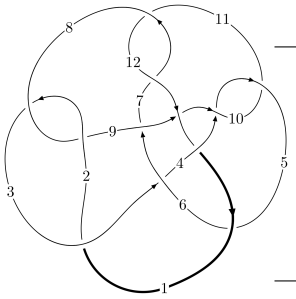
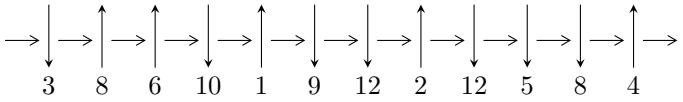
$12n_{0622}$ $(K12n_{0622})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 4.92452 \times 10^{287} u^{78} + 1.93718 \times 10^{288} u^{77} + \cdots + 2.14374 \times 10^{288} b + 4.20946 \times 10^{287},$$
$$1.49187 \times 10^{288} u^{78} + 4.54831 \times 10^{288} u^{77} + \cdots + 2.14374 \times 10^{288} a + 3.02836 \times 10^{288},\ u^{79} + 4u^{78} + \cdots - 15u$$
$$I_2^u = \langle 8.86602 \times 10^{26} u^{29} + 4.96461 \times 10^{27} u^{28} + \cdots + 2.07890 \times 10^{27} b - 8.46568 \times 10^{27},$$
$$- 2.14303 \times 10^{27} u^{29} - 1.46624 \times 10^{28} u^{28} + \cdots + 2.07890 \times 10^{27} a + 2.20584 \times 10^{27},\ u^{30} + 7u^{29} + \cdots - 2u +$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 109 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. $\boldsymbol{I_1^u = \langle 4.92 \times 10^{287} u^{78} + 1.94 \times 10^{288} u^{77} + \cdots + 2.14 \times 10^{288} b + 4.21 \times 10^{287},\ 1.49 \times 10^{288} u^{78} + 4.55 \times 10^{288} u^{77} + \cdots + 2.14 \times 10^{288} a + 3.03 \times 10^{288},\ u^{79} + 4u^{78} + \cdots - 15u - 2 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -0.695917u^{78} - 2.12167u^{77} + \cdots + 3.19841u - 1.41265 \\ -0.229716u^{78} - 0.903642u^{77} + \cdots + 3.41853u - 0.196360 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.80728u^{78} - 6.63665u^{77} + \cdots + 33.4230u + 4.46023 \\ 0.282833u^{78} + 0.998771u^{77} + \cdots + 5.24866u + 1.63785 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.28126u^{78} - 4.73105u^{77} + \cdots + 59.6882u + 8.86459 \\ -0.0732110u^{78} - 0.146482u^{77} + \cdots - 14.5367u - 3.50294 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1.52445u^{78} - 5.63788u^{77} + \cdots + 38.6717u + 6.09808 \\ 0.282833u^{78} + 0.998771u^{77} + \cdots + 5.24866u + 1.63785 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.671308u^{78} - 3.15509u^{77} + \cdots + 49.0749u + 14.1783 \\ 0.212306u^{78} + 0.790438u^{77} + \cdots - 8.06833u - 1.68927 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.73942u^{78} - 6.33735u^{77} + \cdots + 29.5732u + 3.54039 \\ 0.312581u^{78} + 1.11717u^{77} + \cdots + 3.27223u + 1.31700 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -3.40969u^{78} - 12.5097u^{77} + \cdots + 117.027u + 16.8820 \\ -0.193655u^{78} - 0.656440u^{77} + \cdots - 7.35796u - 2.70038 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.593823u^{78} + 1.60440u^{77} + \cdots + 10.7553u + 9.93213 \\ 0.224564u^{78} + 0.848409u^{77} + \cdots - 5.84297u - 1.44066 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.06875u^{78} + 4.43417u^{77} + \cdots - 57.8967u - 11.3128 \\ -0.200371u^{78} - 0.773026u^{77} + \cdots + 6.71504u + 0.666681 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.466124u^{78} - 1.35878u^{77} + \cdots - 90.0451u - 15.6671$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{79} + 43u^{78} + \cdots - 1004u - 100$
c_2, c_8	$u^{79} + 3u^{78} + \cdots - 14u - 10$
c_3	$u^{79} + 4u^{78} + \cdots - 15u - 2$
c_4, c_{10}	$u^{79} - 2u^{78} + \cdots - 120u + 26$
c_5	$u^{79} - 2u^{78} + \cdots - 8478u - 3078$
c_6	$u^{79} - 6u^{78} + \cdots + 1496873u + 115748$
c_7, c_{11}	$u^{79} + 4u^{78} + \cdots + 1193295u - 523514$
c_9	$u^{79} - 5u^{78} + \cdots + 16594u - 12214$
c_{12}	$u^{79} + 6u^{78} + \cdots + 45561u - 4572$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{79} - y^{78} + \cdots + 465616y - 10000$
c_2, c_8	$y^{79} + 43y^{78} + \cdots - 1004y - 100$
c_3	$y^{79} - 8y^{78} + \cdots - 151y - 4$
c_4, c_{10}	$y^{79} - 60y^{78} + \cdots + 42480y - 676$
c_5	$y^{79} + 8y^{78} + \cdots - 207913716y - 9474084$
c_6	$y^{79} - 116y^{78} + \cdots + 1057720100009y - 13397599504$
c_7, c_{11}	$y^{79} - 90y^{78} + \cdots + 5429126130809y - 274066908196$
c_9	$y^{79} - 103y^{78} + \cdots + 453343244y - 149181796$
c_{12}	$y^{79} + 28y^{78} + \cdots + 771038217y - 20903184$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.816172 + 0.646013I$ $a = -1.209900 - 0.076500I$ $b = 0.70666 + 1.38162I$	$-9.03674 + 7.36246I$	0
$u = 0.816172 - 0.646013I$ $a = -1.209900 + 0.076500I$ $b = 0.70666 - 1.38162I$	$-9.03674 - 7.36246I$	0
$u = -0.851565 + 0.604278I$ $a = -0.096173 + 0.355509I$ $b = -0.432323 - 0.206165I$	$-0.59266 - 4.94262I$	0
$u = -0.851565 - 0.604278I$ $a = -0.096173 - 0.355509I$ $b = -0.432323 + 0.206165I$	$-0.59266 + 4.94262I$	0
$u = -1.034490 + 0.191822I$ $a = -0.361792 - 0.581823I$ $b = -0.241504 + 0.613860I$	$-0.96739 - 5.14315I$	0
$u = -1.034490 - 0.191822I$ $a = -0.361792 + 0.581823I$ $b = -0.241504 - 0.613860I$	$-0.96739 + 5.14315I$	0
$u = 0.013775 + 0.937830I$ $a = 0.51318 + 1.52869I$ $b = 0.585484 + 0.360436I$	$-8.21660 + 2.04904I$	$-8.02716 - 3.74321I$
$u = 0.013775 - 0.937830I$ $a = 0.51318 - 1.52869I$ $b = 0.585484 - 0.360436I$	$-8.21660 - 2.04904I$	$-8.02716 + 3.74321I$
$u = 0.700344 + 0.855508I$ $a = -0.934162 + 0.922785I$ $b = 0.369105 + 1.037020I$	$-1.01865 + 3.56912I$	0
$u = 0.700344 - 0.855508I$ $a = -0.934162 - 0.922785I$ $b = 0.369105 - 1.037020I$	$-1.01865 - 3.56912I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.448324 + 1.013580I$ $a = 0.752506 - 0.152892I$ $b = 0.520524 - 1.124140I$	$-10.49970 - 2.46799I$	0
$u = 0.448324 - 1.013580I$ $a = 0.752506 + 0.152892I$ $b = 0.520524 + 1.124140I$	$-10.49970 + 2.46799I$	0
$u = -0.633902 + 0.922767I$ $a = 1.021790 + 0.912971I$ $b = -0.461486 + 1.144140I$	$-3.30115 - 8.89430I$	0
$u = -0.633902 - 0.922767I$ $a = 1.021790 - 0.912971I$ $b = -0.461486 - 1.144140I$	$-3.30115 + 8.89430I$	0
$u = -0.660179 + 0.559566I$ $a = 1.78017 - 0.22112I$ $b = -0.578067 + 1.168530I$	$-5.07794 - 5.70686I$	$-7.10807 - 1.44397I$
$u = -0.660179 - 0.559566I$ $a = 1.78017 + 0.22112I$ $b = -0.578067 - 1.168530I$	$-5.07794 + 5.70686I$	$-7.10807 + 1.44397I$
$u = 1.085140 + 0.338076I$ $a = 0.255368 + 1.163830I$ $b = 0.070726 - 0.734940I$	$0.773012 + 1.152010I$	0
$u = 1.085140 - 0.338076I$ $a = 0.255368 - 1.163830I$ $b = 0.070726 + 0.734940I$	$0.773012 - 1.152010I$	0
$u = -0.937083 + 0.647339I$ $a = -1.101110 + 0.038652I$ $b = 0.744421 - 0.366284I$	$-0.58487 - 4.01785I$	0
$u = -0.937083 - 0.647339I$ $a = -1.101110 - 0.038652I$ $b = 0.744421 + 0.366284I$	$-0.58487 + 4.01785I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.220511+1.146240I$ $a=-0.436797-0.196503I$ $b=-0.295511-1.078110I$	$-7.37626+2.11501I$	0
$u=-0.220511-1.146240I$ $a=-0.436797+0.196503I$ $b=-0.295511+1.078110I$	$-7.37626-2.11501I$	0
$u=-0.868469+0.803966I$ $a=-0.675181-0.843567I$ $b=\ \ 0.772773+0.559676I$	$-0.96281-1.45120I$	0
$u=-0.868469-0.803966I$ $a=-0.675181+0.843567I$ $b=\ \ 0.772773-0.559676I$	$-0.96281+1.45120I$	0
$u=-0.574732+1.037720I$ $a=\ \ 0.152511+0.119525I$ $b=-0.15417-1.51805I$	$-15.5511-5.8296I$	0
$u=-0.574732-1.037720I$ $a=\ \ 0.152511-0.119525I$ $b=-0.15417+1.51805I$	$-15.5511+5.8296I$	0
$u=\ \ 0.779928+0.219709I$ $a=-0.0845212+0.0646654I$ $b=\ \ 0.448745+0.043523I$	$1.49146+0.64236I$	$4.77435+0.42718I$
$u=\ \ 0.779928-0.219709I$ $a=-0.0845212-0.0646654I$ $b=\ \ 0.448745-0.043523I$	$1.49146-0.64236I$	$4.77435-0.42718I$
$u=-0.069592+1.215010I$ $a=-0.284409+1.131300I$ $b=-0.153291+0.859355I$	$-6.20670+0.35244I$	0
$u=-0.069592-1.215010I$ $a=-0.284409-1.131300I$ $b=-0.153291-0.859355I$	$-6.20670-0.35244I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.381706+0.616663I$ $a=-0.646954-0.302471I$ $b=\ \ 0.63548+1.31769I$	$-3.12841+1.60812I$	$-9.18560+2.80861I$
$u=-0.381706-0.616663I$ $a=-0.646954+0.302471I$ $b=\ \ 0.63548-1.31769I$	$-3.12841-1.60812I$	$-9.18560-2.80861I$
$u=-0.588655+1.137800I$ $a=\ \ 0.137393+0.569291I$ $b=\ \ 0.046183+1.104620I$	$-6.54145-0.12000I$	0
$u=-0.588655-1.137800I$ $a=\ \ 0.137393-0.569291I$ $b=\ \ 0.046183-1.104620I$	$-6.54145+0.12000I$	0
$u=-0.926132+0.904026I$ $a=-1.89386-0.43776I$ $b=\ \ 0.663678-1.048350I$	$-2.40423-6.89015I$	0
$u=-0.926132-0.904026I$ $a=-1.89386+0.43776I$ $b=\ \ 0.663678+1.048350I$	$-2.40423+6.89015I$	0
$u=\ \ 0.043690+0.643510I$ $a=\ \ 1.38661-1.02506I$ $b=-0.652287-0.993200I$	$-2.52587+5.75002I$	$-4.75156-7.12777I$
$u=\ \ 0.043690-0.643510I$ $a=\ \ 1.38661+1.02506I$ $b=-0.652287+0.993200I$	$-2.52587-5.75002I$	$-4.75156+7.12777I$
$u=\ \ 0.630240$ $a=-1.27668$ $b=\ \ 1.47192$	-5.02482	5.52250
$u=-0.328954+0.535707I$ $a=\ \ 0.704767+0.026780I$ $b=-0.568775+0.504540I$	$-1.47696+0.84526I$	$-4.04601-1.22760I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.328954-0.535707I$ $a=\ \ 0.704767-0.026780I$ $b=-0.568775-0.504540I$	$-1.47696-0.84526I$	$-4.04601+1.22760I$
$u=-0.948643+1.013220I$ $a=\ \ 1.25177+0.68906I$ $b=-0.720763+0.189367I$	$-8.97766+3.13474I$	0
$u=-0.948643-1.013220I$ $a=\ \ 1.25177-0.68906I$ $b=-0.720763-0.189367I$	$-8.97766-3.13474I$	0
$u=\ \ 0.089016+0.565790I$ $a=\ \ 0.924897+0.743590I$ $b=-0.094656+0.871815I$	$-1.11180+1.12663I$	$-4.25436-4.77232I$
$u=\ \ 0.089016-0.565790I$ $a=\ \ 0.924897-0.743590I$ $b=-0.094656-0.871815I$	$-1.11180-1.12663I$	$-4.25436+4.77232I$
$u=-1.01144+1.00979I$ $a=\ \ 1.026240+0.432846I$ $b=-1.103030-0.337146I$	$-8.88395-10.49540I$	0
$u=-1.01144-1.00979I$ $a=\ \ 1.026240-0.432846I$ $b=-1.103030+0.337146I$	$-8.88395+10.49540I$	0
$u=\ \ 1.14947+0.85016I$ $a=\ \ 0.669035-0.352609I$ $b=-0.724647+0.698496I$	$3.57978+1.16112I$	0
$u=\ \ 1.14947-0.85016I$ $a=\ \ 0.669035+0.352609I$ $b=-0.724647-0.698496I$	$3.57978-1.16112I$	0
$u=\ \ 0.414725+0.345278I$ $a=-4.97629-2.25758I$ $b=\ \ 0.417806+1.104800I$	$-11.26510+5.06614I$	$-9.4830-11.2407I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.414725 - 0.345278I$ $a = -4.97629 + 2.25758I$ $b = 0.417806 - 1.104800I$	$-11.26510 - 5.06614I$	$-9.4830 + 11.2407I$
$u = 1.04842 + 1.01862I$ $a = -1.203070 + 0.380286I$ $b = 0.871333 - 0.297517I$	$-3.99736 + 3.71610I$	0
$u = 1.04842 - 1.01862I$ $a = -1.203070 - 0.380286I$ $b = 0.871333 + 0.297517I$	$-3.99736 - 3.71610I$	0
$u = 0.99411 + 1.13893I$ $a = 1.265690 - 0.370176I$ $b = -0.682775 - 1.000360I$	$2.66017 + 6.57787I$	0
$u = 0.99411 - 1.13893I$ $a = 1.265690 + 0.370176I$ $b = -0.682775 + 1.000360I$	$2.66017 - 6.57787I$	0
$u = -0.313888 + 0.338273I$ $a = -2.50850 - 0.01377I$ $b = 0.528219 - 0.898276I$	$-0.20481 - 2.07908I$	$-2.26565 + 3.54284I$
$u = -0.313888 - 0.338273I$ $a = -2.50850 + 0.01377I$ $b = 0.528219 + 0.898276I$	$-0.20481 + 2.07908I$	$-2.26565 - 3.54284I$
$u = -1.23948 + 0.96164I$ $a = -1.160200 - 0.083777I$ $b = 0.387636 - 1.191240I$	$-4.64705 - 7.48016I$	0
$u = -1.23948 - 0.96164I$ $a = -1.160200 + 0.083777I$ $b = 0.387636 + 1.191240I$	$-4.64705 + 7.48016I$	0
$u = -1.45045 + 0.60559I$ $a = 1.51675 - 0.63151I$ $b = -0.404021 + 1.183230I$	$-12.70520 - 0.62704I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.45045-0.60559I$ $a=\ \ 1.51675+0.63151I$ $b=-0.404021-1.183230I$	$-12.70520+0.62704I$	0
$u=-1.14535+1.15657I$ $a=\ \ 1.43220+0.07872I$ $b=-0.67392+1.25371I$	$-11.7549-16.8301I$	0
$u=-1.14535-1.15657I$ $a=\ \ 1.43220-0.07872I$ $b=-0.67392-1.25371I$	$-11.7549+16.8301I$	0
$u=-0.273434+0.201008I$ $a=\ \ 7.60180+6.40532I$ $b=\ \ 0.152256-0.562228I$	$-9.01819+2.00460I$	$-0.76875-9.29624I$
$u=-0.273434-0.201008I$ $a=\ \ 7.60180-6.40532I$ $b=\ \ 0.152256+0.562228I$	$-9.01819-2.00460I$	$-0.76875+9.29624I$
$u=\ \ 0.66920+1.56410I$ $a=-0.404676+0.100855I$ $b=\ \ 0.286627-1.202720I$	$-8.81807+0.31313I$	0
$u=\ \ 0.66920-1.56410I$ $a=-0.404676-0.100855I$ $b=\ \ 0.286627+1.202720I$	$-8.81807-0.31313I$	0
$u=-0.118942+0.240216I$ $a=\ \ 2.08281+1.06752I$ $b=-1.091290-0.434988I$	$-2.41782-0.14514I$	$-1.32526-13.85499I$
$u=-0.118942-0.240216I$ $a=\ \ 2.08281-1.06752I$ $b=-1.091290+0.434988I$	$-2.41782+0.14514I$	$-1.32526+13.85499I$
$u=\ \ 0.121981+0.177501I$ $a=\ \ 2.08700-0.27369I$ $b=-0.60868-1.42128I$	$-2.62990-0.59843I$	$-17.8564-15.9399I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.121981 - 0.177501I$ $a = 2.08700 + 0.27369I$ $b = -0.60868 + 1.42128I$	$-2.62990 + 0.59843I$	$-17.8564 + 15.9399I$
$u = 1.78645 + 0.03549I$ $a = 1.351430 + 0.373710I$ $b = -0.605004 - 0.852194I$	$4.83036 + 2.38662I$	0
$u = 1.78645 - 0.03549I$ $a = 1.351430 - 0.373710I$ $b = -0.605004 + 0.852194I$	$4.83036 - 2.38662I$	0
$u = 1.38258 + 1.16195I$ $a = -1.381930 - 0.144564I$ $b = 0.583135 + 1.190080I$	$-6.70689 + 9.09405I$	0
$u = 1.38258 - 1.16195I$ $a = -1.381930 + 0.144564I$ $b = 0.583135 - 1.190080I$	$-6.70689 - 9.09405I$	0
$u = -1.22703 + 1.33810I$ $a = 0.465359 + 0.291972I$ $b = -0.520857 - 1.179320I$	$-11.8473 + 7.8938I$	0
$u = -1.22703 - 1.33810I$ $a = 0.465359 - 0.291972I$ $b = -0.520857 + 1.179320I$	$-11.8473 - 7.8938I$	0
$u = 1.94618 + 0.21387I$ $a = 0.868595 + 0.099321I$ $b = -0.259693 - 0.876278I$	$2.80268 + 1.18375I$	0
$u = 1.94618 - 0.21387I$ $a = 0.868595 - 0.099321I$ $b = -0.259693 + 0.876278I$	$2.80268 - 1.18375I$	0

II.

$\boldsymbol{I_2^u = \langle 8.87\times 10^{26}u^{29}+4.96\times 10^{27}u^{28}+\cdots+2.08\times 10^{27}b-8.47\times 10^{27},\ -2.14\times 10^{27}u^{29}-1.47\times 10^{28}u^{28}+\cdots+2.08\times 10^{27}a+2.21\times 10^{27},\ u^{30}+7u^{29}+\cdots-2u+1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} 1.03085u^{29} + 7.05295u^{28} + \cdots + 12.2937u - 1.06106 \\ -0.426476u^{29} - 2.38809u^{28} + \cdots - 10.2361u + 4.07219 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.29736u^{29} - 8.81885u^{28} + \cdots - 17.3636u + 4.06889 \\ 2.19676u^{29} + 14.7075u^{28} + \cdots + 28.4474u - 7.43484 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.652770u^{29} + 4.35608u^{28} + \cdots + 14.2719u - 2.77345 \\ -1.82323u^{29} - 12.2133u^{28} + \cdots - 29.2448u + 6.44625 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.899401u^{29} + 5.88861u^{28} + \cdots + 11.0838u - 3.36596 \\ 2.19676u^{29} + 14.7075u^{28} + \cdots + 28.4474u - 7.43484 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.103982u^{29} - 0.503391u^{28} + \cdots - 3.73912u + 0.326999 \\ -0.631706u^{29} - 4.65881u^{28} + \cdots - 1.99763u - 0.427052 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.11318u^{29} - 7.51504u^{28} + \cdots - 15.6498u + 3.66170 \\ 1.91296u^{29} + 12.7681u^{28} + \cdots + 25.0660u - 6.75043 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.584554u^{29} + 3.97113u^{28} + \cdots + 14.7136u - 2.86263 \\ -1.71193u^{29} - 11.4621u^{28} + \cdots - 26.7669u + 6.11442 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.115312u^{29} + 0.750103u^{28} + \cdots + 0.568560u + 1.49311 \\ -0.197879u^{29} - 1.48329u^{28} + \cdots - 1.29316u - 1.23882 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.804684u^{29} + 5.84280u^{28} + \cdots + 4.74884u + 1.14498 \\ 0.204268u^{29} + 1.47370u^{28} + \cdots + 0.799106u + 0.163661 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{160949277941914621723808353 39}{10394511819302255036547033 38}u^{29} - \frac{57469821610208664971093176195}{51972559096511275182735 1669}u^{28} + \cdots - \frac{628171331162201726029790333 68}{51972559096511275182735 1669}u - \frac{17691556347968942647146425724}{51972559096511275182735 1669}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 16u^{29} + \cdots - 68u + 4$
c_2	$u^{30} + 2u^{29} + \cdots + 17u^2 + 2$
c_3	$u^{30} + 7u^{29} + \cdots - 2u + 1$
c_4	$u^{30} - u^{29} + \cdots - 2u + 2$
c_5	$u^{30} + u^{29} + \cdots - 10u + 2$
c_6	$u^{30} - 7u^{29} + \cdots - 381u + 29$
c_7	$u^{30} - u^{29} + \cdots - 2u + 1$
c_8	$u^{30} - 2u^{29} + \cdots + 17u^2 + 2$
c_9	$u^{30} - 14u^{29} + \cdots - 394u + 34$
c_{10}	$u^{30} + u^{29} + \cdots + 2u + 2$
c_{11}	$u^{30} + u^{29} + \cdots + 2u + 1$
c_{12}	$u^{30} - u^{29} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} + 8y^{29} + \cdots + 184y + 16$
c_2, c_8	$y^{30} + 16y^{29} + \cdots + 68y + 4$
c_3	$y^{30} - 11y^{29} + \cdots + 28y + 1$
c_4, c_{10}	$y^{30} - 15y^{29} + \cdots - 80y + 4$
c_5	$y^{30} - 7y^{29} + \cdots + 64y + 4$
c_6	$y^{30} - 23y^{29} + \cdots - 8281y + 841$
c_7, c_{11}	$y^{30} - 9y^{29} + \cdots + 18y + 1$
c_9	$y^{30} - 34y^{29} + \cdots - 35896y + 1156$
c_{12}	$y^{30} + y^{29} + \cdots + 27y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.982096 + 0.233503I$ $a = 0.541101 + 0.450562I$ $b = -0.582901 - 0.646856I$	$-0.28776 + 5.77132I$	$1.25910 - 9.61525I$
$u = 0.982096 - 0.233503I$ $a = 0.541101 - 0.450562I$ $b = -0.582901 + 0.646856I$	$-0.28776 - 5.77132I$	$1.25910 + 9.61525I$
$u = -0.656086 + 0.809604I$ $a = 1.48661 + 0.02876I$ $b = -0.593586 + 1.183260I$	$-5.04340 - 6.39979I$	$-6.78821 + 9.40377I$
$u = -0.656086 - 0.809604I$ $a = 1.48661 - 0.02876I$ $b = -0.593586 - 1.183260I$	$-5.04340 + 6.39979I$	$-6.78821 - 9.40377I$
$u = -0.917272 + 0.197982I$ $a = -0.307874 + 1.152100I$ $b = 0.276198 - 0.530692I$	$1.26278 - 1.69241I$	$2.26126 + 6.41443I$
$u = -0.917272 - 0.197982I$ $a = -0.307874 - 1.152100I$ $b = 0.276198 + 0.530692I$	$1.26278 + 1.69241I$	$2.26126 - 6.41443I$
$u = 0.918106 + 0.771715I$ $a = 1.85006 - 0.69444I$ $b = -0.573366 - 1.005450I$	$-1.33560 + 8.25410I$	$-2.50174 - 8.51251I$
$u = 0.918106 - 0.771715I$ $a = 1.85006 + 0.69444I$ $b = -0.573366 + 1.005450I$	$-1.33560 - 8.25410I$	$-2.50174 + 8.51251I$
$u = 1.065050 + 0.633149I$ $a = 0.446432 - 1.061380I$ $b = -0.541817 + 0.704779I$	$-0.31877 + 3.74358I$	$-2.88615 - 0.98751I$
$u = 1.065050 - 0.633149I$ $a = 0.446432 + 1.061380I$ $b = -0.541817 - 0.704779I$	$-0.31877 - 3.74358I$	$-2.88615 + 0.98751I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.338353 + 0.587512I$ $a = -2.38317 + 4.64737I$ $b = 0.217107 + 0.678621I$	$-9.24431 - 1.72175I$	$-14.9721 - 7.4712I$
$u = 0.338353 - 0.587512I$ $a = -2.38317 - 4.64737I$ $b = 0.217107 - 0.678621I$	$-9.24431 + 1.72175I$	$-14.9721 + 7.4712I$
$u = -0.206345 + 1.320460I$ $a = -0.045337 - 0.341218I$ $b = -0.346804 - 1.076280I$	$-7.20517 + 1.17304I$	$-7.63113 + 0.09572I$
$u = -0.206345 - 1.320460I$ $a = -0.045337 + 0.341218I$ $b = -0.346804 + 1.076280I$	$-7.20517 - 1.17304I$	$-7.63113 - 0.09572I$
$u = 0.064745 + 1.339480I$ $a = -0.158213 + 0.888109I$ $b = -0.246878 + 0.680207I$	$-5.60984 - 1.44808I$	$-3.47667 + 5.05288I$
$u = 0.064745 - 1.339480I$ $a = -0.158213 - 0.888109I$ $b = -0.246878 - 0.680207I$	$-5.60984 + 1.44808I$	$-3.47667 - 5.05288I$
$u = 0.548914 + 0.356673I$ $a = 0.05437 + 3.10960I$ $b = 0.390021 - 1.134390I$	$-11.21770 - 4.37056I$	$-8.39225 + 0.22548I$
$u = 0.548914 - 0.356673I$ $a = 0.05437 - 3.10960I$ $b = 0.390021 + 1.134390I$	$-11.21770 + 4.37056I$	$-8.39225 - 0.22548I$
$u = -1.094150 + 0.837675I$ $a = -0.594022 - 0.359918I$ $b = 0.760017 + 0.691233I$	$3.18674 - 0.90918I$	$-6.11506 - 3.48473I$
$u = -1.094150 - 0.837675I$ $a = -0.594022 + 0.359918I$ $b = 0.760017 - 0.691233I$	$3.18674 + 0.90918I$	$-6.11506 + 3.48473I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.94229+1.13914I$ $a=-1.232060-0.397667I$ $b=\ \ 0.710196-1.012440I$	$2.20945-6.51581I$	$-9.66086+5.08418I$
$u=-0.94229-1.13914I$ $a=-1.232060+0.397667I$ $b=\ \ 0.710196+1.012440I$	$2.20945+6.51581I$	$-9.66086-5.08418I$
$u=\ \ 0.069092+0.362777I$ $a=-0.320279-0.098113I$ $b=-0.19201+1.51694I$	$-2.71262+0.82083I$	$-22.1854-5.0074I$
$u=\ \ 0.069092-0.362777I$ $a=-0.320279+0.098113I$ $b=-0.19201-1.51694I$	$-2.71262-0.82083I$	$-22.1854+5.0074I$
$u=\ \ 0.000325+0.338133I$ $a=\ \ 1.39217+0.48419I$ $b=-1.24304-0.80655I$	$-2.56167-0.26101I$	$-42.1737+0.5963I$
$u=\ \ 0.000325-0.338133I$ $a=\ \ 1.39217-0.48419I$ $b=-1.24304+0.80655I$	$-2.56167+0.26101I$	$-42.1737-0.5963I$
$u=-1.82600+0.01286I$ $a=-1.44229+0.42842I$ $b=\ \ 0.597867-0.863795I$	$4.49936-2.35975I$	0
$u=-1.82600-0.01286I$ $a=-1.44229-0.42842I$ $b=\ \ 0.597867+0.863795I$	$4.49936+2.35975I$	0
$u=-1.84455+0.03679I$ $a=-0.787501+0.113823I$ $b=\ \ 0.368993-0.867157I$	$3.12478-1.56604I$	0
$u=-1.84455-0.03679I$ $a=-0.787501-0.113823I$ $b=\ \ 0.368993+0.867157I$	$3.12478+1.56604I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{30}-16u^{29}+\cdots-68u+4)(u^{79}+43u^{78}+\cdots-1004u-100)$
c_2	$(u^{30}+2u^{29}+\cdots+17u^2+2)(u^{79}+3u^{78}+\cdots-14u-10)$
c_3	$(u^{30}+7u^{29}+\cdots-2u+1)(u^{79}+4u^{78}+\cdots-15u-2)$
c_4	$(u^{30}-u^{29}+\cdots-2u+2)(u^{79}-2u^{78}+\cdots-120u+26)$
c_5	$(u^{30}+u^{29}+\cdots-10u+2)(u^{79}-2u^{78}+\cdots-8478u-3078)$
c_6	$(u^{30}-7u^{29}+\cdots-381u+29)$ $\cdot(u^{79}-6u^{78}+\cdots+1496873u+115748)$
c_7	$(u^{30}-u^{29}+\cdots-2u+1)(u^{79}+4u^{78}+\cdots+1193295u-523514)$
c_8	$(u^{30}-2u^{29}+\cdots+17u^2+2)(u^{79}+3u^{78}+\cdots-14u-10)$
c_9	$(u^{30}-14u^{29}+\cdots-394u+34)(u^{79}-5u^{78}+\cdots+16594u-12214)$
c_{10}	$(u^{30}+u^{29}+\cdots+2u+2)(u^{79}-2u^{78}+\cdots-120u+26)$
c_{11}	$(u^{30}+u^{29}+\cdots+2u+1)(u^{79}+4u^{78}+\cdots+1193295u-523514)$
c_{12}	$(u^{30}-u^{29}+\cdots-u+1)(u^{79}+6u^{78}+\cdots+45561u-4572)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{30}+8y^{29}+\cdots+184y+16)(y^{79}-y^{78}+\cdots+465616y-10000)$
c_2, c_8	$(y^{30}+16y^{29}+\cdots+68y+4)(y^{79}+43y^{78}+\cdots-1004y-100)$
c_3	$(y^{30}-11y^{29}+\cdots+28y+1)(y^{79}-8y^{78}+\cdots-151y-4)$
c_4, c_{10}	$(y^{30}-15y^{29}+\cdots-80y+4)(y^{79}-60y^{78}+\cdots+42480y-676)$
c_5	$(y^{30}-7y^{29}+\cdots+64y+4)$ $\cdot(y^{79}+8y^{78}+\cdots-207913716y-9474084)$
c_6	$(y^{30}-23y^{29}+\cdots-8281y+841)$ $\cdot(y^{79}-116y^{78}+\cdots+1057720100009y-13397599504)$
c_7, c_{11}	$(y^{30}-9y^{29}+\cdots+18y+1)$ $\cdot(y^{79}-90y^{78}+\cdots+5429126130809y-274066908196)$
c_9	$(y^{30}-34y^{29}+\cdots-35896y+1156)$ $\cdot(y^{79}-103y^{78}+\cdots+453343244y-149181796)$
c_{12}	$(y^{30}+y^{29}+\cdots+27y+1)$ $\cdot(y^{79}+28y^{78}+\cdots+771038217y-20903184)$