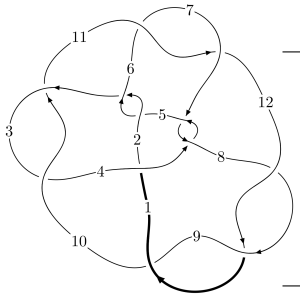
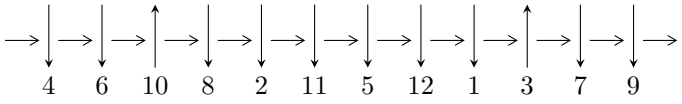
$12a_{0946}$ $(K12a_{0946})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.82351 \times 10^{199} u^{97} - 3.99104 \times 10^{199} u^{96} + \cdots + 1.17463 \times 10^{197} b - 5.97726 \times 10^{199}, \\ & - 8.41837 \times 10^{199} u^{97} + 3.53183 \times 10^{200} u^{96} + \cdots + 1.17463 \times 10^{197} a - 7.10346 \times 10^{200}, \\ & u^{98} - 4u^{97} + \cdots + 21u + 1 \rangle \\ I_2^u = \langle & -165708u^{22} - 355153u^{21} + \cdots + 96055b - 107266, \\ & 89858u^{22} + 320813u^{21} + \cdots + 96055a + 622041,\ u^{23} + 3u^{22} + \cdots + 5u - 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 121 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $\boldsymbol{I_1^u = \langle 1.82 \times 10^{199} u^{97} - 3.99 \times 10^{199} u^{96} + \cdots + 1.17 \times 10^{197} b - 5.98 \times 10^{199},\ -8.42 \times 10^{199} u^{97} + 3.53 \times 10^{200} u^{96} + \cdots + 1.17 \times 10^{197} a - 7.10 \times 10^{200},\ u^{98} - 4u^{97} + \cdots + 21u + 1 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 716.680u^{97} - 3006.74u^{96} + \cdots + 84179.0u + 6047.37 \\ -155.241u^{97} + 339.769u^{96} + \cdots + 7987.50u + 508.861 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 561.439u^{97} - 2666.97u^{96} + \cdots + 92166.5u + 6556.23 \\ -155.241u^{97} + 339.769u^{96} + \cdots + 7987.50u + 508.861 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2232.86u^{97} + 9464.74u^{96} + \cdots - 162707.u - 9052.39 \\ 240.514u^{97} - 994.313u^{96} + \cdots + 20176.8u + 1288.64 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 726.180u^{97} - 3041.76u^{96} + \cdots + 86152.2u + 6221.39 \\ -171.747u^{97} + 386.011u^{96} + \cdots + 8024.20u + 506.994 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -884.790u^{97} + 3739.52u^{96} + \cdots - 77156.6u - 4840.59 \\ 574.685u^{97} - 1162.46u^{96} + \cdots - 30034.5u - 1690.30 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2218.70u^{97} + 9267.40u^{96} + \cdots - 178246.u - 10919.1 \\ -1006.24u^{97} + 2826.71u^{96} + \cdots + 2301.61u - 78.0343 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2277.85u^{97} - 9597.62u^{96} + \cdots + 161982.u + 8982.40 \\ -434.686u^{97} + 1510.96u^{96} + \cdots - 17995.0u - 1202.35 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2276.86u^{97} + 4325.44u^{96} + \cdots + 123935.u + 6545.69$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{98} - 15u^{97} + \cdots + 8302550u - 947299$
c_2, c_5	$u^{98} - 37u^{96} + \cdots + 5041u - 631$
c_3, c_{10}	$u^{98} + u^{97} + \cdots - 633u - 389$
c_4, c_7	$u^{98} - 9u^{97} + \cdots - 284u - 61$
c_6, c_{11}	$u^{98} - u^{97} + \cdots + 3881u + 173$
c_8, c_9, c_{12}	$u^{98} + 4u^{97} + \cdots - 21u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{98} - 47y^{97} + \cdots - 51996320363916y + 897375395401$
c_2, c_5	$y^{98} - 74y^{97} + \cdots - 157589775y + 398161$
c_3, c_{10}	$y^{98} + 69y^{97} + \cdots + 1816611y + 151321$
c_4, c_7	$y^{98} + 23y^{97} + \cdots + 57570y + 3721$
c_6, c_{11}	$y^{98} - 91y^{97} + \cdots - 16222645y + 29929$
c_8, c_9, c_{12}	$y^{98} - 102y^{97} + \cdots - 139y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.869872 + 0.514495I$ $a = -0.048478 + 1.314500I$ $b = -0.088737 - 0.875286I$	$-0.28390 - 1.77488I$	0
$u = 0.869872 - 0.514495I$ $a = -0.048478 - 1.314500I$ $b = -0.088737 + 0.875286I$	$-0.28390 + 1.77488I$	0
$u = -0.270398 + 0.916483I$ $a = -0.39159 + 1.83133I$ $b = 0.573341 - 0.717745I$	$-8.98485 - 2.04867I$	0
$u = -0.270398 - 0.916483I$ $a = -0.39159 - 1.83133I$ $b = 0.573341 + 0.717745I$	$-8.98485 + 2.04867I$	0
$u = -0.585491 + 0.889556I$ $a = 0.17534 + 1.76595I$ $b = 0.658148 - 1.174700I$	$-8.1077 + 12.6582I$	0
$u = -0.585491 - 0.889556I$ $a = 0.17534 - 1.76595I$ $b = 0.658148 + 1.174700I$	$-8.1077 - 12.6582I$	0
$u = 0.704943 + 0.595999I$ $a = -0.891461 + 0.408499I$ $b = 0.510400 - 0.949226I$	$-3.04222 + 2.80965I$	0
$u = 0.704943 - 0.595999I$ $a = -0.891461 - 0.408499I$ $b = 0.510400 + 0.949226I$	$-3.04222 - 2.80965I$	0
$u = -0.882350 + 0.204173I$ $a = 0.141906 + 0.744432I$ $b = -0.403138 + 0.275887I$	$-4.53891 + 2.03666I$	0
$u = -0.882350 - 0.204173I$ $a = 0.141906 - 0.744432I$ $b = -0.403138 - 0.275887I$	$-4.53891 - 2.03666I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.097570+0.119002I$ $a=-0.118553-1.109170I$ $b=-0.123711+1.365490I$	$1.14164+3.24395I$	0
$u=-1.097570-0.119002I$ $a=-0.118553+1.109170I$ $b=-0.123711-1.365490I$	$1.14164-3.24395I$	0
$u=-0.688407+0.561148I$ $a=-0.650784-0.430337I$ $b=0.973526+0.319802I$	$-10.62400+6.79732I$	0
$u=-0.688407-0.561148I$ $a=-0.650784+0.430337I$ $b=0.973526-0.319802I$	$-10.62400-6.79732I$	0
$u=0.461679+0.753927I$ $a=0.80237-1.37988I$ $b=0.213932+0.897044I$	$0.78025-2.89614I$	0
$u=0.461679-0.753927I$ $a=0.80237+1.37988I$ $b=0.213932-0.897044I$	$0.78025+2.89614I$	0
$u=1.011600+0.503109I$ $a=0.678392-0.662548I$ $b=-0.194790+0.833586I$	$-0.370730-0.826230I$	0
$u=1.011600-0.503109I$ $a=0.678392+0.662548I$ $b=-0.194790-0.833586I$	$-0.370730+0.826230I$	0
$u=-0.671090+0.935512I$ $a=-0.749624-0.949294I$ $b=0.569152+0.950530I$	$-8.24796-6.61463I$	0
$u=-0.671090-0.935512I$ $a=-0.749624+0.949294I$ $b=0.569152-0.950530I$	$-8.24796+6.61463I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.522173+1.034860I$ $a=\ \ 0.04375-1.65386I$ $b=-0.539141+1.015470I$	$-3.10943+5.35221I$	0
$u=-0.522173-1.034860I$ $a=\ \ 0.04375+1.65386I$ $b=-0.539141-1.015470I$	$-3.10943-5.35221I$	0
$u=\ \ 0.387529+0.723166I$ $a=\ \ 0.04318-1.77881I$ $b=\ \ 0.726237+1.144420I$	$-2.08402-7.34587I$	0
$u=\ \ 0.387529-0.723166I$ $a=\ \ 0.04318+1.77881I$ $b=\ \ 0.726237-1.144420I$	$-2.08402+7.34587I$	0
$u=\ \ 0.528845+0.624827I$ $a=-1.26838+1.67727I$ $b=-0.407170-1.180840I$	$-2.20388-6.21863I$	0
$u=\ \ 0.528845-0.624827I$ $a=-1.26838-1.67727I$ $b=-0.407170+1.180840I$	$-2.20388+6.21863I$	0
$u=\ \ 0.333186+0.719444I$ $a=-0.05652+1.92417I$ $b=-0.461574-1.066670I$	$1.49262-3.60891I$	0
$u=\ \ 0.333186-0.719444I$ $a=-0.05652-1.92417I$ $b=-0.461574+1.066670I$	$1.49262+3.60891I$	0
$u=-0.783414+0.004145I$ $a=\ \ 0.158363+1.025910I$ $b=\ \ 0.382098+1.016450I$	$-6.70285+1.34124I$	0
$u=-0.783414-0.004145I$ $a=\ \ 0.158363-1.025910I$ $b=\ \ 0.382098-1.016450I$	$-6.70285-1.34124I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.449601 + 0.612429I$ $a = 0.104284 + 0.676685I$ $b = -0.786712 - 0.014675I$	$-5.77164 - 2.03836I$	0
$u = 0.449601 - 0.612429I$ $a = 0.104284 - 0.676685I$ $b = -0.786712 + 0.014675I$	$-5.77164 + 2.03836I$	0
$u = -0.959993 + 0.837975I$ $a = 0.578380 + 0.792131I$ $b = -0.452856 - 0.652095I$	$-4.36445 + 1.15897I$	0
$u = -0.959993 - 0.837975I$ $a = 0.578380 - 0.792131I$ $b = -0.452856 + 0.652095I$	$-4.36445 - 1.15897I$	0
$u = 0.448449 + 0.524633I$ $a = 0.52821 - 1.42812I$ $b = -0.364140 + 1.219180I$	$-2.06583 + 2.19697I$	0
$u = 0.448449 - 0.524633I$ $a = 0.52821 + 1.42812I$ $b = -0.364140 - 1.219180I$	$-2.06583 - 2.19697I$	0
$u = 1.31686$ $a = -1.60742$ $b = -0.267280$	-6.77367	0
$u = -0.261404 + 0.577945I$ $a = 1.04619 + 1.52960I$ $b = 0.053626 - 1.058280I$	$3.01178 - 0.71050I$	0
$u = -0.261404 - 0.577945I$ $a = 1.04619 - 1.52960I$ $b = 0.053626 + 1.058280I$	$3.01178 + 0.71050I$	0
$u = -0.461099 + 0.422487I$ $a = -1.01878 - 1.15989I$ $b = -0.354585 + 1.158230I$	$2.09347 + 3.83166I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.461099-0.422487I$ $a=-1.01878+1.15989I$ $b=-0.354585-1.158230I$	$2.09347-3.83166I$	0
$u=-1.382110+0.108989I$ $a=-1.38912-0.47418I$ $b=-0.280843-0.379965I$	$-11.55750+5.11496I$	0
$u=-1.382110-0.108989I$ $a=-1.38912+0.47418I$ $b=-0.280843+0.379965I$	$-11.55750-5.11496I$	0
$u=1.40164$ $a=0.346080$ $b=5.07944$	-8.43925	0
$u=1.40182$ $a=-0.916679$ $b=-1.03145$	-6.55811	0
$u=1.396470+0.154079I$ $a=0.919280-0.440603I$ $b=0.455419+0.869864I$	$-2.22672-1.88160I$	0
$u=1.396470-0.154079I$ $a=0.919280+0.440603I$ $b=0.455419-0.869864I$	$-2.22672+1.88160I$	0
$u=-1.41981+0.05352I$ $a=-0.017454+0.228727I$ $b=-0.81981-1.98461I$	$-7.84955-0.46685I$	0
$u=-1.41981-0.05352I$ $a=-0.017454-0.228727I$ $b=-0.81981+1.98461I$	$-7.84955+0.46685I$	0
$u=-1.42967+0.07453I$ $a=0.659562-0.271659I$ $b=0.504770+0.791881I$	$-6.06877+2.51605I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.42967-0.07453I$ $a=\ 0.659562+0.271659I$ $b=\ 0.504770-0.791881I$	$-6.06877-2.51605I$	0
$u=\ 1.44941+0.01184I$ $a=-0.496300+0.956160I$ $b=-0.57569-1.60938I$	$-7.57045-1.72351I$	0
$u=\ 1.44941-0.01184I$ $a=-0.496300-0.956160I$ $b=-0.57569+1.60938I$	$-7.57045+1.72351I$	0
$u=-1.43972+0.18025I$ $a=\ 0.85249+1.42167I$ $b=\ 0.513480-1.083380I$	$-9.23881+3.62406I$	0
$u=-1.43972-0.18025I$ $a=\ 0.85249-1.42167I$ $b=\ 0.513480+1.083380I$	$-9.23881-3.62406I$	0
$u=-1.43973+0.23623I$ $a=-0.699954-0.749392I$ $b=-0.661993+0.186674I$	$-11.81760+5.06712I$	0
$u=-1.43973-0.23623I$ $a=-0.699954+0.749392I$ $b=-0.661993-0.186674I$	$-11.81760-5.06712I$	0
$u=\ 1.46464+0.00549I$ $a=\ 1.23498-1.52616I$ $b=\ 0.424830+1.091030I$	$-13.25910-4.36452I$	0
$u=\ 1.46464-0.00549I$ $a=\ 1.23498+1.52616I$ $b=\ 0.424830-1.091030I$	$-13.25910+4.36452I$	0
$u=\ 0.535217$ $a=\ 0.642917$ $b=-0.474087$	-1.04986	-8.43700

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.46864$ $a=-0.185257$ $b=-1.53993$	-7.44543	0
$u=-1.45965+0.22884I$ $a=-0.794962-0.986945I$ $b=-0.70785+1.23422I$	$-4.33606+6.96557I$	0
$u=-1.45965-0.22884I$ $a=-0.794962+0.986945I$ $b=-0.70785-1.23422I$	$-4.33606-6.96557I$	0
$u=\ 0.230404+0.465670I$ $a=-0.34146-3.49119I$ $b=\ 0.456507+0.739761I$	$-3.77190-1.20036I$	$-8.00000+6.08405I$
$u=\ 0.230404-0.465670I$ $a=-0.34146+3.49119I$ $b=\ 0.456507-0.739761I$	$-3.77190+1.20036I$	$-8.00000-6.08405I$
$u=-1.46401+0.24425I$ $a=\ 0.819735+0.895580I$ $b=\ 0.98420-1.23121I$	$-8.06381+10.82180I$	0
$u=-1.46401-0.24425I$ $a=\ 0.819735-0.895580I$ $b=\ 0.98420+1.23121I$	$-8.06381-10.82180I$	0
$u=\ 1.48437+0.14298I$ $a=-0.851238+0.373681I$ $b=-0.673810-1.087680I$	$-4.26573-5.94169I$	0
$u=\ 1.48437-0.14298I$ $a=-0.851238-0.373681I$ $b=-0.673810+1.087680I$	$-4.26573+5.94169I$	0
$u=\ 0.322091+0.347887I$ $a=\ 0.764968+0.507804I$ $b=\ 0.150587-0.277895I$	$-0.494191-1.020860I$	$-7.14325+6.83683I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.322091 - 0.347887I$ $a = 0.764968 - 0.507804I$ $b = 0.150587 + 0.277895I$	$-0.494191 + 1.020860I$	$-7.14325 - 6.83683I$
$u = -1.52203 + 0.25474I$ $a = 0.919547 + 0.643294I$ $b = 0.487316 - 0.904250I$	$-5.74028 + 6.55073I$	0
$u = -1.52203 - 0.25474I$ $a = 0.919547 - 0.643294I$ $b = 0.487316 + 0.904250I$	$-5.74028 - 6.55073I$	0
$u = -1.53962 + 0.20680I$ $a = -1.256030 - 0.595631I$ $b = -0.528288 + 1.126000I$	$-9.05232 + 9.27384I$	0
$u = -1.53962 - 0.20680I$ $a = -1.256030 + 0.595631I$ $b = -0.528288 - 1.126000I$	$-9.05232 - 9.27384I$	0
$u = 1.51409 + 0.40135I$ $a = 0.50074 - 1.35758I$ $b = 0.612341 + 1.075100I$	$-14.7222 - 2.8824I$	0
$u = 1.51409 - 0.40135I$ $a = 0.50074 + 1.35758I$ $b = 0.612341 - 1.075100I$	$-14.7222 + 2.8824I$	0
$u = 1.55785 + 0.17985I$ $a = 0.0467619 - 0.0855208I$ $b = 1.39744 - 0.42256I$	$-18.0134 - 9.5459I$	0
$u = 1.55785 - 0.17985I$ $a = 0.0467619 + 0.0855208I$ $b = 1.39744 + 0.42256I$	$-18.0134 + 9.5459I$	0
$u = 1.57169 + 0.30615I$ $a = 0.789632 - 1.095210I$ $b = 0.79146 + 1.30982I$	$-15.1407 - 17.0445I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.57169 - 0.30615I$ $a = 0.789632 + 1.095210I$ $b = 0.79146 - 1.30982I$	$-15.1407 + 17.0445I$	0
$u = 1.60213 + 0.16000I$ $a = -0.0739943 - 0.0751522I$ $b = -1.082620 + 0.233913I$	$-13.06300 - 4.11534I$	0
$u = 1.60213 - 0.16000I$ $a = -0.0739943 + 0.0751522I$ $b = -1.082620 - 0.233913I$	$-13.06300 + 4.11534I$	0
$u = -1.60859 + 0.08568I$ $a = -0.037104 + 0.140652I$ $b = 0.446257 + 0.535147I$	$-11.04550 - 0.49456I$	0
$u = -1.60859 - 0.08568I$ $a = -0.037104 - 0.140652I$ $b = 0.446257 - 0.535147I$	$-11.04550 + 0.49456I$	0
$u = 1.58533 + 0.34520I$ $a = -0.621381 + 1.142830I$ $b = -0.67855 - 1.25364I$	$-10.0150 - 10.3535I$	0
$u = 1.58533 - 0.34520I$ $a = -0.621381 - 1.142830I$ $b = -0.67855 + 1.25364I$	$-10.0150 + 10.3535I$	0
$u = 1.63270 + 0.01997I$ $a = 0.193347 + 0.663383I$ $b = 0.280543 + 0.626170I$	$-15.0545 + 1.1487I$	0
$u = 1.63270 - 0.01997I$ $a = 0.193347 - 0.663383I$ $b = 0.280543 - 0.626170I$	$-15.0545 - 1.1487I$	0
$u = 1.68043 + 0.23147I$ $a = -0.124958 + 0.231288I$ $b = 0.648726 - 0.557331I$	$-16.3165 + 2.0940I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.68043 - 0.23147I$ $a = -0.124958 - 0.231288I$ $b = 0.648726 + 0.557331I$	$-16.3165 - 2.0940I$	0
$u = 0.048534 + 0.263196I$ $a = -1.38801 + 1.88767I$ $b = 1.47618 - 1.06789I$	$-3.97497 - 0.28471I$	$16.2498 + 7.3169I$
$u = 0.048534 - 0.263196I$ $a = -1.38801 - 1.88767I$ $b = 1.47618 + 1.06789I$	$-3.97497 + 0.28471I$	$16.2498 - 7.3169I$
$u = -0.206718$ $a = -1.79256$ $b = -0.714407$	-1.36091	-4.55190
$u = -0.170914 + 0.029465I$ $a = 11.31340 - 6.60130I$ $b = 0.316331 + 0.777572I$	$-7.57568 - 4.37408I$	$-17.4821 + 11.0490I$
$u = -0.170914 - 0.029465I$ $a = 11.31340 + 6.60130I$ $b = 0.316331 - 0.777572I$	$-7.57568 + 4.37408I$	$-17.4821 - 11.0490I$
$u = -0.166697 + 0.031468I$ $a = -2.77224 - 5.52351I$ $b = -0.446995 + 1.135490I$	$-2.03976 + 1.55362I$	$-12.68068 + 0.63853I$
$u = -0.166697 - 0.031468I$ $a = -2.77224 + 5.52351I$ $b = -0.446995 - 1.135490I$	$-2.03976 - 1.55362I$	$-12.68068 - 0.63853I$

II. $I_2^u = \langle -1.66\times 10^5 u^{22} - 3.55\times 10^5 u^{21} + \cdots + 9.61\times 10^4 b - 1.07\times 10^5,\ 89858u^{22} + 320813u^{21} + \cdots + 96055a + 622041,\ u^{23} + 3u^{22} + \cdots + 5u - 1\rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.935485u^{22} - 3.33989u^{21} + \cdots + 2.18467u - 6.47588 \\ 1.72514u^{22} + 3.69739u^{21} + \cdots + 3.10480u + 1.11671 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.789652u^{22} + 0.357504u^{21} + \cdots + 5.28947u - 5.35917 \\ 1.72514u^{22} + 3.69739u^{21} + \cdots + 3.10480u + 1.11671 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.318713u^{22} + 0.614273u^{21} + \cdots - 3.46582u - 1.75854 \\ 0.272719u^{22} + 1.12640u^{21} + \cdots + 0.652168u + 0.885711 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.830326u^{22} - 2.78691u^{21} + \cdots + 0.402238u - 6.17249 \\ 1.24227u^{22} + 2.99330u^{21} + \cdots + 1.15287u + 1.30365 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.370642u^{22} + 2.04604u^{21} + \cdots + 1.73914u + 7.55165 \\ 3.27272u^{22} + 5.12640u^{21} + \cdots + 9.65217u - 3.11429 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.53439u^{22} + 5.16075u^{21} + \cdots + 5.57690u + 8.34217 \\ -3.06589u^{22} - 5.26817u^{21} + \cdots - 11.3016u + 0.370642 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.511582u^{22} - 1.63609u^{21} + \cdots - 2.78819u - 3.17865 \\ 1.34322u^{22} + 2.95797u^{21} + \cdots + 3.95208u - 0.0483994 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1739283}{96055}u^{22} + \frac{3543658}{96055}u^{21} + \cdots + \frac{4115202}{96055}u - \frac{1012759}{96055}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{23} - 2u^{22} + \cdots + 18u - 1$
c_2	$u^{23} + 5u^{22} + \cdots - 3u - 1$
c_3	$u^{23} - u^{21} + \cdots + u - 1$
c_4	$u^{23} - 2u^{22} + \cdots + 2u + 1$
c_5	$u^{23} - 5u^{22} + \cdots - 3u + 1$
c_6	$u^{23} - 2u^{22} + \cdots + 7u + 1$
c_7	$u^{23} + 2u^{22} + \cdots + 2u - 1$
c_8, c_9	$u^{23} + 3u^{22} + \cdots + 5u - 1$
c_{10}	$u^{23} - u^{21} + \cdots + u + 1$
c_{11}	$u^{23} + 2u^{22} + \cdots + 7u - 1$
c_{12}	$u^{23} - 3u^{22} + \cdots + 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{23} - 6y^{22} + \cdots + 26y - 1$
c_2, c_5	$y^{23} - 13y^{22} + \cdots + 5y - 1$
c_3, c_{10}	$y^{23} - 2y^{22} + \cdots - 25y - 1$
c_4, c_7	$y^{23} - 8y^{22} + \cdots + 140y^2 - 1$
c_6, c_{11}	$y^{23} - 26y^{22} + \cdots + 55y - 1$
c_8, c_9, c_{12}	$y^{23} - 25y^{22} + \cdots + 41y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.947471 + 0.071959I$ $a = -0.097284 + 0.928452I$ $b = -0.193218 - 1.284690I$	$1.49325 - 2.96426I$	$-3.20077 - 2.76915I$
$u = 0.947471 - 0.071959I$ $a = -0.097284 - 0.928452I$ $b = -0.193218 + 1.284690I$	$1.49325 + 2.96426I$	$-3.20077 + 2.76915I$
$u = -0.798914 + 0.453528I$ $a = 0.00437 - 1.92156I$ $b = -0.212194 + 1.118550I$	$-2.16158 + 2.85386I$	$-12.49728 - 4.55537I$
$u = -0.798914 - 0.453528I$ $a = 0.00437 + 1.92156I$ $b = -0.212194 - 1.118550I$	$-2.16158 - 2.85386I$	$-12.49728 + 4.55537I$
$u = 0.960230 + 0.543620I$ $a = 0.527847 - 0.911151I$ $b = -0.275240 + 0.743970I$	$-1.053160 - 0.725959I$	$-16.6974 - 1.1312I$
$u = 0.960230 - 0.543620I$ $a = 0.527847 + 0.911151I$ $b = -0.275240 - 0.743970I$	$-1.053160 + 0.725959I$	$-16.6974 + 1.1312I$
$u = 0.492565 + 0.733927I$ $a = -0.44669 + 1.65064I$ $b = -0.443289 - 0.985411I$	$0.14885 - 4.02712I$	$-11.38808 + 7.15300I$
$u = 0.492565 - 0.733927I$ $a = -0.44669 - 1.65064I$ $b = -0.443289 + 0.985411I$	$0.14885 + 4.02712I$	$-11.38808 - 7.15300I$
$u = -1.041840 + 0.577200I$ $a = 0.743160 + 0.314273I$ $b = -0.200699 - 0.879786I$	$-3.05262 + 1.19955I$	$-9.65854 - 1.12734I$
$u = -1.041840 - 0.577200I$ $a = 0.743160 - 0.314273I$ $b = -0.200699 + 0.879786I$	$-3.05262 - 1.19955I$	$-9.65854 + 1.12734I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.350290+0.221473I$ $a=\ \ 1.35794+1.63458I$ $b=\ \ 0.379300-0.856235I$	$-10.98820+6.37771I$	$-13.9915-7.0154I$
$u=-1.350290-0.221473I$ $a=\ \ 1.35794-1.63458I$ $b=\ \ 0.379300+0.856235I$	$-10.98820-6.37771I$	$-13.9915+7.0154I$
$u=\ \ 1.39466$ $a=\ \ 0.544457$ $b=\ \ 3.24559$	-8.51698	-37.7320
$u=-1.44240$ $a=-0.122111$ $b=-3.04389$	-7.87221	-44.8720
$u=-0.327685+0.442216I$ $a=-3.51601-1.62896I$ $b=\ \ 0.215376+0.752301I$	$-7.35127-3.89763I$	$-10.27703-2.30446I$
$u=-0.327685-0.442216I$ $a=-3.51601+1.62896I$ $b=\ \ 0.215376-0.752301I$	$-7.35127+3.89763I$	$-10.27703+2.30446I$
$u=-1.52957+0.22726I$ $a=-0.864540-0.745955I$ $b=-0.677631+1.055860I$	$-6.54712+7.43665I$	$-15.1164-6.3728I$
$u=-1.52957-0.22726I$ $a=-0.864540+0.745955I$ $b=-0.677631-1.055860I$	$-6.54712-7.43665I$	$-15.1164+6.3728I$
$u=\ \ 0.448004$ $a=\ \ 0.310841$ $b=-0.863178$	-1.86606	-23.2090
$u=-1.59135$ $a=-0.280870$ $b=\ \ 0.249356$	-10.7789	-8.77650

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 1.65226 + 0.08839I$ $a = -0.511819 - 0.390354I$ $b = \ 0.048818 - 0.611490I$	$-14.7824 + 1.7992I$	$-12.84740 - 5.45440I$
$u = \ 1.65226 - 0.08839I$ $a = -0.511819 + 0.390354I$ $b = \ 0.048818 + 0.611490I$	$-14.7824 - 1.7992I$	$-12.84740 + 5.45440I$
$u = \ 0.182624$ $a = -4.84626$ $b = \ 1.12968$	-4.10240	-7.06160

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{23}-2u^{22}+\cdots+18u-1)(u^{98}-15u^{97}+\cdots+8302550u-947299)$
c_2	$(u^{23}+5u^{22}+\cdots-3u-1)(u^{98}-37u^{96}+\cdots+5041u-631)$
c_3	$(u^{23}-u^{21}+\cdots+u-1)(u^{98}+u^{97}+\cdots-633u-389)$
c_4	$(u^{23}-2u^{22}+\cdots+2u+1)(u^{98}-9u^{97}+\cdots-284u-61)$
c_5	$(u^{23}-5u^{22}+\cdots-3u+1)(u^{98}-37u^{96}+\cdots+5041u-631)$
c_6	$(u^{23}-2u^{22}+\cdots+7u+1)(u^{98}-u^{97}+\cdots+3881u+173)$
c_7	$(u^{23}+2u^{22}+\cdots+2u-1)(u^{98}-9u^{97}+\cdots-284u-61)$
c_8, c_9	$(u^{23}+3u^{22}+\cdots+5u-1)(u^{98}+4u^{97}+\cdots-21u+1)$
c_{10}	$(u^{23}-u^{21}+\cdots+u+1)(u^{98}+u^{97}+\cdots-633u-389)$
c_{11}	$(u^{23}+2u^{22}+\cdots+7u-1)(u^{98}-u^{97}+\cdots+3881u+173)$
c_{12}	$(u^{23}-3u^{22}+\cdots+5u+1)(u^{98}+4u^{97}+\cdots-21u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{23} - 6y^{22} + \cdots + 26y - 1)$ $\cdot (y^{98} - 47y^{97} + \cdots - 51996320363916y + 897375395401)$
c_2, c_5	$(y^{23} - 13y^{22} + \cdots + 5y - 1)$ $\cdot (y^{98} - 74y^{97} + \cdots - 157589775y + 398161)$
c_3, c_{10}	$(y^{23} - 2y^{22} + \cdots - 25y - 1)(y^{98} + 69y^{97} + \cdots + 1816611y + 151321)$
c_4, c_7	$(y^{23} - 8y^{22} + \cdots + 140y^2 - 1)(y^{98} + 23y^{97} + \cdots + 57570y + 3721)$
c_6, c_{11}	$(y^{23} - 26y^{22} + \cdots + 55y - 1)$ $\cdot (y^{98} - 91y^{97} + \cdots - 16222645y + 29929)$
c_8, c_9, c_{12}	$(y^{23} - 25y^{22} + \cdots + 41y - 1)(y^{98} - 102y^{97} + \cdots - 139y + 1)$