}+7.14350u^{36}+\cdots-54.1511u-18.4913\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-22.7763u^{37}-30.8521u^{36}+\cdots-543.188u-89.0244\\6.73364u^{37}+3.75440u^{36}+\cdots+100.102u+22.1815\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{10085961989622165}{123978150535333}u^{37}-\frac{6099794657326206}{123978150535333}u^{36}+\cdots+\frac{108833598907836563}{123978150535333}u+\frac{23076711760686256}{123978150535333}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{38} - 20u^{37} + \cdots + 2u + 1$
c_2	$u^{38} + 3u^{37} + \cdots - 7u + 1$
c_3	$u^{38} + 12u^{36} + \cdots + 3u + 1$
c_4	$u^{38} - 2u^{37} + \cdots - 4u + 1$
c_5	$u^{38} - u^{37} + \cdots + 19u + 1$
c_6	$u^{38} - 2u^{37} + \cdots + u + 1$
c_7, c_8	$u^{38} + u^{37} + \cdots + 8u + 1$
c_9	$u^{38} + 2u^{37} + \cdots + 4u + 1$
c_{10}	$u^{38} - 2u^{37} + \cdots + u + 1$
c_{11}	$u^{38} + u^{37} + \cdots - u + 1$
c_{12}	$u^{38} - u^{37} + \cdots - 8u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{38} - 20y^{37} + \cdots - 58y + 1$
c_2	$y^{38} - 17y^{37} + \cdots - 23y + 1$
c_3	$y^{38} + 24y^{37} + \cdots + 11y + 1$
c_4, c_9	$y^{38} + 36y^{37} + \cdots + 38y + 1$
c_5	$y^{38} - 7y^{37} + \cdots - 31y + 1$
c_6	$y^{38} + 22y^{37} + \cdots - 11y + 1$
c_7, c_8, c_{12}	$y^{38} + 31y^{37} + \cdots + 6y + 1$
c_{10}	$y^{38} + 10y^{37} + \cdots - 29y + 1$
c_{11}	$y^{38} + 21y^{37} + \cdots + 11y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.451306+0.903467I$ $a=-0.347563+0.407354I$ $b=\ \ 0.602503+0.864518I$	$0.190196+0.083583I$	$-0.58496-4.03197I$
$u=-0.451306-0.903467I$ $a=-0.347563-0.407354I$ $b=\ \ 0.602503-0.864518I$	$0.190196-0.083583I$	$-0.58496+4.03197I$
$u=-0.502516+0.939528I$ $a=-0.648488-1.170890I$ $b=\ \ 0.477032-0.725108I$	$-0.01101-3.80249I$	$2.30252+5.20448I$
$u=-0.502516-0.939528I$ $a=-0.648488+1.170890I$ $b=\ \ 0.477032+0.725108I$	$-0.01101+3.80249I$	$2.30252-5.20448I$
$u=-0.679005+0.836561I$ $a=-1.220540-0.184410I$ $b=\ \ 0.331870-0.217226I$	$-0.38007-2.62741I$	$-9.36759+5.92322I$
$u=-0.679005-0.836561I$ $a=-1.220540+0.184410I$ $b=\ \ 0.331870+0.217226I$	$-0.38007+2.62741I$	$-9.36759-5.92322I$
$u=\ \ 0.650130+0.871012I$ $a=\ \ 0.428864-1.104410I$ $b=-0.797116+0.624859I$	$2.75386-3.50131I$	$5.88588+6.73941I$
$u=\ \ 0.650130-0.871012I$ $a=\ \ 0.428864+1.104410I$ $b=-0.797116-0.624859I$	$2.75386+3.50131I$	$5.88588-6.73941I$
$u=\ \ 0.633254+0.981446I$ $a=\ \ 1.91001-0.52929I$ $b=-0.904993-1.076120I$	$2.33589+8.43047I$	$0.-8.47626I$
$u=\ \ 0.633254-0.981446I$ $a=\ \ 1.91001+0.52929I$ $b=-0.904993+1.076120I$	$2.33589-8.43047I$	$0.+8.47626I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.827672 + 0.840045I$ $a = 0.590176 + 0.105534I$ $b = 0.17950 - 1.72871I$	$4.17352 + 7.68243I$	$0. - 6.56215I$
$u = 0.827672 - 0.840045I$ $a = 0.590176 - 0.105534I$ $b = 0.17950 + 1.72871I$	$4.17352 - 7.68243I$	$0. + 6.56215I$
$u = 0.064547 + 1.219310I$ $a = -0.0218302 + 0.0346742I$ $b = -0.391760 - 0.884165I$	$-5.69012 + 4.66628I$	0
$u = 0.064547 - 1.219310I$ $a = -0.0218302 - 0.0346742I$ $b = -0.391760 + 0.884165I$	$-5.69012 - 4.66628I$	0
$u = 0.028072 + 1.261180I$ $a = 1.70413 - 0.11299I$ $b = 0.624024 - 0.020719I$	$-3.89122 + 6.23694I$	0
$u = 0.028072 - 1.261180I$ $a = 1.70413 + 0.11299I$ $b = 0.624024 + 0.020719I$	$-3.89122 - 6.23694I$	0
$u = -0.188978 + 1.254190I$ $a = -0.692499 + 1.176020I$ $b = -0.493782 - 0.015419I$	$-5.76997 - 2.65087I$	0
$u = -0.188978 - 1.254190I$ $a = -0.692499 - 1.176020I$ $b = -0.493782 + 0.015419I$	$-5.76997 + 2.65087I$	0
$u = 0.030199 + 0.730324I$ $a = -0.92630 + 1.93227I$ $b = -0.310248 + 1.140760I$	$-3.70220 - 4.25426I$	$-14.0486 + 4.9324I$
$u = 0.030199 - 0.730324I$ $a = -0.92630 - 1.93227I$ $b = -0.310248 - 1.140760I$	$-3.70220 + 4.25426I$	$-14.0486 - 4.9324I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.085739+1.325180I$ $a=\ \ 0.117496-0.588596I$ $b=\ \ 0.517700-0.894029I$	$-3.47421-4.67267I$	0
$u=-0.085739-1.325180I$ $a=\ \ 0.117496+0.588596I$ $b=\ \ 0.517700+0.894029I$	$-3.47421+4.67267I$	0
$u=-0.063279+0.664839I$ $a=-3.84161-1.01884I$ $b=\ \ 1.032070-0.160318I$	$-1.43779-6.31906I$	$5.25113+5.16598I$
$u=-0.063279-0.664839I$ $a=-3.84161+1.01884I$ $b=\ \ 1.032070+0.160318I$	$-1.43779+6.31906I$	$5.25113-5.16598I$
$u=-0.996727+0.906277I$ $a=-0.927992-0.551384I$ $b=\ \ 1.82220-0.48177I$	$4.88151-3.58975I$	0
$u=-0.996727-0.906277I$ $a=-0.927992+0.551384I$ $b=\ \ 1.82220+0.48177I$	$4.88151+3.58975I$	0
$u=\ \ 0.861802+1.054670I$ $a=-0.734314-0.025917I$ $b=-0.51066+1.96311I$	$3.53707-1.40582I$	0
$u=\ \ 0.861802-1.054670I$ $a=-0.734314+0.025917I$ $b=-0.51066-1.96311I$	$3.53707+1.40582I$	0
$u=-0.211084+0.566061I$ $a=\ \ 3.23929+0.50851I$ $b=-0.776498+0.496353I$	$-3.04438+0.86625I$	$-1.39436+2.15949I$
$u=-0.211084-0.566061I$ $a=\ \ 3.23929-0.50851I$ $b=-0.776498-0.496353I$	$-3.04438-0.86625I$	$-1.39436-2.15949I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.053582 + 0.542045I$ $a = 0.539577 + 0.224372I$ $b = 0.26427 + 1.57332I$	$-0.15942 + 4.43413I$	$-10.53943 + 2.99543I$
$u = 0.053582 - 0.542045I$ $a = 0.539577 - 0.224372I$ $b = 0.26427 - 1.57332I$	$-0.15942 - 4.43413I$	$-10.53943 - 2.99543I$
$u = -0.10799 + 1.55968I$ $a = -0.162070 - 0.007521I$ $b = -0.215243 - 0.226908I$	$-7.97802 - 3.71396I$	0
$u = -0.10799 - 1.55968I$ $a = -0.162070 + 0.007521I$ $b = -0.215243 + 0.226908I$	$-7.97802 + 3.71396I$	0
$u = -0.06838 + 1.63606I$ $a = 0.14157 + 1.77199I$ $b = -0.21790 + 1.85471I$	$-8.37277 + 0.50017I$	0
$u = -0.06838 - 1.63606I$ $a = 0.14157 - 1.77199I$ $b = -0.21790 - 1.85471I$	$-8.37277 - 0.50017I$	0
$u = -0.294252 + 0.005994I$ $a = 3.35210 + 1.68583I$ $b = -0.232974 - 0.860506I$	$-1.92475 - 2.02692I$	$-0.97988 + 5.14562I$
$u = -0.294252 - 0.005994I$ $a = 3.35210 - 1.68583I$ $b = -0.232974 + 0.860506I$	$-1.92475 + 2.02692I$	$-0.97988 - 5.14562I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{38}-20u^{37}+\cdots+2u+1)(u^{112}+11u^{111}+\cdots-11u+1)$
c_2	$(u^{38}+3u^{37}+\cdots-7u+1)(u^{112}+2u^{111}+\cdots-245060u+69175)$
c_3	$(u^{38}+12u^{36}+\cdots+3u+1)(u^{112}+3u^{111}+\cdots+3092u+3329)$
c_4	$(u^{38}-2u^{37}+\cdots-4u+1)(u^{112}+u^{111}+\cdots+193u+1)$
c_5	$(u^{38}-u^{37}+\cdots+19u+1)(u^{112}-2u^{111}+\cdots-1572680u+716581)$
c_6	$(u^{38}-2u^{37}+\cdots+u+1)(u^{112}-7u^{111}+\cdots+312132u+23423)$
c_7, c_8	$(u^{38}+u^{37}+\cdots+8u+1)(u^{112}-2u^{111}+\cdots-459u+289)$
c_9	$(u^{38}+2u^{37}+\cdots+4u+1)(u^{112}+u^{111}+\cdots+193u+1)$
c_{10}	$(u^{38}-2u^{37}+\cdots+u+1)(u^{112}+u^{111}+\cdots+72748u+7829)$
c_{11}	$(u^{38}+u^{37}+\cdots-u+1)(u^{112}-2u^{111}+\cdots+16u+1)$
c_{12}	$(u^{38}-u^{37}+\cdots-8u+1)(u^{112}-2u^{111}+\cdots-459u+289)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{38} - 20y^{37} + \cdots - 58y + 1)(y^{112} - 15y^{111} + \cdots - 37y + 1)$
c_2	$(y^{38} - 17y^{37} + \cdots - 23y + 1)$ $\cdot (y^{112} + 20y^{111} + \cdots + 765903812450y + 4785180625)$
c_3	$(y^{38} + 24y^{37} + \cdots + 11y + 1)$ $\cdot (y^{112} + 17y^{111} + \cdots - 245986044y + 11082241)$
c_4, c_9	$(y^{38} + 36y^{37} + \cdots + 38y + 1)(y^{112} + 97y^{111} + \cdots + 33271y + 1)$
c_5	$(y^{38} - 7y^{37} + \cdots - 31y + 1)$ $\cdot (y^{112} + 18y^{111} + \cdots - 11466541483818y + 513488329561)$
c_6	$(y^{38} + 22y^{37} + \cdots - 11y + 1)$ $\cdot (y^{112} - 9y^{111} + \cdots - 1897506918y + 548636929)$
c_7, c_8, c_{12}	$(y^{38} + 31y^{37} + \cdots + 6y + 1)(y^{112} + 48y^{111} + \cdots + 4810983y + 83521)$
c_{10}	$(y^{38} + 10y^{37} + \cdots - 29y + 1)$ $\cdot (y^{112} + 39y^{111} + \cdots - 3571112828y + 61293241)$
c_{11}	$(y^{38} + 21y^{37} + \cdots + 11y + 1)(y^{112} + 30y^{111} + \cdots + 192y + 1)$