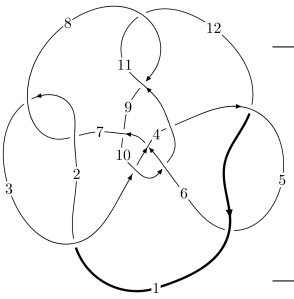
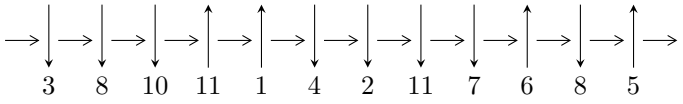
$12n_{0652}$ $(K12n_{0652})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -7.95566 \times 10^{237} u^{100} - 6.62307 \times 10^{237} u^{99} + \cdots + 4.78420 \times 10^{238} b - 4.22616 \times 10^{240}, \\ & - 5.09303 \times 10^{240} u^{100} - 6.43646 \times 10^{240} u^{99} + \cdots + 1.00947 \times 10^{241} a - 1.17880 \times 10^{243}, \\ & u^{101} - 29 u^{99} + \cdots - 366 u - 211 \rangle \\ I_2^u = \langle & -6594748663 u^{31} + 11676405243 u^{30} + \cdots + 304614406 b - 9241004294, \\ & 9719505347 u^{31} - 16695825813 u^{30} + \cdots + 304614406 a + 11648772074,\ u^{32} - u^{31} + \cdots - 3u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 133 representations.

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

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

I. $\boldsymbol{I_1^u = \langle -7.96 \times 10^{237} u^{100} - 6.62 \times 10^{237} u^{99} + \cdots + 4.78 \times 10^{238} b - 4.23 \times 10^{240},\ -5.09 \times 10^{240} u^{100} - 6.44 \times 10^{240} u^{99} + \cdots + 1.01 \times 10^{241} a - 1.18 \times 10^{243},\ u^{101} - 29 u^{99} + \cdots - 366 u - 211 \rangle}$

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.504526u^{100} + 0.637610u^{99} + \cdots + 220.410u + 116.774 \\ 0.166290u^{100} + 0.138436u^{99} + \cdots + 298.648u + 88.3358 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.719768u^{100} + 0.816275u^{99} + \cdots + 396.415u + 177.901 \\ -0.314263u^{100} - 0.311027u^{99} + \cdots - 78.0601u - 44.1993 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0646741u^{100} + 0.102419u^{99} + \cdots - 5.30493u + 10.0598 \\ 0.709533u^{100} + 0.284808u^{99} + \cdots + 376.424u + 77.2488 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0646741u^{100} + 0.102419u^{99} + \cdots - 5.30493u + 10.0598 \\ 0.560079u^{100} + 0.146742u^{99} + \cdots + 325.292u + 55.6384 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.574178u^{100} + 0.482635u^{99} + \cdots + 367.785u + 130.977 \\ -0.0616652u^{100} - 0.285923u^{99} + \cdots - 131.623u - 77.5243 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.02386u^{100} + 0.779755u^{99} + \cdots + 593.132u + 198.503 \\ -0.120196u^{100} - 0.169073u^{99} + \cdots - 85.7088u - 33.7270 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.716347u^{100} + 0.710368u^{99} + \cdots + 544.466u + 211.942 \\ 0.0100619u^{100} - 0.152637u^{99} + \cdots - 68.2902u - 44.6114 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4.64685u^{100} - 3.26032u^{99} + \cdots - 3712.21u - 1141.11$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{101} + 58u^{100} + \cdots + 943774u + 44521$
c_2, c_7	$u^{101} - 29u^{99} + \cdots - 366u - 211$
c_3	$u^{101} - 2u^{100} + \cdots - 97u + 7$
c_4	$u^{101} + 23u^{99} + \cdots + 750579u + 306659$
c_5, c_{12}	$u^{101} - 16u^{99} + \cdots - 953u - 133$
c_6	$u^{101} - u^{100} + \cdots + 227u - 23$
c_8, c_{11}	$u^{101} + 15u^{100} + \cdots + 3501095u + 215671$
c_9	$u^{101} - 7u^{100} + \cdots - 1316600u + 92575$
c_{10}	$u^{101} - 3u^{100} + \cdots - 790u - 83$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{101} - 14y^{100} + \cdots + 27975815430y - 1982119441$
c_2, c_7	$y^{101} - 58y^{100} + \cdots + 943774y - 44521$
c_3	$y^{101} - 10y^{100} + \cdots + 155y - 49$
c_4	$y^{101} + 46y^{100} + \cdots - 3797359557157y - 94039742281$
c_5, c_{12}	$y^{101} - 32y^{100} + \cdots + 823621y - 17689$
c_6	$y^{101} - 9y^{100} + \cdots + 23423y - 529$
c_8, c_{11}	$y^{101} - 93y^{100} + \cdots + 1171525903947y - 46513980241$
c_9	$y^{101} - 45y^{100} + \cdots + 570114040500y - 8570130625$
c_{10}	$y^{101} + 11y^{100} + \cdots - 196936y - 6889$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.820034 + 0.585292I$ $a = 0.033824 - 0.300405I$ $b = -0.94355 - 1.29230I$	$4.33943 + 1.14415I$	0
$u = 0.820034 - 0.585292I$ $a = 0.033824 + 0.300405I$ $b = -0.94355 + 1.29230I$	$4.33943 - 1.14415I$	0
$u = 0.985457 + 0.104624I$ $a = 0.037446 - 0.669943I$ $b = 0.726416 + 0.509050I$	$-3.62929 - 2.83489I$	0
$u = 0.985457 - 0.104624I$ $a = 0.037446 + 0.669943I$ $b = 0.726416 - 0.509050I$	$-3.62929 + 2.83489I$	0
$u = -0.530981 + 0.810422I$ $a = 1.61271 - 1.19757I$ $b = 0.532324 - 0.580869I$	$-2.63257 + 3.84014I$	0
$u = -0.530981 - 0.810422I$ $a = 1.61271 + 1.19757I$ $b = 0.532324 + 0.580869I$	$-2.63257 - 3.84014I$	0
$u = 1.027270 + 0.217643I$ $a = -0.340119 - 1.308040I$ $b = 0.243063 - 1.221120I$	$-7.61850 - 0.65923I$	0
$u = 1.027270 - 0.217643I$ $a = -0.340119 + 1.308040I$ $b = 0.243063 + 1.221120I$	$-7.61850 + 0.65923I$	0
$u = -0.112192 + 0.938796I$ $a = 1.95188 - 0.30689I$ $b = 0.468388 + 0.284137I$	$-1.67442 - 1.04305I$	0
$u = -0.112192 - 0.938796I$ $a = 1.95188 + 0.30689I$ $b = 0.468388 - 0.284137I$	$-1.67442 + 1.04305I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.172731 + 1.067630I$ $a = 1.47812 - 0.48759I$ $b = 0.295965 - 0.883833I$	$-0.38324 + 3.98606I$	0
$u = 0.172731 - 1.067630I$ $a = 1.47812 + 0.48759I$ $b = 0.295965 + 0.883833I$	$-0.38324 - 3.98606I$	0
$u = -0.422357 + 0.996136I$ $a = 1.88932 + 0.35696I$ $b = 0.689307 + 1.005280I$	$-2.01850 - 3.05243I$	0
$u = -0.422357 - 0.996136I$ $a = 1.88932 - 0.35696I$ $b = 0.689307 - 1.005280I$	$-2.01850 + 3.05243I$	0
$u = -0.832349 + 0.372279I$ $a = -0.139598 + 1.207060I$ $b = -0.0679636 - 0.0471394I$	$1.34976 - 0.66315I$	0
$u = -0.832349 - 0.372279I$ $a = -0.139598 - 1.207060I$ $b = -0.0679636 + 0.0471394I$	$1.34976 + 0.66315I$	0
$u = -0.656254 + 0.632742I$ $a = 0.564801 - 1.036380I$ $b = 0.962520 - 0.528825I$	$-0.33221 + 2.15160I$	0
$u = -0.656254 - 0.632742I$ $a = 0.564801 + 1.036380I$ $b = 0.962520 + 0.528825I$	$-0.33221 - 2.15160I$	0
$u = -0.421401 + 0.800169I$ $a = -1.125030 + 0.132865I$ $b = -0.293273 - 0.851923I$	$-2.71761 - 1.32653I$	0
$u = -0.421401 - 0.800169I$ $a = -1.125030 - 0.132865I$ $b = -0.293273 + 0.851923I$	$-2.71761 + 1.32653I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.259609 + 1.067610I$ $a = -1.72155 + 0.32265I$ $b = -0.466377 + 0.881217I$	$-1.92144 + 12.29610I$	0
$u = \quad 0.259609 - 1.067610I$ $a = -1.72155 - 0.32265I$ $b = -0.466377 - 0.881217I$	$-1.92144 - 12.29610I$	0
$u = -0.723110 + 0.827949I$ $a = \quad 0.84434 + 1.80493I$ $b = -0.38782 + 1.81403I$	$2.61470 - 2.35298I$	0
$u = -0.723110 - 0.827949I$ $a = \quad 0.84434 - 1.80493I$ $b = -0.38782 - 1.81403I$	$2.61470 + 2.35298I$	0
$u = -0.947967 + 0.574342I$ $a = \quad 0.878995 - 0.261408I$ $b = \quad 0.142593 + 0.500799I$	$-1.15276 + 2.52280I$	0
$u = -0.947967 - 0.574342I$ $a = \quad 0.878995 + 0.261408I$ $b = \quad 0.142593 - 0.500799I$	$-1.15276 - 2.52280I$	0
$u = -0.825651 + 0.325227I$ $a = -1.03139 + 1.08118I$ $b = -1.96412 + 0.68654I$	$1.46496 + 3.76761I$	0
$u = -0.825651 - 0.325227I$ $a = -1.03139 - 1.08118I$ $b = -1.96412 - 0.68654I$	$1.46496 - 3.76761I$	0
$u = \quad 1.037520 + 0.423630I$ $a = -0.655068 - 0.350769I$ $b = -0.390864 + 1.168550I$	$1.02564 - 5.30362I$	0
$u = \quad 1.037520 - 0.423630I$ $a = -0.655068 + 0.350769I$ $b = -0.390864 - 1.168550I$	$1.02564 + 5.30362I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.091290+0.326589I$ $a=-0.125661+0.458687I$ $b=-0.98139+2.35676I$	$1.78195+6.72216I$	0
$u=-1.091290-0.326589I$ $a=-0.125661-0.458687I$ $b=-0.98139-2.35676I$	$1.78195-6.72216I$	0
$u=0.715518+0.470453I$ $a=-0.146982-0.233324I$ $b=1.19859+0.91932I$	$4.69000-5.44399I$	0
$u=0.715518-0.470453I$ $a=-0.146982+0.233324I$ $b=1.19859-0.91932I$	$4.69000+5.44399I$	0
$u=1.105060+0.348432I$ $a=-0.429969-1.131870I$ $b=-0.29685-1.62962I$	$-5.52117+1.02862I$	0
$u=1.105060-0.348432I$ $a=-0.429969+1.131870I$ $b=-0.29685+1.62962I$	$-5.52117-1.02862I$	0
$u=0.834281+0.073903I$ $a=-0.085148-1.349500I$ $b=0.742747+0.274742I$	$-3.70589-2.85195I$	0
$u=0.834281-0.073903I$ $a=-0.085148+1.349500I$ $b=0.742747-0.274742I$	$-3.70589+2.85195I$	0
$u=1.168720+0.132657I$ $a=0.374634+1.230770I$ $b=0.446630+1.106190I$	$-8.14969+0.29983I$	0
$u=1.168720-0.132657I$ $a=0.374634-1.230770I$ $b=0.446630-1.106190I$	$-8.14969-0.29983I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.057890 + 0.529949I$ $a = -0.549762 + 0.270888I$ $b = 0.32388 + 1.47416I$	$0.69986 - 5.52879I$	0
$u = 1.057890 - 0.529949I$ $a = -0.549762 - 0.270888I$ $b = 0.32388 - 1.47416I$	$0.69986 + 5.52879I$	0
$u = 1.133440 + 0.362308I$ $a = 0.37569 + 1.43089I$ $b = 2.68251 + 2.44321I$	$-6.79023 - 6.46863I$	0
$u = 1.133440 - 0.362308I$ $a = 0.37569 - 1.43089I$ $b = 2.68251 - 2.44321I$	$-6.79023 + 6.46863I$	0
$u = 0.774969 + 0.908000I$ $a = 0.847818 - 0.971440I$ $b = -0.253631 - 1.291530I$	$4.25675 - 0.06797I$	0
$u = 0.774969 - 0.908000I$ $a = 0.847818 + 0.971440I$ $b = -0.253631 + 1.291530I$	$4.25675 + 0.06797I$	0
$u = -1.165960 + 0.275055I$ $a = 0.456960 + 0.048402I$ $b = 0.603489 - 0.827587I$	$-1.65982 + 1.25712I$	0
$u = -1.165960 - 0.275055I$ $a = 0.456960 - 0.048402I$ $b = 0.603489 + 0.827587I$	$-1.65982 - 1.25712I$	0
$u = 0.598387 + 0.502597I$ $a = 0.32061 - 1.55924I$ $b = -1.45875 - 1.20083I$	$2.45000 + 1.47696I$	$-2.21815 + 0.I$
$u = 0.598387 - 0.502597I$ $a = 0.32061 + 1.55924I$ $b = -1.45875 + 1.20083I$	$2.45000 - 1.47696I$	$-2.21815 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.781170$ $a=-0.660008$ $b=-2.65405$	0.526391	-12.4510
$u=1.165080+0.391120I$ $a=-0.554888-1.188060I$ $b=-2.46665-2.02558I$	$-7.73546+1.92109I$	0
$u=1.165080-0.391120I$ $a=-0.554888+1.188060I$ $b=-2.46665+2.02558I$	$-7.73546-1.92109I$	0
$u=-1.113090+0.539386I$ $a=0.412358-0.117499I$ $b=0.398639+0.659751I$	$0.260818-0.400392I$	0
$u=-1.113090-0.539386I$ $a=0.412358+0.117499I$ $b=0.398639-0.659751I$	$0.260818+0.400392I$	0
$u=-0.297259+0.702085I$ $a=-1.71072+0.42820I$ $b=-0.086831-0.815638I$	$-1.72276-3.92826I$	$-4.92577+8.41157I$
$u=-0.297259-0.702085I$ $a=-1.71072-0.42820I$ $b=-0.086831+0.815638I$	$-1.72276+3.92826I$	$-4.92577-8.41157I$
$u=-1.004280+0.734721I$ $a=-1.49398-1.38619I$ $b=0.06660-2.24573I$	$1.74154+8.20625I$	0
$u=-1.004280-0.734721I$ $a=-1.49398+1.38619I$ $b=0.06660+2.24573I$	$1.74154-8.20625I$	0
$u=0.387915+0.646900I$ $a=0.341745-0.685172I$ $b=-0.754171-0.784952I$	$2.62272+0.97071I$	$1.85950-0.63323I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.387915 - 0.646900I$ $a = \ 0.341745 + 0.685172I$ $b = -0.754171 + 0.784952I$	$2.62272 - 0.97071I$	$1.85950 + 0.63323I$
$u = -1.128540 + 0.535413I$ $a = -0.315092 + 1.093540I$ $b = -1.92869 + 1.96354I$	$-4.14830 + 8.67493I$	0
$u = -1.128540 - 0.535413I$ $a = -0.315092 - 1.093540I$ $b = -1.92869 - 1.96354I$	$-4.14830 - 8.67493I$	0
$u = -0.749799$ $a = \ 0.510552$ $b = \ 0.219990$	-1.51667	-5.25440
$u = -0.192427 + 0.718269I$ $a = -2.15738 + 0.48060I$ $b = -0.342576 + 0.575969I$	$-4.01739 - 5.53614I$	$-4.00000 + 3.69769I$
$u = -0.192427 - 0.718269I$ $a = -2.15738 - 0.48060I$ $b = -0.342576 - 0.575969I$	$-4.01739 + 5.53614I$	$-4.00000 - 3.69769I$
$u = -1.117260 + 0.604980I$ $a = -0.121036 + 1.042240I$ $b = -1.67025 + 1.58440I$	$-4.80170 + 6.61061I$	0
$u = -1.117260 - 0.604980I$ $a = -0.121036 - 1.042240I$ $b = -1.67025 - 1.58440I$	$-4.80170 - 6.61061I$	0
$u = -1.165570 + 0.513406I$ $a = -0.449779 + 1.143800I$ $b = -0.229696 + 1.391280I$	$-6.84123 + 10.22070I$	0
$u = -1.165570 - 0.513406I$ $a = -0.449779 - 1.143800I$ $b = -0.229696 - 1.391280I$	$-6.84123 - 10.22070I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.211150 + 0.458943I$ $a = -0.156975 + 0.229898I$ $b = -0.571082 - 0.377330I$	$-0.47114 - 9.20279I$	0
$u = 1.211150 - 0.458943I$ $a = -0.156975 - 0.229898I$ $b = -0.571082 + 0.377330I$	$-0.47114 + 9.20279I$	0
$u = -0.051611 + 0.697056I$ $a = 0.410927 - 0.410638I$ $b = 0.784635 + 0.092928I$	$3.06555 + 4.91909I$	$0.44965 - 7.59677I$
$u = -0.051611 - 0.697056I$ $a = 0.410927 + 0.410638I$ $b = 0.784635 - 0.092928I$	$3.06555 - 4.91909I$	$0.44965 + 7.59677I$
$u = 1.292030 + 0.181188I$ $a = 0.157375 + 0.926748I$ $b = 0.587242 + 1.239310I$	$-6.11471 - 3.27045I$	0
$u = 1.292030 - 0.181188I$ $a = 0.157375 - 0.926748I$ $b = 0.587242 - 1.239310I$	$-6.11471 + 3.27045I$	0
$u = 1.264860 + 0.336878I$ $a = 0.299011 + 1.080750I$ $b = 0.47582 + 1.36586I$	$-6.25089 - 3.34515I$	0
$u = 1.264860 - 0.336878I$ $a = 0.299011 - 1.080750I$ $b = 0.47582 - 1.36586I$	$-6.25089 + 3.34515I$	0
$u = 0.985067 + 0.899162I$ $a = -0.449526 + 1.155670I$ $b = 0.42203 + 1.54482I$	$3.65832 - 6.49471I$	0
$u = 0.985067 - 0.899162I$ $a = -0.449526 - 1.155670I$ $b = 0.42203 - 1.54482I$	$3.65832 + 6.49471I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.237570+0.506251I$ $a=\ 0.660880-1.087730I$ $b=\ 1.90594-1.83014I$	$-5.17592+6.17586I$	0
$u=-1.237570-0.506251I$ $a=\ 0.660880+1.087730I$ $b=\ 1.90594+1.83014I$	$-5.17592-6.17586I$	0
$u=\ 0.649004+0.074296I$ $a=\ 0.51392+2.77828I$ $b=\ 0.27129-2.39289I$	$-4.46140+4.15869I$	$3.67911-0.78240I$
$u=\ 0.649004-0.074296I$ $a=\ 0.51392-2.77828I$ $b=\ 0.27129+2.39289I$	$-4.46140-4.15869I$	$3.67911+0.78240I$
$u=-1.196790+0.651190I$ $a=\ 0.19788-1.58630I$ $b=\ 1.65935-2.17229I$	$-4.47841+9.04243I$	0
$u=-1.196790-0.651190I$ $a=\ 0.19788+1.58630I$ $b=\ 1.65935+2.17229I$	$-4.47841-9.04243I$	0
$u=-1.243550+0.563865I$ $a=\ 0.742729-0.977181I$ $b=\ 0.526850-1.039350I$	$-5.08145+1.93675I$	0
$u=-1.243550-0.563865I$ $a=\ 0.742729+0.977181I$ $b=\ 0.526850+1.039350I$	$-5.08145-1.93675I$	0
$u=-0.603686+0.144992I$ $a=-0.391023+0.681439I$ $b=\ 1.84033-1.17193I$	$3.67321-4.24686I$	$1.03729+9.76117I$
$u=-0.603686-0.144992I$ $a=-0.391023-0.681439I$ $b=\ 1.84033+1.17193I$	$3.67321+4.24686I$	$1.03729-9.76117I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.263010 + 0.635306I$ $a = -0.158476 - 1.375500I$ $b = -1.49608 - 2.22872I$	$-5.0342 - 18.3765I$	0
$u = 1.263010 - 0.635306I$ $a = -0.158476 + 1.375500I$ $b = -1.49608 + 2.22872I$	$-5.0342 + 18.3765I$	0
$u = 1.28903 + 0.61186I$ $a = 0.076027 + 1.225230I$ $b = 1.29368 + 2.17190I$	$-3.81427 - 9.96932I$	0
$u = 1.28903 - 0.61186I$ $a = 0.076027 - 1.225230I$ $b = 1.29368 - 2.17190I$	$-3.81427 + 9.96932I$	0
$u = -1.46564 + 0.28112I$ $a = -0.667596 + 0.882497I$ $b = -0.603595 + 1.080470I$	$-7.80114 - 7.45975I$	0
$u = -1.46564 - 0.28112I$ $a = -0.667596 - 0.882497I$ $b = -0.603595 - 1.080470I$	$-7.80114 + 7.45975I$	0
$u = -0.212450 + 0.420159I$ $a = 0.821744 - 0.425029I$ $b = 0.006894 - 0.395737I$	$-0.141485 + 1.223150I$	$-1.92517 - 5.09911I$
$u = -0.212450 - 0.420159I$ $a = 0.821744 + 0.425029I$ $b = 0.006894 + 0.395737I$	$-0.141485 - 1.223150I$	$-1.92517 + 5.09911I$
$u = -1.50432 + 0.37318I$ $a = 0.638007 - 0.597793I$ $b = 0.311741 - 0.809139I$	$-5.75356 + 1.43008I$	0
$u = -1.50432 - 0.37318I$ $a = 0.638007 + 0.597793I$ $b = 0.311741 + 0.809139I$	$-5.75356 - 1.43008I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	1.66200		
$a=$	0.389300	-9.93168	0
$b=$	0.523560		

II.

$\boldsymbol{I_2^u = \langle -6.59\times 10^{9}u^{31}+1.17\times 10^{10}u^{30}+\cdots+3.05\times 10^{8}b-9.24\times 10^{9},\ 9.72\times 10^{9}u^{31}-1.67\times 10^{10}u^{30}+\cdots+3.05\times 10^{8}a+1.16\times 10^{10},\ u^{32}-u^{31}+\cdots-3u+1\rangle}$

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix} -u^2+1 \\ -u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -31.9076u^{31}+54.8097u^{30}+\cdots+185.646u-38.2410 \\ 21.6495u^{31}-38.3318u^{30}+\cdots-140.748u+30.3367 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -33.6655u^{31}+58.6727u^{30}+\cdots+198.206u-43.1093 \\ 25.7549u^{31}-44.7115u^{30}+\cdots-159.750u+34.7161 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -6.37742u^{31}+9.38738u^{30}+\cdots+37.9502u-12.0833 \\ -3.23545u^{31}+0.552598u^{30}+\cdots-1.48578u+3.98693 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -6.37742u^{31}+9.38738u^{30}+\cdots+37.9502u-12.0833 \\ -0.0372065u^{31}-3.19741u^{30}+\cdots-16.8931u+6.99689 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 9.18508u^{31}-17.8951u^{30}+\cdots-60.9147u+11.7849 \\ -7.61868u^{31}+11.8510u^{30}+\cdots+54.3714u-10.3858 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -18.7594u^{31}+32.8590u^{30}+\cdots+110.242u-27.5431 \\ 10.0143u^{31}-16.9898u^{30}+\cdots-55.6691u+15.0390 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 15.5359u^{31}-27.4567u^{30}+\cdots-96.7263u+19.3080 \\ -4.17918u^{31}+6.63738u^{30}+\cdots+34.5429u-6.07334 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{26306939827}{304614406}u^{31}-\frac{45742642605}{304614406}u^{30}+\cdots-\frac{137351628763}{304614406}u+\frac{15592194281}{152307203}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{32} - 21u^{31} + \cdots - 35u + 1$
c_2	$u^{32} - u^{31} + \cdots - 3u + 1$
c_3	$u^{32} - u^{31} + \cdots + 10u^2 + 1$
c_4	$u^{32} - u^{31} + \cdots + 364u + 169$
c_5	$u^{32} + u^{31} + \cdots - 4u - 1$
c_6	$u^{32} + 4u^{31} + \cdots - 6u - 1$
c_7	$u^{32} + u^{31} + \cdots + 3u + 1$
c_8	$u^{32} - 16u^{31} + \cdots - 8u + 1$
c_9	$u^{32} + 4u^{31} + \cdots + 205u - 79$
c_{10}	$u^{32} + 2u^{30} + \cdots - u + 1$
c_{11}	$u^{32} + 16u^{31} + \cdots + 8u + 1$
c_{12}	$u^{32} - u^{31} + \cdots + 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{32} - 5y^{31} + \cdots - 395y + 1$
c_2, c_7	$y^{32} - 21y^{31} + \cdots - 35y + 1$
c_3	$y^{32} - 5y^{31} + \cdots + 20y + 1$
c_4	$y^{32} + 11y^{31} + \cdots + 378560y + 28561$
c_5, c_{12}	$y^{32} - 15y^{31} + \cdots - 14y + 1$
c_6	$y^{32} + 4y^{31} + \cdots + 6y^2 + 1$
c_8, c_{11}	$y^{32} - 24y^{31} + \cdots + 20y + 1$
c_9	$y^{32} - 16y^{31} + \cdots - 52769y + 6241$
c_{10}	$y^{32} + 4y^{31} + \cdots - 9y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.980268 + 0.194926I$ $a = 0.34395 + 1.43609I$ $b = -0.123165 + 1.215990I$	$-7.36645 - 0.77286I$	$2.63433 + 11.55591I$
$u = 0.980268 - 0.194926I$ $a = 0.34395 - 1.43609I$ $b = -0.123165 - 1.215990I$	$-7.36645 + 0.77286I$	$2.63433 - 11.55591I$
$u = 0.630734 + 0.750536I$ $a = 0.42899 - 1.95867I$ $b = -0.96670 - 1.54528I$	$3.34075 + 2.07396I$	$5.65134 - 3.73262I$
$u = 0.630734 - 0.750536I$ $a = 0.42899 + 1.95867I$ $b = -0.96670 + 1.54528I$	$3.34075 - 2.07396I$	$5.65134 + 3.73262I$
$u = 1.037650 + 0.358363I$ $a = 0.167211 - 0.000297I$ $b = -0.48594 - 1.88481I$	$2.42811 - 6.51399I$	$2.33326 + 6.81442I$
$u = 1.037650 - 0.358363I$ $a = 0.167211 + 0.000297I$ $b = -0.48594 + 1.88481I$	$2.42811 + 6.51399I$	$2.33326 - 6.81442I$
$u = -0.375099 + 0.816164I$ $a = 1.75372 - 0.02617I$ $b = 0.436371 + 0.890345I$	$-1.61386 - 2.55409I$	$-1.67020 + 1.09385I$
$u = -0.375099 - 0.816164I$ $a = 1.75372 + 0.02617I$ $b = 0.436371 - 0.890345I$	$-1.61386 + 2.55409I$	$-1.67020 - 1.09385I$
$u = -0.852551 + 0.705372I$ $a = -0.348636 - 0.992908I$ $b = 0.92253 - 1.64631I$	$5.69538 + 6.55678I$	$2.56792 - 7.16129I$
$u = -0.852551 - 0.705372I$ $a = -0.348636 + 0.992908I$ $b = 0.92253 + 1.64631I$	$5.69538 - 6.55678I$	$2.56792 + 7.16129I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.621409 + 0.592076I$ $a = 1.42985 + 1.30299I$ $b = 0.320427 + 0.301889I$	$-2.46201 - 3.44323I$	$-4.82242 + 0.23837I$
$u = 0.621409 - 0.592076I$ $a = 1.42985 - 1.30299I$ $b = 0.320427 - 0.301889I$	$-2.46201 + 3.44323I$	$-4.82242 - 0.23837I$
$u = -0.898079 + 0.755548I$ $a = 0.632834 + 0.698476I$ $b = -0.39489 + 1.55987I$	$5.56852 - 1.00520I$	$3.92655 + 1.26527I$
$u = -0.898079 - 0.755548I$ $a = 0.632834 - 0.698476I$ $b = -0.39489 - 1.55987I$	$5.56852 + 1.00520I$	$3.92655 - 1.26527I$
$u = 0.761896 + 0.319991I$ $a = 0.055438 + 0.707752I$ $b = 1.89833 + 1.63743I$	$3.47370 + 3.63345I$	$-3.55925 + 0.94794I$
$u = 0.761896 - 0.319991I$ $a = 0.055438 - 0.707752I$ $b = 1.89833 - 1.63743I$	$3.47370 - 3.63345I$	$-3.55925 - 0.94794I$
$u = -1.090840 + 0.461551I$ $a = 0.041357 + 0.367261I$ $b = 0.164825 - 0.197195I$	$-0.159840 + 0.169610I$	$-6.78432 - 2.26247I$
$u = -1.090840 - 0.461551I$ $a = 0.041357 - 0.367261I$ $b = 0.164825 + 0.197195I$	$-0.159840 - 0.169610I$	$-6.78432 + 2.26247I$
$u = -1.226190 + 0.065079I$ $a = -0.033434 - 1.195280I$ $b = 0.46043 - 2.53083I$	$-6.81764 + 4.63942I$	$-9.12510 - 5.17213I$
$u = -1.226190 - 0.065079I$ $a = -0.033434 + 1.195280I$ $b = 0.46043 + 2.53083I$	$-6.81764 - 4.63942I$	$-9.12510 + 5.17213I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.728651+0.020366I$ $a=0.12361-2.73559I$ $b=0.45039+1.82542I$	$-4.78351-4.26429I$	$-19.7845+8.5177I$
$u=-0.728651-0.020366I$ $a=0.12361+2.73559I$ $b=0.45039-1.82542I$	$-4.78351+4.26429I$	$-19.7845-8.5177I$
$u=1.065580+0.712278I$ $a=-1.23946+1.00654I$ $b=-0.16431+1.96766I$	$2.00750-7.68008I$	$0.+4.19169I$
$u=1.065580-0.712278I$ $a=-1.23946-1.00654I$ $b=-0.16431-1.96766I$	$2.00750+7.68008I$	$0.-4.19169I$
$u=-1.164730+0.562610I$ $a=0.267817-1.224490I$ $b=1.79705-1.96826I$	$-4.14777+7.70967I$	$-5.90759-5.11382I$
$u=-1.164730-0.562610I$ $a=0.267817+1.224490I$ $b=1.79705+1.96826I$	$-4.14777-7.70967I$	$-5.90759+5.11382I$
$u=-0.644594+0.276379I$ $a=-1.02230+1.21826I$ $b=-1.67074+0.11441I$	$1.61620+3.09807I$	$-2.35957-0.52960I$
$u=-0.644594-0.276379I$ $a=-1.02230-1.21826I$ $b=-1.67074-0.11441I$	$1.61620-3.09807I$	$-2.35957+0.52960I$
$u=1.43394+0.39466I$ $a=0.617323+0.701200I$ $b=0.354730+0.873441I$	$-5.62758-1.59349I$	0
$u=1.43394-0.39466I$ $a=0.617323-0.701200I$ $b=0.354730-0.873441I$	$-5.62758+1.59349I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 1.67414$ $a = \ 0.401513$ $b = \ 0.486029$	-9.89006	91.8550
$u = \ 0.224361$ $a = \ 3.16193$ $b = -1.48470$	1.26809	-1.91950

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{32}-21u^{31}+\cdots-35u+1)(u^{101}+58u^{100}+\cdots+943774u+44521)$
c_2	$(u^{32}-u^{31}+\cdots-3u+1)(u^{101}-29u^{99}+\cdots-366u-211)$
c_3	$(u^{32}-u^{31}+\cdots+10u^2+1)(u^{101}-2u^{100}+\cdots-97u+7)$
c_4	$(u^{32}-u^{31}+\cdots+364u+169)$ $\cdot(u^{101}+23u^{99}+\cdots+750579u+306659)$
c_5	$(u^{32}+u^{31}+\cdots-4u-1)(u^{101}-16u^{99}+\cdots-953u-133)$
c_6	$(u^{32}+4u^{31}+\cdots-6u-1)(u^{101}-u^{100}+\cdots+227u-23)$
c_7	$(u^{32}+u^{31}+\cdots+3u+1)(u^{101}-29u^{99}+\cdots-366u-211)$
c_8	$(u^{32}-16u^{31}+\cdots-8u+1)$ $\cdot(u^{101}+15u^{100}+\cdots+3501095u+215671)$
c_9	$(u^{32}+4u^{31}+\cdots+205u-79)$ $\cdot(u^{101}-7u^{100}+\cdots-1316600u+92575)$
c_{10}	$(u^{32}+2u^{30}+\cdots-u+1)(u^{101}-3u^{100}+\cdots-790u-83)$
c_{11}	$(u^{32}+16u^{31}+\cdots+8u+1)$ $\cdot(u^{101}+15u^{100}+\cdots+3501095u+215671)$
c_{12}	$(u^{32}-u^{31}+\cdots+4u-1)(u^{101}-16u^{99}+\cdots-953u-133)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{32} - 5y^{31} + \cdots - 395y + 1)$ $\cdot (y^{101} - 14y^{100} + \cdots + 27975815430y - 1982119441)$
c_2, c_7	$(y^{32} - 21y^{31} + \cdots - 35y + 1)(y^{101} - 58y^{100} + \cdots + 943774y - 44521)$
c_3	$(y^{32} - 5y^{31} + \cdots + 20y + 1)(y^{101} - 10y^{100} + \cdots + 155y - 49)$
c_4	$(y^{32} + 11y^{31} + \cdots + 378560y + 28561)$ $\cdot (y^{101} + 46y^{100} + \cdots - 3797359557157y - 94039742281)$
c_5, c_{12}	$(y^{32} - 15y^{31} + \cdots - 14y + 1)(y^{101} - 32y^{100} + \cdots + 823621y - 17689)$
c_6	$(y^{32} + 4y^{31} + \cdots + 6y^2 + 1)(y^{101} - 9y^{100} + \cdots + 23423y - 529)$
c_8, c_{11}	$(y^{32} - 24y^{31} + \cdots + 20y + 1)$ $\cdot (y^{101} - 93y^{100} + \cdots + 1171525903947y - 46513980241)$
c_9	$(y^{32} - 16y^{31} + \cdots - 52769y + 6241)$ $\cdot (y^{101} - 45y^{100} + \cdots + 570114040500y - 8570130625)$
c_{10}	$(y^{32} + 4y^{31} + \cdots - 9y + 1)(y^{101} + 11y^{100} + \cdots - 196936y - 6889)$