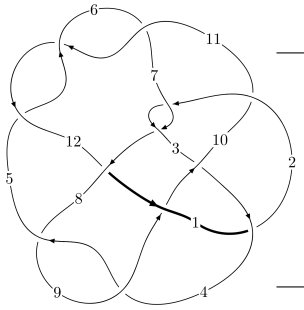
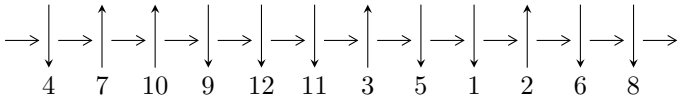
$12a_{1075}$ $(K12a_{1075})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 3.72612 \times 10^{441} u^{119} + 2.23519 \times 10^{442} u^{118} + \cdots + 6.93517 \times 10^{441} b + 7.61910 \times 10^{442}, \\ & - 1.13200 \times 10^{442} u^{119} - 8.72311 \times 10^{442} u^{118} + \cdots + 2.77407 \times 10^{442} a - 2.01129 \times 10^{443}, \\ & u^{120} + 4u^{119} + \cdots + 176u + 16 \rangle \\ I_2^u = \langle & -11729899 u^{29} + 392758785 u^{28} + \cdots + 663256056 b - 336061032, \\ & 313877822 u^{29} - 659380977 u^{28} + \cdots + 663256056 a + 3199377682,\ u^{30} - u^{29} + \cdots + 16u + 4 \rangle \end{aligned}$$

* 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. $\boldsymbol{I_1^u = \langle 3.73 \times 10^{441} u^{119} + 2.24 \times 10^{442} u^{118} + \cdots + 6.94 \times 10^{441} b + 7.62 \times 10^{442},\ -1.13 \times 10^{442} u^{119} - 8.72 \times 10^{442} u^{118} + \cdots + 2.77 \times 10^{442} a - 2.01 \times 10^{443},\ u^{120} + 4u^{119} + \cdots + 176u + 16 \rangle}$

(i) Arc colorings

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

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

$$a_1 = \begin{pmatrix} 0.408064u^{119} + 3.14452u^{118} + \cdots + 149.127u + 7.25033 \\ -0.537279u^{119} - 3.22299u^{118} + \cdots - 126.152u - 10.9862 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} 0.133061u^{119} - 1.76548u^{118} + \cdots - 287.316u - 19.5313 \\ 0.157698u^{119} + 0.894253u^{118} + \cdots + 28.6860u + 1.72084 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0309732u^{119} + 1.11273u^{118} + \cdots + 80.2324u + 1.22501 \\ -0.286921u^{119} - 2.01484u^{118} + \cdots - 96.8888u - 8.63661 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.30794u^{119} - 5.76141u^{118} + \cdots - 133.536u - 9.65675 \\ -0.320020u^{119} - 1.44002u^{118} + \cdots - 32.1909u - 3.68571 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.21287u^{119} - 5.16416u^{118} + \cdots + 49.6915u + 7.33530 \\ 0.143813u^{119} + 0.399070u^{118} + \cdots - 25.2449u - 1.30807 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.129215u^{119} - 0.0784645u^{118} + \cdots + 22.9748u - 3.73586 \\ -0.537279u^{119} - 3.22299u^{118} + \cdots - 126.152u - 10.9862 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.976745u^{119} + 4.50726u^{118} + \cdots + 53.6799u + 5.26035 \\ -1.14558u^{119} - 3.97966u^{118} + \cdots + 37.4447u + 4.69013 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.841118u^{119} + 1.64638u^{118} + \cdots - 264.638u - 25.8472 \\ 0.0713272u^{119} + 1.27908u^{118} + \cdots + 113.008u + 10.1802 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2.82220u^{119} + 11.1817u^{118} + \cdots + 52.9511u + 4.35858$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{120} - 12u^{119} + \cdots - 105451u + 8381$
c_2, c_7	$u^{120} + 2u^{119} + \cdots - 10425u + 6379$
c_3	$u^{120} + u^{119} + \cdots + 172u + 11$
c_4, c_8	$u^{120} + 4u^{119} + \cdots + 176u + 16$
c_5, c_6, c_{11}	$u^{120} - u^{119} + \cdots - 4711u + 667$
c_9	$u^{120} - 4u^{119} + \cdots + 42u + 11$
c_{10}	$u^{120} - 30u^{118} + \cdots - 6834664u + 20792117$
c_{12}	$u^{120} + u^{119} + \cdots + 84308126u + 35235131$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{120}+36y^{119}+\cdots+4420639659y+70241161$
c_2, c_7	$y^{120}-84y^{119}+\cdots-765539013y+40691641$
c_3	$y^{120}+15y^{119}+\cdots+5726y+121$
c_4, c_8	$y^{120}+102y^{119}+\cdots-6912y+256$
c_5, c_6, c_{11}	$y^{120}+141y^{119}+\cdots+27200497y+444889$
c_9	$y^{120}+110y^{118}+\cdots+5298y+121$
c_{10}	$y^{120}-60y^{119}+\cdots-3535423773129192y+432312129341689$
c_{12}	$y^{120}+67y^{119}+\cdots+44858396743231608y+1241514456587161$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.997060 + 0.155292I$ $a = 0.0384016 + 0.1145680I$ $b = -0.842177 - 0.631123I$	$1.98018 - 8.81242I$	0
$u = 0.997060 - 0.155292I$ $a = 0.0384016 - 0.1145680I$ $b = -0.842177 + 0.631123I$	$1.98018 + 8.81242I$	0
$u = -0.601243 + 0.771166I$ $a = 0.813940 + 0.283363I$ $b = -0.621526 - 0.557357I$	$-0.92514 + 2.55810I$	0
$u = -0.601243 - 0.771166I$ $a = 0.813940 - 0.283363I$ $b = -0.621526 + 0.557357I$	$-0.92514 - 2.55810I$	0
$u = -1.037890 + 0.181103I$ $a = 0.180007 - 0.080743I$ $b = -0.571054 + 0.389492I$	$-1.76846 + 3.67590I$	0
$u = -1.037890 - 0.181103I$ $a = 0.180007 + 0.080743I$ $b = -0.571054 - 0.389492I$	$-1.76846 - 3.67590I$	0
$u = 0.647251 + 0.834053I$ $a = -1.30505 + 0.63619I$ $b = 0.15586 - 1.50651I$	$5.36355 - 2.53103I$	0
$u = 0.647251 - 0.834053I$ $a = -1.30505 - 0.63619I$ $b = 0.15586 + 1.50651I$	$5.36355 + 2.53103I$	0
$u = -0.264406 + 0.899217I$ $a = 0.274431 + 1.247060I$ $b = 0.241776 - 0.902567I$	$-0.43312 + 1.50393I$	0
$u = -0.264406 - 0.899217I$ $a = 0.274431 - 1.247060I$ $b = 0.241776 + 0.902567I$	$-0.43312 - 1.50393I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.080116+1.065280I$ $a=\ \ 0.71043-1.30579I$ $b=-0.578713+0.719695I$	$2.15815+2.38721I$	0
$u=-0.080116-1.065280I$ $a=\ \ 0.71043+1.30579I$ $b=-0.578713-0.719695I$	$2.15815-2.38721I$	0
$u=\ \ 0.163464+0.913347I$ $a=-0.577288+0.465106I$ $b=\ \ 1.41344-0.24530I$	$0.43101-2.97537I$	0
$u=\ \ 0.163464-0.913347I$ $a=-0.577288-0.465106I$ $b=\ \ 1.41344+0.24530I$	$0.43101+2.97537I$	0
$u=\ \ 0.259984+1.099700I$ $a=-0.30600-1.79640I$ $b=\ \ 1.01869+1.51224I$	$3.73125-6.13320I$	0
$u=\ \ 0.259984-1.099700I$ $a=-0.30600+1.79640I$ $b=\ \ 1.01869-1.51224I$	$3.73125+6.13320I$	0
$u=\ \ 0.792528+0.326858I$ $a=-0.111014-0.451742I$ $b=-0.618881-0.852939I$	$2.71259-2.58388I$	0
$u=\ \ 0.792528-0.326858I$ $a=-0.111014+0.451742I$ $b=-0.618881+0.852939I$	$2.71259+2.58388I$	0
$u=\ \ 0.854709+0.000169I$ $a=\ \ 0.432488+0.076734I$ $b=\ \ 0.162238-0.730395I$	$3.97435-0.08833I$	0
$u=\ \ 0.854709-0.000169I$ $a=\ \ 0.432488-0.076734I$ $b=\ \ 0.162238+0.730395I$	$3.97435+0.08833I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.795264+0.153084I$ $a=\ \ 0.287557+0.595180I$ $b=-0.658467+1.205740I$	$4.86393+3.48843I$	0
$u=-0.795264-0.153084I$ $a=\ \ 0.287557-0.595180I$ $b=-0.658467-1.205740I$	$4.86393-3.48843I$	0
$u=-0.328756+1.146120I$ $a=-0.08218-2.18274I$ $b=-1.24715+2.43802I$	$11.5929+8.5289I$	0
$u=-0.328756-1.146120I$ $a=-0.08218+2.18274I$ $b=-1.24715-2.43802I$	$11.5929-8.5289I$	0
$u=-0.113420+1.208560I$ $a=-0.66599-1.88489I$ $b=\ \ 1.02115+1.93305I$	$7.02433+5.04561I$	0
$u=-0.113420-1.208560I$ $a=-0.66599+1.88489I$ $b=\ \ 1.02115-1.93305I$	$7.02433-5.04561I$	0
$u=-0.716768+0.293774I$ $a=-1.27622+0.85814I$ $b=\ \ 0.607399+1.103350I$	$9.05152-4.61063I$	0
$u=-0.716768-0.293774I$ $a=-1.27622-0.85814I$ $b=\ \ 0.607399-1.103350I$	$9.05152+4.61063I$	0
$u=\ \ 0.005789+1.229110I$ $a=-1.133040-0.812110I$ $b=-0.556977+0.460644I$	$11.88010+1.14020I$	0
$u=\ \ 0.005789-1.229110I$ $a=-1.133040+0.812110I$ $b=-0.556977-0.460644I$	$11.88010-1.14020I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.458346+1.143630I$ $a=-0.958222-0.481606I$ $b=-0.276910+0.789615I$	$7.74673+0.95719I$	0
$u=-0.458346-1.143630I$ $a=-0.958222+0.481606I$ $b=-0.276910-0.789615I$	$7.74673-0.95719I$	0
$u=0.068494+1.231050I$ $a=-0.156613-1.337530I$ $b=-0.306630+0.831609I$	$3.88824+0.70963I$	0
$u=0.068494-1.231050I$ $a=-0.156613+1.337530I$ $b=-0.306630-0.831609I$	$3.88824-0.70963I$	0
$u=0.023307+1.236670I$ $a=0.198656+1.334160I$ $b=-1.49023-1.25302I$	$9.11727+1.44245I$	0
$u=0.023307-1.236670I$ $a=0.198656-1.334160I$ $b=-1.49023+1.25302I$	$9.11727-1.44245I$	0
$u=-0.043678+1.236630I$ $a=-0.33976+1.91669I$ $b=-0.251642-1.008870I$	$7.43407-3.48374I$	0
$u=-0.043678-1.236630I$ $a=-0.33976-1.91669I$ $b=-0.251642+1.008870I$	$7.43407+3.48374I$	0
$u=0.172706+1.228910I$ $a=-0.924628-0.655584I$ $b=0.181142+0.194501I$	$5.04503+0.67908I$	0
$u=0.172706-1.228910I$ $a=-0.924628+0.655584I$ $b=0.181142-0.194501I$	$5.04503-0.67908I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.073238+1.240730I$ $a=\ \ 0.68583-2.22932I$ $b=-1.92385+2.33511I$	$13.8536-5.5955I$	0
$u=-0.073238-1.240730I$ $a=\ \ 0.68583+2.22932I$ $b=-1.92385-2.33511I$	$13.8536+5.5955I$	0
$u=\ \ 0.260529+1.215970I$ $a=\ \ 0.13896+1.51889I$ $b=\ \ 0.032878-0.913255I$	$2.03580-4.58641I$	0
$u=\ \ 0.260529-1.215970I$ $a=\ \ 0.13896-1.51889I$ $b=\ \ 0.032878+0.913255I$	$2.03580+4.58641I$	0
$u=-1.200470+0.341560I$ $a=-0.080500-0.196637I$ $b=\ \ 0.597030-0.974530I$	$9.3530+12.2656I$	0
$u=-1.200470-0.341560I$ $a=-0.080500+0.196637I$ $b=\ \ 0.597030+0.974530I$	$9.3530-12.2656I$	0
$u=-0.294620+1.229930I$ $a=\ \ 0.32210-1.73232I$ $b=-0.364442+0.691167I$	$4.87614+7.18265I$	0
$u=-0.294620-1.229930I$ $a=\ \ 0.32210+1.73232I$ $b=-0.364442-0.691167I$	$4.87614-7.18265I$	0
$u=-0.696395+0.096250I$ $a=\ \ 0.402638-0.807233I$ $b=\ \ 0.922511+0.306068I$	$1.38309-3.56485I$	0
$u=-0.696395-0.096250I$ $a=\ \ 0.402638+0.807233I$ $b=\ \ 0.922511-0.306068I$	$1.38309+3.56485I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.062132+1.301210I$ $a=-0.96166+1.38530I$ $b=\ \ 0.246494-1.044430I$	$5.20704+2.50252I$	0
$u=-0.062132-1.301210I$ $a=-0.96166-1.38530I$ $b=\ \ 0.246494+1.044430I$	$5.20704-2.50252I$	0
$u=\ \ 0.648831+0.225112I$ $a=\ \ 0.126438+0.892371I$ $b=\ \ 0.526872-0.120809I$	$-1.08554+1.30491I$	$-4.00000+0.I$
$u=\ \ 0.648831-0.225112I$ $a=\ \ 0.126438-0.892371I$ $b=\ \ 0.526872+0.120809I$	$-1.08554-1.30491I$	$-4.00000+0.I$
$u=\ \ 0.366284+1.261280I$ $a=-0.40444+1.46866I$ $b=-0.503492-0.923796I$	$7.88774-4.24991I$	0
$u=\ \ 0.366284-1.261280I$ $a=-0.40444-1.46866I$ $b=-0.503492+0.923796I$	$7.88774+4.24991I$	0
$u=\ \ 0.223188+1.303600I$ $a=\ \ 0.35272+1.95512I$ $b=-0.65030-1.67629I$	$3.20853-5.66014I$	0
$u=\ \ 0.223188-1.303600I$ $a=\ \ 0.35272-1.95512I$ $b=-0.65030+1.67629I$	$3.20853+5.66014I$	0
$u=-0.260580+1.302170I$ $a=\ \ 0.42202-1.47493I$ $b=-0.719197+0.999708I$	$2.85036+3.25361I$	0
$u=-0.260580-1.302170I$ $a=\ \ 0.42202+1.47493I$ $b=-0.719197-0.999708I$	$2.85036-3.25361I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.174216+1.333900I$ $a=\ \ 0.671817+0.319034I$ $b=-1.175690-0.467293I$	$6.07411-0.42056I$	0
$u=-0.174216-1.333900I$ $a=\ \ 0.671817-0.319034I$ $b=-1.175690+0.467293I$	$6.07411+0.42056I$	0
$u=-0.139479+1.340130I$ $a=\ \ 0.64725+1.52497I$ $b=\ \ 0.60894-1.40766I$	$15.3872+8.7165I$	0
$u=-0.139479-1.340130I$ $a=\ \ 0.64725-1.52497I$ $b=\ \ 0.60894+1.40766I$	$15.3872-8.7165I$	0
$u=\ \ 0.132800+1.357680I$ $a=\ \ 0.241513-1.290220I$ $b=\ \ 0.92682+1.26940I$	$11.25790-3.60473I$	0
$u=\ \ 0.132800-1.357680I$ $a=\ \ 0.241513+1.290220I$ $b=\ \ 0.92682-1.26940I$	$11.25790+3.60473I$	0
$u=-0.022475+1.367120I$ $a=-1.094530+0.491114I$ $b=\ \ 2.26661-0.56620I$	$13.87060-0.89118I$	0
$u=-0.022475-1.367120I$ $a=-1.094530-0.491114I$ $b=\ \ 2.26661+0.56620I$	$13.87060+0.89118I$	0
$u=\ \ 0.403775+1.311240I$ $a=\ \ 0.367688-1.358280I$ $b=\ \ 0.12095+1.50805I$	$8.08169-4.66243I$	0
$u=\ \ 0.403775-1.311240I$ $a=\ \ 0.367688+1.358280I$ $b=\ \ 0.12095-1.50805I$	$8.08169+4.66243I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.624790+0.013315I$ $a=\ \ 0.0370899+0.0565450I$ $b=\ \ 0.886970-0.109348I$	$-1.299460+0.028434I$	$-8.94087+0.42522I$
$u=-0.624790-0.013315I$ $a=\ \ 0.0370899-0.0565450I$ $b=\ \ 0.886970+0.109348I$	$-1.299460-0.028434I$	$-8.94087-0.42522I$
$u=-0.328691+1.355460I$ $a=-0.08147+2.09787I$ $b=\ \ 1.16558-2.27422I$	$9.61783+7.52528I$	0
$u=-0.328691-1.355460I$ $a=-0.08147-2.09787I$ $b=\ \ 1.16558+2.27422I$	$9.61783-7.52528I$	0
$u=-0.16844+1.40946I$ $a=\ \ 0.365683+0.586197I$ $b=\ \ 0.795021-0.723661I$	$14.7531-1.5980I$	0
$u=-0.16844-1.40946I$ $a=\ \ 0.365683-0.586197I$ $b=\ \ 0.795021+0.723661I$	$14.7531+1.5980I$	0
$u=\ \ 0.56192+1.31104I$ $a=-0.274752+0.760777I$ $b=-0.617915-1.041280I$	$4.88028-3.42344I$	0
$u=\ \ 0.56192-1.31104I$ $a=-0.274752-0.760777I$ $b=-0.617915+1.041280I$	$4.88028+3.42344I$	0
$u=\ \ 0.32393+1.40244I$ $a=-0.22335-1.77350I$ $b=\ \ 1.20252+1.83337I$	$8.10754-6.60877I$	0
$u=\ \ 0.32393-1.40244I$ $a=-0.22335+1.77350I$ $b=\ \ 1.20252-1.83337I$	$8.10754+6.60877I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.43150+1.37321I$ $a=-0.093878+1.361520I$ $b=\ \ 0.653634-1.126280I$	$3.05750+8.78973I$	0
$u=-0.43150-1.37321I$ $a=-0.093878-1.361520I$ $b=\ \ 0.653634+1.126280I$	$3.05750-8.78973I$	0
$u=\ \ 0.42846+1.37573I$ $a=-0.16586-1.54738I$ $b=\ \ 0.90766+1.16085I$	$6.7808-13.8410I$	0
$u=\ \ 0.42846-1.37573I$ $a=-0.16586+1.54738I$ $b=\ \ 0.90766-1.16085I$	$6.7808+13.8410I$	0
$u=\ \ 1.40151+0.37860I$ $a=-0.070220+0.174631I$ $b=\ \ 0.391260+0.824443I$	$4.71559-5.01535I$	0
$u=\ \ 1.40151-0.37860I$ $a=-0.070220-0.174631I$ $b=\ \ 0.391260-0.824443I$	$4.71559+5.01535I$	0
$u=\ \ 0.516637+0.167007I$ $a=\ \ 0.775645+0.953872I$ $b=-0.916262+0.527538I$	$1.10619+3.02055I$	$-3.27959-4.69923I$
$u=\ \ 0.516637-0.167007I$ $a=\ \ 0.775645-0.953872I$ $b=-0.916262-0.527538I$	$1.10619-3.02055I$	$-3.27959+4.69923I$
$u=-0.29096+1.43137I$ $a=\ \ 0.274940-0.845665I$ $b=-0.586141+0.656774I$	$3.15672+2.78458I$	0
$u=-0.29096-1.43137I$ $a=\ \ 0.274940+0.845665I$ $b=-0.586141-0.656774I$	$3.15672-2.78458I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.47431+0.00589I$ $a=-0.100340+0.130441I$ $b=\ \ 0.009827+0.925723I$	$11.09060+2.10850I$	0
$u=-1.47431-0.00589I$ $a=-0.100340-0.130441I$ $b=\ \ 0.009827-0.925723I$	$11.09060-2.10850I$	0
$u=\ \ 0.478424+0.069032I$ $a=-0.458490-0.181777I$ $b=\ \ 0.890606+0.650663I$	$-1.08269-2.95250I$	$-8.5175+11.6800I$
$u=\ \ 0.478424-0.069032I$ $a=-0.458490+0.181777I$ $b=\ \ 0.890606-0.650663I$	$-1.08269+2.95250I$	$-8.5175-11.6800I$
$u=-0.47220+1.49638I$ $a=\ \ 0.11614-1.49296I$ $b=-1.17845+1.64971I$	$15.1197+18.1099I$	0
$u=-0.47220-1.49638I$ $a=\ \ 0.11614+1.49296I$ $b=-1.17845-1.64971I$	$15.1197-18.1099I$	0
$u=-0.57342+1.48282I$ $a=-0.203005-1.141520I$ $b=-0.74078+1.49911I$	$16.0643+4.7784I$	0
$u=-0.57342-1.48282I$ $a=-0.203005+1.141520I$ $b=-0.74078-1.49911I$	$16.0643-4.7784I$	0
$u=-0.49795+1.52049I$ $a=\ \ 0.137935+1.108780I$ $b=\ \ 0.91603-1.28356I$	$16.6394+8.8930I$	0
$u=-0.49795-1.52049I$ $a=\ \ 0.137935-1.108780I$ $b=\ \ 0.91603+1.28356I$	$16.6394-8.8930I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.126323 + 0.367664I$ $a = 0.90927 + 1.52246I$ $b = -0.088361 - 0.449464I$	$-0.291793 + 1.197300I$	$-4.19396 - 4.75913I$
$u = 0.126323 - 0.367664I$ $a = 0.90927 - 1.52246I$ $b = -0.088361 + 0.449464I$	$-0.291793 - 1.197300I$	$-4.19396 + 4.75913I$
$u = 0.50663 + 1.53019I$ $a = 0.086657 + 1.275800I$ $b = -1.05777 - 1.48843I$	$10.6758 - 11.4905I$	0
$u = 0.50663 - 1.53019I$ $a = 0.086657 - 1.275800I$ $b = -1.05777 + 1.48843I$	$10.6758 + 11.4905I$	0
$u = -0.338117 + 0.169164I$ $a = -2.65995 + 1.95479I$ $b = 0.37853 + 1.48945I$	$10.56830 + 6.89908I$	$2.07482 - 4.84990I$
$u = -0.338117 - 0.169164I$ $a = -2.65995 - 1.95479I$ $b = 0.37853 - 1.48945I$	$10.56830 - 6.89908I$	$2.07482 + 4.84990I$
$u = 0.125401 + 0.323149I$ $a = -1.94106 - 0.73841I$ $b = -1.247950 - 0.409351I$	$1.42533 - 2.41059I$	$-8.64364 - 0.77659I$
$u = 0.125401 - 0.323149I$ $a = -1.94106 + 0.73841I$ $b = -1.247950 + 0.409351I$	$1.42533 + 2.41059I$	$-8.64364 + 0.77659I$
$u = 0.218247 + 0.267162I$ $a = -3.60763 - 1.63006I$ $b = 0.191352 - 1.048220I$	$6.03443 - 2.03819I$	$3.04099 + 2.46993I$
$u = 0.218247 - 0.267162I$ $a = -3.60763 + 1.63006I$ $b = 0.191352 + 1.048220I$	$6.03443 + 2.03819I$	$3.04099 - 2.46993I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.73279 + 1.49312I$ $a = -0.286784 + 0.168953I$ $b = 0.133527 - 0.451448I$	$5.35299 + 2.58220I$	0
$u = 0.73279 - 1.49312I$ $a = -0.286784 - 0.168953I$ $b = 0.133527 + 0.451448I$	$5.35299 - 2.58220I$	0
$u = -0.025213 + 0.213889I$ $a = -7.12655 + 1.57692I$ $b = -0.588856 + 0.423121I$	$8.72642 - 1.13781I$	$-0.48113 - 4.24733I$
$u = -0.025213 - 0.213889I$ $a = -7.12655 - 1.57692I$ $b = -0.588856 - 0.423121I$	$8.72642 + 1.13781I$	$-0.48113 + 4.24733I$
$u = 0.41049 + 1.75871I$ $a = -0.274714 - 0.646199I$ $b = 1.115180 + 0.794800I$	$9.83207 - 4.22271I$	0
$u = 0.41049 - 1.75871I$ $a = -0.274714 + 0.646199I$ $b = 1.115180 - 0.794800I$	$9.83207 + 4.22271I$	0
$u = -0.1242540 + 0.0469636I$ $a = -2.74084 - 6.09237I$ $b = -0.229989 + 0.951261I$	$3.70310 - 3.99690I$	$-0.22190 + 6.17197I$
$u = -0.1242540 - 0.0469636I$ $a = -2.74084 + 6.09237I$ $b = -0.229989 - 0.951261I$	$3.70310 + 3.99690I$	$-0.22190 - 6.17197I$
$u = -1.13812 + 1.80450I$ $a = 0.167766 + 0.173041I$ $b = 0.421318 - 0.592970I$	$12.13600 - 3.97678I$	0
$u = -1.13812 - 1.80450I$ $a = 0.167766 - 0.173041I$ $b = 0.421318 + 0.592970I$	$12.13600 + 3.97678I$	0

II.

$\boldsymbol{I_2^u = \langle -1.17\times 10^{7}u^{29}+3.93\times 10^{8}u^{28}+\cdots+6.63\times 10^{8}b-3.36\times 10^{8},\ 3.14\times 10^{8}u^{29}-6.59\times 10^{8}u^{28}+\cdots+6.63\times 10^{8}a+3.20\times 10^{9},\ u^{30}-u^{29}+\cdots+16u+4\rangle}$

(i) Arc colorings

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

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

$$a_1 = \begin{pmatrix} -0.473238u^{29}+0.994157u^{28}+\cdots-2.94573u-4.82374 \\ 0.0176853u^{29}-0.592168u^{28}+\cdots-3.62979u+0.506684 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} 0.157546u^{29}+0.487994u^{28}+\cdots+1.22045u-2.13675 \\ 0.227072u^{29}-0.155918u^{28}+\cdots+4.59736u+4.03971 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.08032u^{29}+0.818132u^{28}+\cdots-12.2721u-7.47627 \\ 0.118860u^{29}-0.296960u^{28}+\cdots+2.00187u+0.986584 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.202173u^{29}-1.56841u^{28}+\cdots-16.2495u-10.3916 \\ 0.198468u^{29}+0.484267u^{28}+\cdots+6.83106u+0.910728 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1.58147u^{29}-2.64102u^{28}+\cdots-14.7231u-8.25962 \\ 0.0196042u^{29}+0.214598u^{28}+\cdots+0.0143922u-1.07761 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.455552u^{29}+0.401990u^{28}+\cdots-6.57552u-4.31706 \\ 0.0176853u^{29}-0.592168u^{28}+\cdots-3.62979u+0.506684 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.747203u^{29}+1.80618u^{28}+\cdots+0.425264u-0.874633 \\ -0.392169u^{29}+0.981993u^{28}+\cdots+0.164657u-0.338132 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.893972u^{29}+0.708930u^{28}+\cdots+18.7829u+1.75579 \\ -0.111430u^{29}+0.238324u^{28}+\cdots+2.38677u+2.12079 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{36508705}{55271338}u^{29}+\frac{321955081}{165814014}u^{28}+\cdots+\frac{874705533}{27635669}u+\frac{763192718}{82907007}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 3u^{29} + \cdots + 2u + 1$
c_2	$u^{30} - u^{29} + \cdots - 9u^2 + 1$
c_3	$u^{30} + 9u^{28} + \cdots + 3u + 1$
c_4	$u^{30} + u^{29} + \cdots - 16u + 4$
c_5, c_6	$u^{30} + 20u^{28} + \cdots + 2u + 1$
c_7	$u^{30} + u^{29} + \cdots - 9u^2 + 1$
c_8	$u^{30} - u^{29} + \cdots + 16u + 4$
c_9	$u^{30} + 9u^{29} + \cdots + u + 1$
c_{10}	$u^{30} - u^{29} + \cdots - 15u + 11$
c_{11}	$u^{30} + 20u^{28} + \cdots - 2u + 1$
c_{12}	$u^{30} + 11u^{28} + \cdots - 25u + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} + 7y^{29} + \cdots + 26y + 1$
c_2, c_7	$y^{30} - 17y^{29} + \cdots - 18y + 1$
c_3	$y^{30} + 18y^{29} + \cdots + 17y + 1$
c_4, c_8	$y^{30} + 29y^{29} + \cdots - 64y + 16$
c_5, c_6, c_{11}	$y^{30} + 40y^{29} + \cdots + 32y + 1$
c_9	$y^{30} - 9y^{29} + \cdots - 7y + 1$
c_{10}	$y^{30} - 5y^{29} + \cdots + 611y + 121$
c_{12}	$y^{30} + 22y^{29} + \cdots + 327y + 49$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.630105 + 0.695307I$ $a = 1.72375 - 0.16810I$ $b = -0.512369 + 1.251810I$	$5.42671 - 2.93362I$	$-2.00935 + 13.29888I$
$u = 0.630105 - 0.695307I$ $a = 1.72375 + 0.16810I$ $b = -0.512369 - 1.251810I$	$5.42671 + 2.93362I$	$-2.00935 - 13.29888I$
$u = 0.821805 + 0.355907I$ $a = 0.027900 - 0.428537I$ $b = -0.657579 - 0.870652I$	$2.23734 - 3.16109I$	$-4.74732 + 7.58420I$
$u = 0.821805 - 0.355907I$ $a = 0.027900 + 0.428537I$ $b = -0.657579 + 0.870652I$	$2.23734 + 3.16109I$	$-4.74732 - 7.58420I$
$u = -0.545164 + 0.635275I$ $a = -1.000420 - 0.154434I$ $b = 0.724880 + 0.366219I$	$-0.96753 + 2.81759I$	$-6.3369 - 15.8311I$
$u = -0.545164 - 0.635275I$ $a = -1.000420 + 0.154434I$ $b = 0.724880 - 0.366219I$	$-0.96753 - 2.81759I$	$-6.3369 + 15.8311I$
$u = 0.221984 + 1.149150I$ $a = -0.45784 + 1.94596I$ $b = 0.067218 - 1.384630I$	$5.67162 - 5.33366I$	$2.15100 + 6.38698I$
$u = 0.221984 - 1.149150I$ $a = -0.45784 - 1.94596I$ $b = 0.067218 + 1.384630I$	$5.67162 + 5.33366I$	$2.15100 - 6.38698I$
$u = -0.306364 + 1.160130I$ $a = 0.74273 + 2.22026I$ $b = 0.55583 - 2.41798I$	$12.3642 + 8.2516I$	$7.17518 - 6.23391I$
$u = -0.306364 - 1.160130I$ $a = 0.74273 - 2.22026I$ $b = 0.55583 + 2.41798I$	$12.3642 - 8.2516I$	$7.17518 + 6.23391I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.399534+0.672675I$ $a=-1.95059+0.23287I$ $b=-0.057000+0.507233I$	$9.09328+1.78839I$	$6.45395-4.38699I$
$u=-0.399534-0.672675I$ $a=-1.95059-0.23287I$ $b=-0.057000-0.507233I$	$9.09328-1.78839I$	$6.45395+4.38699I$
$u=-0.045475+1.219330I$ $a=-0.597664+0.119390I$ $b=-0.984120+0.075531I$	$11.48680-0.60088I$	$3.16360-2.70325I$
$u=-0.045475-1.219330I$ $a=-0.597664-0.119390I$ $b=-0.984120-0.075531I$	$11.48680+0.60088I$	$3.16360+2.70325I$
$u=0.229442+0.700891I$ $a=-0.316343-0.225492I$ $b=-1.181730-0.308696I$	$1.87919-2.70663I$	$4.71648+6.20429I$
$u=0.229442-0.700891I$ $a=-0.316343+0.225492I$ $b=-1.181730+0.308696I$	$1.87919+2.70663I$	$4.71648-6.20429I$
$u=0.022342+1.292270I$ $a=-1.105510+0.692523I$ $b=0.437458-0.658638I$	$4.42266+1.85983I$	$-1.08887-2.54905I$
$u=0.022342-1.292270I$ $a=-1.105510-0.692523I$ $b=0.437458+0.658638I$	$4.42266-1.85983I$	$-1.08887+2.54905I$
$u=-0.208489+1.285470I$ $a=0.37487-1.76768I$ $b=-0.345643+1.336660I$	$3.13650+4.78480I$	$1.83177-2.84897I$
$u=-0.208489-1.285470I$ $a=0.37487+1.76768I$ $b=-0.345643-1.336660I$	$3.13650-4.78480I$	$1.83177+2.84897I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.474456 + 1.238330I$ $a = 0.059672 - 0.167268I$ $b = -0.235536 - 0.241632I$	$5.02021 + 2.37817I$	$-1.35142 - 0.82998I$
$u = 0.474456 - 1.238330I$ $a = 0.059672 + 0.167268I$ $b = -0.235536 + 0.241632I$	$5.02021 - 2.37817I$	$-1.35142 + 0.82998I$
$u = 0.30957 + 1.39622I$ $a = -0.24776 - 1.94920I$ $b = 1.22428 + 2.04770I$	$7.62832 - 7.11172I$	$-2.63306 + 8.31321I$
$u = 0.30957 - 1.39622I$ $a = -0.24776 + 1.94920I$ $b = 1.22428 - 2.04770I$	$7.62832 + 7.11172I$	$-2.63306 - 8.31321I$
$u = 0.40175 + 1.44421I$ $a = -0.093287 + 0.883427I$ $b = -0.688135 - 0.970806I$	$5.52940 - 3.07063I$	$6.43109 + 2.26685I$
$u = 0.40175 - 1.44421I$ $a = -0.093287 - 0.883427I$ $b = -0.688135 + 0.970806I$	$5.52940 + 3.07063I$	$6.43109 - 2.26685I$
$u = -0.344141 + 0.026121I$ $a = -0.18144 - 1.61778I$ $b = 0.898704 + 0.383798I$	$-0.85365 - 2.38254I$	$-4.03985 + 0.93908I$
$u = -0.344141 - 0.026121I$ $a = -0.18144 + 1.61778I$ $b = 0.898704 - 0.383798I$	$-0.85365 + 2.38254I$	$-4.03985 - 0.93908I$
$u = -0.76228 + 1.56542I$ $a = 0.021946 + 0.255520I$ $b = 0.753743 - 0.688207I$	$11.81660 - 3.91494I$	0
$u = -0.76228 - 1.56542I$ $a = 0.021946 - 0.255520I$ $b = 0.753743 + 0.688207I$	$11.81660 + 3.91494I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{30}-3u^{29}+\cdots+2u+1)(u^{120}-12u^{119}+\cdots-105451u+8381)$
c_2	$(u^{30}-u^{29}+\cdots-9u^2+1)(u^{120}+2u^{119}+\cdots-10425u+6379)$
c_3	$(u^{30}+9u^{28}+\cdots+3u+1)(u^{120}+u^{119}+\cdots+172u+11)$
c_4	$(u^{30}+u^{29}+\cdots-16u+4)(u^{120}+4u^{119}+\cdots+176u+16)$
c_5, c_6	$(u^{30}+20u^{28}+\cdots+2u+1)(u^{120}-u^{119}+\cdots-4711u+667)$
c_7	$(u^{30}+u^{29}+\cdots-9u^2+1)(u^{120}+2u^{119}+\cdots-10425u+6379)$
c_8	$(u^{30}-u^{29}+\cdots+16u+4)(u^{120}+4u^{119}+\cdots+176u+16)$
c_9	$(u^{30}+9u^{29}+\cdots+u+1)(u^{120}-4u^{119}+\cdots+42u+11)$
c_{10}	$(u^{30}-u^{29}+\cdots-15u+11)$ $\cdot(u^{120}-30u^{118}+\cdots-6834664u+20792117)$
c_{11}	$(u^{30}+20u^{28}+\cdots-2u+1)(u^{120}-u^{119}+\cdots-4711u+667)$
c_{12}	$(u^{30}+11u^{28}+\cdots-25u+7)$ $\cdot(u^{120}+u^{119}+\cdots+84308126u+35235131)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{30}+7y^{29}+\cdots+26y+1)$ $\cdot(y^{120}+36y^{119}+\cdots+4420639659y+70241161)$
c_2, c_7	$(y^{30}-17y^{29}+\cdots-18y+1)$ $\cdot(y^{120}-84y^{119}+\cdots-765539013y+40691641)$
c_3	$(y^{30}+18y^{29}+\cdots+17y+1)(y^{120}+15y^{119}+\cdots+5726y+121)$
c_4, c_8	$(y^{30}+29y^{29}+\cdots-64y+16)(y^{120}+102y^{119}+\cdots-6912y+256)$
c_5, c_6, c_{11}	$(y^{30}+40y^{29}+\cdots+32y+1)$ $\cdot(y^{120}+141y^{119}+\cdots+27200497y+444889)$
c_9	$(y^{30}-9y^{29}+\cdots-7y+1)(y^{120}+110y^{118}+\cdots+5298y+121)$
c_{10}	$(y^{30}-5y^{29}+\cdots+611y+121)$ $\cdot(y^{120}-60y^{119}+\cdots-3535423773129192y+432312129341689)$
c_{12}	$(y^{30}+22y^{29}+\cdots+327y+49)$ $\cdot(y^{120}+67y^{119}+\cdots+44858396743231608y+1241514456587161)$