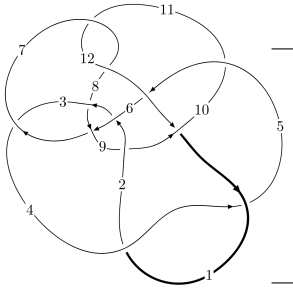
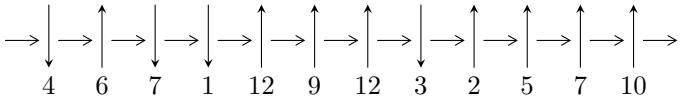
$12n_{0736}$ $(K12n_{0736})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 6.85974 \times 10^{510} u^{118} - 3.36065 \times 10^{511} u^{117} + \cdots + 8.39335 \times 10^{511} b - 2.36017 \times 10^{513}, \\ & - 8.34995 \times 10^{512} u^{118} - 7.74279 \times 10^{513} u^{117} + \cdots + 1.02315 \times 10^{515} a + 2.17745 \times 10^{517}, \\ & u^{119} - 5u^{118} + \cdots + 33731u - 1219 \rangle \\ I_2^u = \langle & -5.01803 \times 10^{47} u^{43} + 5.12787 \times 10^{48} u^{42} + \cdots + 8.93849 \times 10^{46} b + 4.54183 \times 10^{46}, \\ & 4.44342 \times 10^{47} u^{43} - 4.47435 \times 10^{48} u^{42} + \cdots + 8.93849 \times 10^{46} a - 1.52859 \times 10^{48}, \ u^{44} - 10u^{43} + \cdots - 19u + \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 163 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. $\boldsymbol{I_1^u = \langle 6.86 \times 10^{510} u^{118} - 3.36 \times 10^{511} u^{117} + \cdots + 8.39 \times 10^{511} b - 2.36 \times 10^{513},\ -8.35 \times 10^{512} u^{118} - 7.74 \times 10^{513} u^{117} + \cdots + 1.02 \times 10^{515} a + 2.18 \times 10^{517},\ u^{119} - 5u^{118} + \cdots + 33731u - 1219 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} 0.00816103u^{118} + 0.0756760u^{117} + \cdots + 5478.41u - 212.818 \\ -0.0817283u^{118} + 0.400395u^{117} + \cdots - 616.990u + 28.1195 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0879763u^{118} - 0.404797u^{117} + \cdots + 2176.32u - 98.9470 \\ -0.138109u^{118} + 0.752524u^{117} + \cdots + 2225.89u - 71.1027 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0959043u^{118} + 0.466145u^{117} + \cdots - 953.729u + 29.7923 \\ 0.0946342u^{118} - 0.487040u^{117} + \cdots - 534.337u + 15.0636 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.103143u^{118} - 0.603357u^{117} + \cdots - 3937.06u + 141.473 \\ -0.0286967u^{118} + 0.253557u^{117} + \cdots + 4653.40u - 167.154 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0414577u^{118} - 0.290467u^{117} + \cdots - 3968.39u + 147.548 \\ 0.0852643u^{118} - 0.410546u^{117} + \cdots + 662.359u - 30.1911 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0419752u^{118} - 0.130654u^{117} + \cdots + 3960.26u - 143.179 \\ -0.130629u^{118} + 0.664912u^{117} + \cdots + 213.624u - 0.0470890 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0129848u^{118} + 0.210555u^{117} + \cdots + 7096.23u - 266.439 \\ -0.163462u^{118} + 0.770953u^{117} + \cdots - 2622.80u + 104.586 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0621343u^{118} - 0.282625u^{117} + \cdots + 1737.87u - 80.8801 \\ -0.135702u^{118} + 0.758695u^{117} + \cdots + 3123.55u - 103.818 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.171027u^{118} + 0.892492u^{117} + \cdots + 742.503u - 13.0567$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{119} + 5u^{118} + \cdots + 33731u + 1219$
c_2	$u^{119} - 8u^{118} + \cdots - 4u - 1$
c_3	$u^{119} - 14u^{117} + \cdots + 152947565649u - 9784213871$
c_5	$u^{119} + 2u^{118} + \cdots + 2467110921u - 1915307993$
c_6	$u^{119} + 4u^{118} + \cdots + 6u - 1$
c_7, c_{11}	$u^{119} - 3u^{118} + \cdots - 2145918u - 358027$
c_8	$u^{119} - u^{118} + \cdots - 2803281u - 360061$
c_9	$u^{119} - 4u^{118} + \cdots - 2405770u - 8033011$
c_{10}	$u^{119} - u^{118} + \cdots - 40925u - 4771$
c_{12}	$u^{119} + 7u^{118} + \cdots - 26u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{119} + 71y^{118} + \cdots + 441068225y - 1485961$
c_2	$y^{119} + 38y^{118} + \cdots - 296y - 1$
c_3	$y^{119} - 28y^{118} + \cdots + 4.07 \times 10^{21}y - 9.57 \times 10^{19}$
c_5	$y^{119} + 54y^{118} + \cdots - 4.20 \times 10^{19}y - 3.67 \times 10^{18}$
c_6	$y^{119} - 14y^{118} + \cdots - 2y - 1$
c_7, c_{11}	$y^{119} + 87y^{118} + \cdots - 6209933896494y - 128183332729$
c_8	$y^{119} - 37y^{118} + \cdots + 387766004639y - 129643923721$
c_9	$y^{119} + 48y^{118} + \cdots - 3572692300957120y - 64529265726121$
c_{10}	$y^{119} + 13y^{118} + \cdots - 5029200903y - 22762441$
c_{12}	$y^{119} - 25y^{118} + \cdots + 172y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.900710 + 0.447742I$ $a = 1.32134 + 0.75592I$ $b = -1.080900 + 0.694050I$	$-6.44500 - 4.63461I$	0
$u = 0.900710 - 0.447742I$ $a = 1.32134 - 0.75592I$ $b = -1.080900 - 0.694050I$	$-6.44500 + 4.63461I$	0
$u = -0.449046 + 0.880282I$ $a = 0.334901 - 0.759799I$ $b = -0.89030 + 1.41189I$	$-6.27923 + 2.06623I$	0
$u = -0.449046 - 0.880282I$ $a = 0.334901 + 0.759799I$ $b = -0.89030 - 1.41189I$	$-6.27923 - 2.06623I$	0
$u = -0.427914 + 0.885888I$ $a = -0.169526 - 1.068510I$ $b = 0.161027 - 1.059390I$	$-5.95151 - 4.58997I$	0
$u = -0.427914 - 0.885888I$ $a = -0.169526 + 1.068510I$ $b = 0.161027 + 1.059390I$	$-5.95151 + 4.58997I$	0
$u = 0.316551 + 0.968693I$ $a = -1.88014 - 0.69352I$ $b = 1.69695 - 0.11936I$	$5.80304 - 1.31943I$	0
$u = 0.316551 - 0.968693I$ $a = -1.88014 + 0.69352I$ $b = 1.69695 + 0.11936I$	$5.80304 + 1.31943I$	0
$u = 0.088614 + 0.967014I$ $a = 1.11936 + 2.02388I$ $b = -0.1003180 + 0.0011885I$	$2.64569 + 0.92590I$	0
$u = 0.088614 - 0.967014I$ $a = 1.11936 - 2.02388I$ $b = -0.1003180 - 0.0011885I$	$2.64569 - 0.92590I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.034600 + 0.968501I$ $a = -3.18293 + 0.17058I$ $b = 2.75536 + 0.20472I$	$8.19227 - 0.15281I$	0
$u = 0.034600 - 0.968501I$ $a = -3.18293 - 0.17058I$ $b = 2.75536 - 0.20472I$	$8.19227 + 0.15281I$	0
$u = 0.468693 + 0.931901I$ $a = 0.874360 - 0.125803I$ $b = -0.370722 + 0.380148I$	$-0.68578 - 2.05545I$	0
$u = 0.468693 - 0.931901I$ $a = 0.874360 + 0.125803I$ $b = -0.370722 - 0.380148I$	$-0.68578 + 2.05545I$	0
$u = 0.524053 + 0.903789I$ $a = 0.429339 + 0.831533I$ $b = -0.397239 + 0.978211I$	$-4.22261 - 5.62713I$	0
$u = 0.524053 - 0.903789I$ $a = 0.429339 - 0.831533I$ $b = -0.397239 - 0.978211I$	$-4.22261 + 5.62713I$	0
$u = 0.942515 + 0.466420I$ $a = 0.0687464 - 0.0524007I$ $b = 0.421089 - 0.836959I$	$-1.95977 - 3.15258I$	0
$u = 0.942515 - 0.466420I$ $a = 0.0687464 + 0.0524007I$ $b = 0.421089 + 0.836959I$	$-1.95977 + 3.15258I$	0
$u = -0.912733 + 0.534874I$ $a = 0.387490 - 0.015209I$ $b = -0.344925 - 0.072303I$	$0.62504 - 2.59860I$	0
$u = -0.912733 - 0.534874I$ $a = 0.387490 + 0.015209I$ $b = -0.344925 + 0.072303I$	$0.62504 + 2.59860I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.351789+1.000600I$ $a=\ \ 0.342892-0.392805I$ $b=-0.015754-1.316610I$	$-5.37643+2.67841I$	0
$u=-0.351789-1.000600I$ $a=\ \ 0.342892+0.392805I$ $b=-0.015754+1.316610I$	$-5.37643-2.67841I$	0
$u=\ \ 0.238293+1.057470I$ $a=-2.38178-0.50948I$ $b=\ \ 0.875887-0.130142I$	$3.67325-1.82473I$	0
$u=\ \ 0.238293-1.057470I$ $a=-2.38178+0.50948I$ $b=\ \ 0.875887+0.130142I$	$3.67325+1.82473I$	0
$u=-0.533860+0.958020I$ $a=-1.84072+0.15881I$ $b=\ \ 1.30233+1.02834I$	$-0.94044+2.05443I$	0
$u=-0.533860-0.958020I$ $a=-1.84072-0.15881I$ $b=\ \ 1.30233-1.02834I$	$-0.94044-2.05443I$	0
$u=-0.704256+0.552773I$ $a=\ \ 0.319026+0.864267I$ $b=\ \ 0.612712-1.085150I$	$-2.11848+2.62866I$	0
$u=-0.704256-0.552773I$ $a=\ \ 0.319026-0.864267I$ $b=\ \ 0.612712+1.085150I$	$-2.11848-2.62866I$	0
$u=\ \ 0.344266+1.049950I$ $a=-2.41088+0.04163I$ $b=\ \ 1.389530-0.046178I$	$3.21889-2.43004I$	0
$u=\ \ 0.344266-1.049950I$ $a=-2.41088-0.04163I$ $b=\ \ 1.389530+0.046178I$	$3.21889+2.43004I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.005760+0.889619I$ $a=-1.05334+1.09957I$ $b=\ \ 0.196920+0.854551I$	$2.37296-1.12400I$	0
$u=-0.005760-0.889619I$ $a=-1.05334-1.09957I$ $b=\ \ 0.196920-0.854551I$	$2.37296+1.12400I$	0
$u=-0.023932+1.113010I$ $a=\ \ 0.701632-0.514535I$ $b=-0.815122+0.220705I$	$-0.57945-2.60843I$	0
$u=-0.023932-1.113010I$ $a=\ \ 0.701632+0.514535I$ $b=-0.815122-0.220705I$	$-0.57945+2.60843I$	0
$u=\ \ 0.885725+0.037717I$ $a=\ \ 0.416970+0.224985I$ $b=\ \ 0.221133-0.730148I$	$-2.27128-1.04460I$	0
$u=\ \ 0.885725-0.037717I$ $a=\ \ 0.416970-0.224985I$ $b=\ \ 0.221133+0.730148I$	$-2.27128+1.04460I$	0
$u=-1.028760+0.469136I$ $a=-0.167751-0.361357I$ $b=-0.902980+0.878633I$	$-7.36456-4.66244I$	0
$u=-1.028760-0.469136I$ $a=-0.167751+0.361357I$ $b=-0.902980-0.878633I$	$-7.36456+4.66244I$	0
$u=\ \ 0.750537+0.421665I$ $a=-0.808445-0.730052I$ $b=-0.468007-0.392684I$	$-5.46865+0.83801I$	0
$u=\ \ 0.750537-0.421665I$ $a=-0.808445+0.730052I$ $b=-0.468007+0.392684I$	$-5.46865-0.83801I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.438608+1.052740I$ $a=\ \ 0.776998-1.013660I$ $b=-1.17427+1.51445I$	$-5.71211+10.11080I$	0
$u=-0.438608-1.052740I$ $a=\ \ 0.776998+1.013660I$ $b=-1.17427-1.51445I$	$-5.71211-10.11080I$	0
$u=-0.028783+0.848063I$ $a=\ \ 2.08400-0.54864I$ $b=-0.937681-0.936397I$	$-1.96071+2.92636I$	0
$u=-0.028783-0.848063I$ $a=\ \ 2.08400+0.54864I$ $b=-0.937681+0.936397I$	$-1.96071-2.92636I$	0
$u=-0.616411+0.972759I$ $a=\ \ 1.03162-0.97316I$ $b=-1.49185-0.20932I$	$8.63647+2.51702I$	0
$u=-0.616411-0.972759I$ $a=\ \ 1.03162+0.97316I$ $b=-1.49185+0.20932I$	$8.63647-2.51702I$	0
$u=-0.382315+0.752935I$ $a=\ \ 2.95156-0.21603I$ $b=-1.123000-0.742293I$	$-6.75118+1.52015I$	0
$u=-0.382315-0.752935I$ $a=\ \ 2.95156+0.21603I$ $b=-1.123000+0.742293I$	$-6.75118-1.52015I$	0
$u=-0.285890+0.793339I$ $a=-3.66741-0.67758I$ $b=\ \ 0.075363+0.317107I$	$-6.43962+7.74698I$	0
$u=-0.285890-0.793339I$ $a=-3.66741+0.67758I$ $b=\ \ 0.075363-0.317107I$	$-6.43962-7.74698I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.400440 + 1.113570I$ $a = 2.02387 - 0.38423I$ $b = -1.42003 + 1.32973I$	$-1.08963 - 6.72426I$	0
$u = 0.400440 - 1.113570I$ $a = 2.02387 + 0.38423I$ $b = -1.42003 - 1.32973I$	$-1.08963 + 6.72426I$	0
$u = 1.179560 + 0.110814I$ $a = -0.176215 - 0.101678I$ $b = -0.436606 - 0.909732I$	$-7.09503 + 2.33950I$	0
$u = 1.179560 - 0.110814I$ $a = -0.176215 + 0.101678I$ $b = -0.436606 + 0.909732I$	$-7.09503 - 2.33950I$	0
$u = -0.158955 + 0.796638I$ $a = -0.148100 + 0.022738I$ $b = 0.251370 + 1.358570I$	$-0.63197 + 5.62831I$	0
$u = -0.158955 - 0.796638I$ $a = -0.148100 - 0.022738I$ $b = 0.251370 - 1.358570I$	$-0.63197 - 5.62831I$	0
$u = -0.713990 + 0.333093I$ $a = 0.048421 + 0.346386I$ $b = 0.755826 - 1.127220I$	$-2.66772 - 5.71493I$	0
$u = -0.713990 - 0.333093I$ $a = 0.048421 - 0.346386I$ $b = 0.755826 + 1.127220I$	$-2.66772 + 5.71493I$	0
$u = 0.352442 + 1.166840I$ $a = 1.271480 - 0.157515I$ $b = -0.600113 + 0.145559I$	$1.04936 - 3.15794I$	0
$u = 0.352442 - 1.166840I$ $a = 1.271480 + 0.157515I$ $b = -0.600113 - 0.145559I$	$1.04936 + 3.15794I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.554249+1.094380I$ $a=\ 0.144098+0.597012I$ $b=\ 0.102609-0.202619I$	$0.55768-2.84906I$	0
$u=-0.554249-1.094380I$ $a=\ 0.144098-0.597012I$ $b=\ 0.102609+0.202619I$	$0.55768+2.84906I$	0
$u=\ 1.177440+0.384738I$ $a=\ 0.252436+0.291822I$ $b=\ 0.248807-0.332188I$	$-2.71387-1.56680I$	0
$u=\ 1.177440-0.384738I$ $a=\ 0.252436-0.291822I$ $b=\ 0.248807+0.332188I$	$-2.71387+1.56680I$	0
$u=-0.533350+1.139550I$ $a=-1.95806+0.05092I$ $b=\ 1.24441+1.02146I$	$-0.23770+10.50290I$	0
$u=-0.533350-1.139550I$ $a=-1.95806-0.05092I$ $b=\ 1.24441-1.02146I$	$-0.23770-10.50290I$	0
$u=\ 0.118650+0.728634I$ $a=-1.048600+0.651970I$ $b=\ 0.706644+0.614243I$	$1.60808-0.01006I$	0
$u=\ 0.118650-0.728634I$ $a=-1.048600-0.651970I$ $b=\ 0.706644-0.614243I$	$1.60808+0.01006I$	0
$u=-0.120176+1.270150I$ $a=-1.45832+0.13857I$ $b=\ 1.23958+0.86282I$	$5.44561+0.54327I$	0
$u=-0.120176-1.270150I$ $a=-1.45832-0.13857I$ $b=\ 1.23958-0.86282I$	$5.44561-0.54327I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.344433+1.234220I$ $a=\ \ 1.380290-0.233019I$ $b=-0.749763-0.443744I$	$5.44471+0.96802I$	0
$u=-0.344433-1.234220I$ $a=\ \ 1.380290+0.233019I$ $b=-0.749763+0.443744I$	$5.44471-0.96802I$	0
$u=\ \ 0.809411+0.993656I$ $a=\ \ 0.462983+0.716102I$ $b=-0.845900-1.002740I$	$-4.99396-1.48231I$	0
$u=\ \ 0.809411-0.993656I$ $a=\ \ 0.462983-0.716102I$ $b=-0.845900+1.002740I$	$-4.99396+1.48231I$	0
$u=\ \ 1.290430+0.205286I$ $a=\ \ 0.409505+0.092156I$ $b=-0.747598-0.972896I$	$-7.64829+1.67619I$	0
$u=\ \ 1.290430-0.205286I$ $a=\ \ 0.409505-0.092156I$ $b=-0.747598+0.972896I$	$-7.64829-1.67619I$	0
$u=-1.296000+0.245268I$ $a=\ \ 0.086183-0.195037I$ $b=-0.836942+0.912264I$	$-8.5678-12.4093I$	0
$u=-1.296000-0.245268I$ $a=\ \ 0.086183+0.195037I$ $b=-0.836942-0.912264I$	$-8.5678+12.4093I$	0
$u=-0.293598+0.607364I$ $a=-3.19539-0.48671I$ $b=-0.003877+0.542710I$	$-6.67313+0.32596I$	0
$u=-0.293598-0.607364I$ $a=-3.19539+0.48671I$ $b=-0.003877-0.542710I$	$-6.67313-0.32596I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.457887+0.485478I$ $a=\ \ 3.19163-0.78266I$ $b=-1.208740-0.574978I$	$-7.45884-6.31704I$	0
$u=-0.457887-0.485478I$ $a=\ \ 3.19163+0.78266I$ $b=-1.208740+0.574978I$	$-7.45884+6.31704I$	0
$u=\ \ 0.335344+1.315030I$ $a=-1.296150+0.381191I$ $b=\ \ 0.962023-0.786565I$	$3.20626-5.97417I$	0
$u=\ \ 0.335344-1.315030I$ $a=-1.296150-0.381191I$ $b=\ \ 0.962023+0.786565I$	$3.20626+5.97417I$	0
$u=\ \ 0.223741+1.340970I$ $a=\ \ 1.112590-0.136437I$ $b=-1.221010+0.068206I$	$0.29479-2.54250I$	0
$u=\ \ 0.223741-1.340970I$ $a=\ \ 1.112590+0.136437I$ $b=-1.221010-0.068206I$	$0.29479+2.54250I$	0
$u=-0.669687+1.185930I$ $a=\ \ 1.51107-0.24823I$ $b=-1.24613-1.07662I$	$-5.04710+10.79980I$	0
$u=-0.669687-1.185930I$ $a=\ \ 1.51107+0.24823I$ $b=-1.24613+1.07662I$	$-5.04710-10.79980I$	0
$u=-1.091140+0.827047I$ $a=-0.351679+0.480179I$ $b=\ \ 1.022050+0.072829I$	$-1.80926-1.00921I$	0
$u=-1.091140-0.827047I$ $a=-0.351679-0.480179I$ $b=\ \ 1.022050-0.072829I$	$-1.80926+1.00921I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.396515 + 1.315650I$ $a = 1.61948 + 0.79863I$ $b = -0.734042 + 0.712419I$	$-1.18223 - 8.79537I$	0
$u = 0.396515 - 1.315650I$ $a = 1.61948 - 0.79863I$ $b = -0.734042 - 0.712419I$	$-1.18223 + 8.79537I$	0
$u = -0.544458 + 1.277810I$ $a = 1.231460 - 0.165795I$ $b = -0.789211 - 0.425263I$	$3.79615 + 8.61090I$	0
$u = -0.544458 - 1.277810I$ $a = 1.231460 + 0.165795I$ $b = -0.789211 + 0.425263I$	$3.79615 - 8.61090I$	0
$u = 0.621714 + 1.244690I$ $a = 0.044083 - 0.480589I$ $b = 0.234185 - 0.374406I$	$0.31789 - 4.87187I$	0
$u = 0.621714 - 1.244690I$ $a = 0.044083 + 0.480589I$ $b = 0.234185 + 0.374406I$	$0.31789 + 4.87187I$	0
$u = 0.566807 + 1.278290I$ $a = -1.132210 + 0.108795I$ $b = 1.04234 - 0.98191I$	$1.63841 - 6.36327I$	0
$u = 0.566807 - 1.278290I$ $a = -1.132210 - 0.108795I$ $b = 1.04234 + 0.98191I$	$1.63841 + 6.36327I$	0
$u = 0.267805 + 0.532763I$ $a = -0.20690 + 1.90418I$ $b = -0.65417 - 1.58804I$	$-3.17145 + 3.64446I$	$0. - 1.85999I$
$u = 0.267805 - 0.532763I$ $a = -0.20690 - 1.90418I$ $b = -0.65417 + 1.58804I$	$-3.17145 - 3.64446I$	$0. + 1.85999I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.82920+1.21161I$ $a=-0.916204+0.496292I$ $b=\ \ 1.292060+0.413161I$	$-0.33359+8.25609I$	0
$u=-0.82920-1.21161I$ $a=-0.916204-0.496292I$ $b=\ \ 1.292060-0.413161I$	$-0.33359-8.25609I$	0
$u=\ \ 0.62123+1.33319I$ $a=\ \ 1.138670-0.033900I$ $b=-0.76777+1.20200I$	$-3.28874-8.64255I$	0
$u=\ \ 0.62123-1.33319I$ $a=\ \ 1.138670+0.033900I$ $b=-0.76777-1.20200I$	$-3.28874+8.64255I$	0
$u=\ \ 0.71380+1.30528I$ $a=\ \ 1.70051+0.15833I$ $b=-1.08342+0.92416I$	$-4.25876-8.58638I$	0
$u=\ \ 0.71380-1.30528I$ $a=\ \ 1.70051-0.15833I$ $b=-1.08342-0.92416I$	$-4.25876+8.58638I$	0
$u=-0.68477+1.33321I$ $a=\ \ 1.52600-0.09170I$ $b=-1.20174-1.12125I$	$-5.1071+19.2580I$	0
$u=-0.68477-1.33321I$ $a=\ \ 1.52600+0.09170I$ $b=-1.20174+1.12125I$	$-5.1071-19.2580I$	0
$u=\ \ 0.38693+1.48634I$ $a=-1.222180+0.396141I$ $b=\ \ 1.13113-1.23713I$	$4.29141-7.95878I$	0
$u=\ \ 0.38693-1.48634I$ $a=-1.222180-0.396141I$ $b=\ \ 1.13113+1.23713I$	$4.29141+7.95878I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.85553 + 1.43296I$ $a = -0.478841 - 0.189907I$ $b = 0.366409 - 0.414185I$	$-1.84972 - 4.71382I$	0
$u = 0.85553 - 1.43296I$ $a = -0.478841 + 0.189907I$ $b = 0.366409 + 0.414185I$	$-1.84972 + 4.71382I$	0
$u = 0.90497 + 1.55485I$ $a = -0.224284 + 0.231694I$ $b = 0.209994 - 0.658565I$	$-1.88767 - 5.89373I$	0
$u = 0.90497 - 1.55485I$ $a = -0.224284 - 0.231694I$ $b = 0.209994 + 0.658565I$	$-1.88767 + 5.89373I$	0
$u = 0.174331 + 0.016194I$ $a = -4.26654 + 1.42378I$ $b = 0.847659 - 0.039778I$	$1.109390 + 0.017944I$	$2.73791 + 1.35387I$
$u = 0.174331 - 0.016194I$ $a = -4.26654 - 1.42378I$ $b = 0.847659 + 0.039778I$	$1.109390 - 0.017944I$	$2.73791 - 1.35387I$
$u = 0.0605201$ $a = -12.6040$ $b = 0.778416$	1.10464	5.74650
$u = 0.06004 + 1.98432I$ $a = 0.438049 - 0.075938I$ $b = -0.594475 - 0.054882I$	$-0.95333 - 5.60035I$	0
$u = 0.06004 - 1.98432I$ $a = 0.438049 + 0.075938I$ $b = -0.594475 + 0.054882I$	$-0.95333 + 5.60035I$	0

II. $\boldsymbol{I_2^u = \langle -5.02 \times 10^{47} u^{43} + 5.13 \times 10^{48} u^{42} + \cdots + 8.94 \times 10^{46} b + 4.54 \times 10^{46},\ 4.44 \times 10^{47} u^{43} - 4.47 \times 10^{48} u^{42} + \cdots + 8.94 \times 10^{46} a - 1.53 \times 10^{48},\ u^{44} - 10 u^{43} + \cdots - 19u + 1 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -4.97111u^{43} + 50.0571u^{42} + \cdots - 225.898u + 17.1012 \\ 5.61396u^{43} - 57.3684u^{42} + \cdots + 34.7325u - 0.508121 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -5.33970u^{43} + 56.7011u^{42} + \cdots - 249.085u + 17.2633 \\ 6.21011u^{43} - 65.8551u^{42} + \cdots + 91.3044u - 3.46619 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -15.4932u^{43} + 159.758u^{42} + \cdots - 389.071u + 20.0908 \\ 14.6642u^{43} - 148.573u^{42} + \cdots + 97.6849u - 5.16860 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -13.8872u^{43} + 141.389u^{42} + \cdots - 146.362u + 1.44738 \\ 13.5221u^{43} - 135.715u^{42} + \cdots + 125.314u - 7.34863 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -8.00868u^{43} + 79.5319u^{42} + \cdots - 215.264u + 7.34792 \\ 7.95339u^{43} - 81.3190u^{42} + \cdots + 73.0167u - 5.11247 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -8.55722u^{43} + 65.7531u^{42} + \cdots + 547.357u - 35.6510 \\ 7.31846u^{43} - 53.4993u^{42} + \cdots - 278.153u + 14.2272 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 17.1535u^{43} - 177.009u^{42} + \cdots + 131.188u - 7.43063 \\ -13.1744u^{43} + 134.683u^{42} + \cdots - 140.062u + 6.18646 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -5.67649u^{43} + 57.8756u^{42} + \cdots - 243.314u + 17.9840 \\ 6.31933u^{43} - 65.1869u^{42} + \cdots + 52.1484u - 1.39091 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 14.2407u^{43} - 145.038u^{42} + \cdots + 172.928u - 7.31479$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{44} - 10u^{43} + \cdots - 19u + 1$
c_2	$u^{44} + u^{43} + \cdots + 12u + 3$
c_3	$u^{44} + 3u^{43} + \cdots - 291u + 43$
c_4	$u^{44} + 10u^{43} + \cdots + 19u + 1$
c_5	$u^{44} + 5u^{43} + \cdots - 189u + 43$
c_6	$u^{44} + 15u^{43} + \cdots + 2u + 1$
c_7	$u^{44} + 4u^{43} + \cdots + 2u + 1$
c_8	$u^{44} - 2u^{42} + \cdots - 7u + 1$
c_9	$u^{44} - u^{43} + \cdots - 14u + 35$
c_{10}	$u^{44} - 2u^{43} + \cdots - 69u + 9$
c_{11}	$u^{44} - 4u^{43} + \cdots - 2u + 1$
c_{12}	$u^{44} - 14u^{43} + \cdots - 6u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{44} + 32y^{43} + \cdots + 29y + 1$
c_2	$y^{44} + 11y^{43} + \cdots + 186y + 9$
c_3	$y^{44} + 25y^{43} + \cdots - 25771y + 1849$
c_5	$y^{44} - 13y^{43} + \cdots + 17341y + 1849$
c_6	$y^{44} - 21y^{43} + \cdots + 8y + 1$
c_7, c_{11}	$y^{44} + 8y^{43} + \cdots - 20y + 1$
c_8	$y^{44} - 4y^{43} + \cdots + 31y + 1$
c_9	$y^{44} + 13y^{43} + \cdots + 16954y + 1225$
c_{10}	$y^{44} - 2y^{43} + \cdots - 207y + 81$
c_{12}	$y^{44} - 24y^{43} + \cdots - 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.145790 + 0.967740I$ $a = -3.14667 - 0.54035I$ $b = 2.79966 + 0.25136I$	$8.11914 - 0.60559I$	$0. + 13.17821I$
$u = 0.145790 - 0.967740I$ $a = -3.14667 + 0.54035I$ $b = 2.79966 - 0.25136I$	$8.11914 + 0.60559I$	$0. - 13.17821I$
$u = 0.204478 + 1.005350I$ $a = 2.10248 - 0.57083I$ $b = -0.223674 + 0.160681I$	$2.78683 - 2.15750I$	0
$u = 0.204478 - 1.005350I$ $a = 2.10248 + 0.57083I$ $b = -0.223674 - 0.160681I$	$2.78683 + 2.15750I$	0
$u = 1.037620 + 0.165915I$ $a = -0.084425 - 0.203707I$ $b = -0.584826 - 0.879252I$	$-6.46320 + 2.14405I$	0
$u = 1.037620 - 0.165915I$ $a = -0.084425 + 0.203707I$ $b = -0.584826 + 0.879252I$	$-6.46320 - 2.14405I$	0
$u = -0.178211 + 1.110420I$ $a = -1.75806 + 0.33474I$ $b = 1.48215 + 0.54261I$	$6.32752 + 0.83381I$	0
$u = -0.178211 - 1.110420I$ $a = -1.75806 - 0.33474I$ $b = 1.48215 - 0.54261I$	$6.32752 - 0.83381I$	0
$u = 0.127150 + 0.859932I$ $a = -0.72657 - 1.95826I$ $b = 0.090898 - 0.718815I$	$2.08019 + 0.63531I$	$-2.82612 + 5.50009I$
$u = 0.127150 - 0.859932I$ $a = -0.72657 + 1.95826I$ $b = 0.090898 + 0.718815I$	$2.08019 - 0.63531I$	$-2.82612 - 5.50009I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.101847+0.859744I$ $a=\ \ 1.175530+0.250622I$ $b=-0.67746-1.57271I$	$-2.18649+4.46176I$	$5.13777-5.99980I$
$u=-0.101847-0.859744I$ $a=\ \ 1.175530-0.250622I$ $b=-0.67746+1.57271I$	$-2.18649-4.46176I$	$5.13777+5.99980I$
$u=\ \ 0.357891+1.107560I$ $a=-2.29533-0.05119I$ $b=\ \ 1.302150+0.038608I$	$3.31457-2.67512I$	0
$u=\ \ 0.357891-1.107560I$ $a=-2.29533+0.05119I$ $b=\ \ 1.302150-0.038608I$	$3.31457+2.67512I$	0
$u=\ \ 0.639284+0.981571I$ $a=\ \ 1.010980+0.965872I$ $b=-1.50423+0.18361I$	$8.57763-2.58735I$	0
$u=\ \ 0.639284-0.981571I$ $a=\ \ 1.010980-0.965872I$ $b=-1.50423-0.18361I$	$8.57763+2.58735I$	0
$u=-0.268616+1.176540I$ $a=-1.53415+0.38186I$ $b=\ \ 1.212690+0.456968I$	$6.36237+0.81574I$	0
$u=-0.268616-1.176540I$ $a=-1.53415-0.38186I$ $b=\ \ 1.212690-0.456968I$	$6.36237-0.81574I$	0
$u=-0.187086+0.727501I$ $a=\ \ 3.67695-0.06030I$ $b=-0.572547+0.507401I$	$-6.23406+7.24939I$	$5.69234-0.74748I$
$u=-0.187086-0.727501I$ $a=\ \ 3.67695+0.06030I$ $b=-0.572547-0.507401I$	$-6.23406-7.24939I$	$5.69234+0.74748I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.196850 + 0.517003I$ $a = 0.081799 - 0.467939I$ $b = 0.597774 + 0.446500I$	$-2.42245 - 0.72296I$	0
$u = 1.196850 - 0.517003I$ $a = 0.081799 + 0.467939I$ $b = 0.597774 - 0.446500I$	$-2.42245 + 0.72296I$	0
$u = -1.160190 + 0.610470I$ $a = -0.251379 + 0.150972I$ $b = 0.510144 + 0.160819I$	$0.84114 - 2.34714I$	0
$u = -1.160190 - 0.610470I$ $a = -0.251379 - 0.150972I$ $b = 0.510144 - 0.160819I$	$0.84114 + 2.34714I$	0
$u = 0.906492 + 1.007170I$ $a = -0.152264 - 0.007738I$ $b = 0.226830 - 0.775080I$	$-2.54906 - 4.23367I$	0
$u = 0.906492 - 1.007170I$ $a = -0.152264 + 0.007738I$ $b = 0.226830 + 0.775080I$	$-2.54906 + 4.23367I$	0
$u = -0.538537 + 1.288220I$ $a = -1.254820 + 0.189303I$ $b = 0.970578 + 0.466699I$	$4.25991 + 8.71219I$	0
$u = -0.538537 - 1.288220I$ $a = -1.254820 - 0.189303I$ $b = 0.970578 - 0.466699I$	$4.25991 - 8.71219I$	0
$u = 0.018643 + 1.406580I$ $a = 0.687492 - 0.546981I$ $b = -0.788161 + 0.460674I$	$-0.29976 - 3.56841I$	0
$u = 0.018643 - 1.406580I$ $a = 0.687492 + 0.546981I$ $b = -0.788161 - 0.460674I$	$-0.29976 + 3.56841I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.601292 + 1.276500I$ $a = 1.372180 + 0.148039I$ $b = -0.883126 + 1.055660I$	$-3.06634 - 8.01545I$	0
$u = 0.601292 - 1.276500I$ $a = 1.372180 - 0.148039I$ $b = -0.883126 - 1.055660I$	$-3.06634 + 8.01545I$	0
$u = 0.356236 + 0.393616I$ $a = -1.80873 + 0.64868I$ $b = 0.991638 + 0.284329I$	$1.122610 - 0.454952I$	$-0.3454 + 14.3770I$
$u = 0.356236 - 0.393616I$ $a = -1.80873 - 0.64868I$ $b = 0.991638 - 0.284329I$	$1.122610 + 0.454952I$	$-0.3454 - 14.3770I$
$u = 0.35991 + 1.45671I$ $a = -1.269400 + 0.459025I$ $b = 1.14971 - 1.27622I$	$4.56622 - 8.03198I$	0
$u = 0.35991 - 1.45671I$ $a = -1.269400 - 0.459025I$ $b = 1.14971 + 1.27622I$	$4.56622 + 8.03198I$	0
$u = 0.023077 + 0.472457I$ $a = 3.93559 + 0.86675I$ $b = -0.546688 + 0.758194I$	$-6.42468 - 0.43649I$	$2.50412 + 1.41083I$
$u = 0.023077 - 0.472457I$ $a = 3.93559 - 0.86675I$ $b = -0.546688 - 0.758194I$	$-6.42468 + 0.43649I$	$2.50412 - 1.41083I$
$u = 0.76872 + 1.34279I$ $a = -0.770537 - 0.067257I$ $b = 0.890962 - 0.736486I$	$0.43326 - 6.50441I$	0
$u = 0.76872 - 1.34279I$ $a = -0.770537 + 0.067257I$ $b = 0.890962 + 0.736486I$	$0.43326 + 6.50441I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.0888844 + 0.0902858I$ $a = 2.82631 - 4.03970I$ $b = 0.413576 - 1.153050I$	$-1.34686 - 5.16087I$	$2.85418 + 3.67514I$
$u = 0.0888844 - 0.0902858I$ $a = 2.82631 + 4.03970I$ $b = 0.413576 + 1.153050I$	$-1.34686 + 5.16087I$	$2.85418 - 3.67514I$
$u = 0.60217 + 1.81361I$ $a = -0.316961 - 0.108712I$ $b = 0.141958 - 0.277846I$	$-1.34915 - 6.05980I$	0
$u = 0.60217 - 1.81361I$ $a = -0.316961 + 0.108712I$ $b = 0.141958 + 0.277846I$	$-1.34915 + 6.05980I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{44}-10u^{43}+\cdots-19u+1)(u^{119}+5u^{118}+\cdots+33731u+1219)$
c_2	$(u^{44}+u^{43}+\cdots+12u+3)(u^{119}-8u^{118}+\cdots-4u-1)$
c_3	$(u^{44}+3u^{43}+\cdots-291u+43)$ $\cdot(u^{119}-14u^{117}+\cdots+152947565649u-9784213871)$
c_4	$(u^{44}+10u^{43}+\cdots+19u+1)(u^{119}+5u^{118}+\cdots+33731u+1219)$
c_5	$(u^{44}+5u^{43}+\cdots-189u+43)$ $\cdot(u^{119}+2u^{118}+\cdots+2467110921u-1915307993)$
c_6	$(u^{44}+15u^{43}+\cdots+2u+1)(u^{119}+4u^{118}+\cdots+6u-1)$
c_7	$(u^{44}+4u^{43}+\cdots+2u+1)(u^{119}-3u^{118}+\cdots-2145918u-358027)$
c_8	$(u^{44}-2u^{42}+\cdots-7u+1)(u^{119}-u^{118}+\cdots-2803281u-360061)$
c_9	$(u^{44}-u^{43}+\cdots-14u+35)$ $\cdot(u^{119}-4u^{118}+\cdots-2405770u-8033011)$
c_{10}	$(u^{44}-2u^{43}+\cdots-69u+9)(u^{119}-u^{118}+\cdots-40925u-4771)$
c_{11}	$(u^{44}-4u^{43}+\cdots-2u+1)(u^{119}-3u^{118}+\cdots-2145918u-358027)$
c_{12}	$(u^{44}-14u^{43}+\cdots-6u+1)(u^{119}+7u^{118}+\cdots-26u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{44}+32y^{43}+\cdots+29y+1)$ $\cdot(y^{119}+71y^{118}+\cdots+441068225y-1485961)$
c_2	$(y^{44}+11y^{43}+\cdots+186y+9)(y^{119}+38y^{118}+\cdots-296y-1)$
c_3	$(y^{44}+25y^{43}+\cdots-25771y+1849)$ $\cdot(y^{119}-28y^{118}+\cdots+4.07\times10^{21}y-9.57\times10^{19})$
c_5	$(y^{44}-13y^{43}+\cdots+17341y+1849)$ $\cdot(y^{119}+54y^{118}+\cdots-4.20\times10^{19}y-3.67\times10^{18})$
c_6	$(y^{44}-21y^{43}+\cdots+8y+1)(y^{119}-14y^{118}+\cdots-2y-1)$
c_7, c_{11}	$(y^{44}+8y^{43}+\cdots-20y+1)$ $\cdot(y^{119}+87y^{118}+\cdots-6209933896494y-128183332729)$
c_8	$(y^{44}-4y^{43}+\cdots+31y+1)$ $\cdot(y^{119}-37y^{118}+\cdots+387766004639y-129643923721)$
c_9	$(y^{44}+13y^{43}+\cdots+16954y+1225)$ $\cdot(y^{119}+48y^{118}+\cdots-3572692300957120y-64529265726121)$
c_{10}	$(y^{44}-2y^{43}+\cdots-207y+81)$ $\cdot(y^{119}+13y^{118}+\cdots-5029200903y-22762441)$
c_{12}	$(y^{44}-24y^{43}+\cdots-2y+1)(y^{119}-25y^{118}+\cdots+172y-1)$