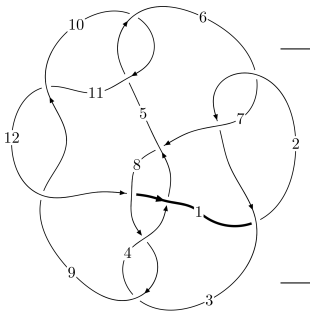
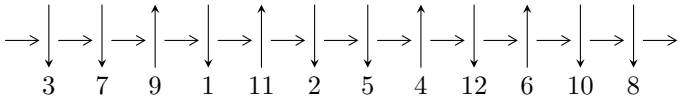
$12a_{0614}$ $(K12a_{0614})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 3.92933 \times 10^{370} u^{134} - 5.89479 \times 10^{371} u^{133} + \cdots + 7.41919 \times 10^{372} b + 1.34218 \times 10^{374},$$
$$- 1.76780 \times 10^{374} u^{134} + 9.66876 \times 10^{373} u^{133} + \cdots + 1.23900 \times 10^{375} a + 4.89956 \times 10^{376},$$
$$u^{135} - u^{134} + \cdots + 885u + 167\rangle$$
$$I_2^u = \langle 7u^{27} - 42u^{25} + \cdots + 16u^3 + b,\ 18u^{27} + 3u^{26} + \cdots + a + 18,\ u^{28} - 7u^{26} + \cdots + u + 1\rangle$$

* 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. $\boldsymbol{I_1^u = \langle 3.93 \times 10^{370} u^{134} - 5.89 \times 10^{371} u^{133} + \cdots + 7.42 \times 10^{372} b + 1.34 \times 10^{374},\ -1.77 \times 10^{374} u^{134} + 9.67 \times 10^{373} u^{133} + \cdots + 1.24 \times 10^{375} a + 4.90 \times 10^{376},\ u^{135} - u^{134} + \cdots + 885u + 167 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.142679u^{134} - 0.0780365u^{133} + \cdots - 229.717u - 39.5443 \\ -0.00529617u^{134} + 0.0794533u^{133} + \cdots - 109.718u - 18.0906 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.137383u^{134} + 0.00141679u^{133} + \cdots - 339.435u - 57.6350 \\ -0.00529617u^{134} + 0.0794533u^{133} + \cdots - 109.718u - 18.0906 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.194027u^{134} - 0.207818u^{133} + \cdots - 154.835u - 20.4301 \\ 0.0171057u^{134} + 0.137564u^{133} + \cdots - 258.968u - 42.2172 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0205101u^{134} + 0.0101705u^{133} + \cdots + 111.884u + 22.4781 \\ 0.0705745u^{134} - 0.0503292u^{133} + \cdots + 34.2145u + 5.86546 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.182694u^{134} - 0.204743u^{133} + \cdots - 91.6431u - 11.8583 \\ 0.0395044u^{134} + 0.0248050u^{133} + \cdots - 154.329u - 23.1275 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0347015u^{134} + 0.0132842u^{133} + \cdots + 141.961u + 26.9193 \\ 0.0488055u^{134} - 0.0622889u^{133} + \cdots + 41.3893u + 6.84940 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0665998u^{134} - 0.110583u^{133} + \cdots + 4.15920u - 3.32764 \\ -0.0825305u^{134} + 0.0961945u^{133} + \cdots + 31.4168u + 5.45217 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.591980u^{134} - 0.176380u^{133} + \cdots - 933.156u - 154.184$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{135} + 55u^{134} + \cdots + 544081u + 27889$
c_2, c_6	$u^{135} - u^{134} + \cdots + 885u + 167$
c_3, c_8	$u^{135} - u^{134} + \cdots + 8241u + 1341$
c_4	$u^{135} - 3u^{134} + \cdots - 54u + 1$
c_5, c_{10}	$u^{135} + u^{134} + \cdots + 315u + 43$
c_7	$u^{135} - 4u^{134} + \cdots - 3344250u + 838321$
c_9, c_{11}	$u^{135} + 43u^{134} + \cdots - 46545u - 1849$
c_{12}	$u^{135} - 3u^{134} + \cdots + 44u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{135} + 65y^{134} + \cdots - 226517556159y - 777796321$
c_2, c_6	$y^{135} - 55y^{134} + \cdots + 544081y - 27889$
c_3, c_8	$y^{135} + 79y^{134} + \cdots - 103538133y - 1798281$
c_4	$y^{135} - 11y^{134} + \cdots + 230y - 1$
c_5, c_{10}	$y^{135} + 43y^{134} + \cdots - 46545y - 1849$
c_7	$y^{135} + 30y^{134} + \cdots - 25519271420832y - 702782099041$
c_9, c_{11}	$y^{135} + 111y^{134} + \cdots + 44824163y - 3418801$
c_{12}	$y^{135} - 5y^{134} + \cdots - 346y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.837846 + 0.549307I$ $a = 3.47986 + 0.41455I$ $b = -0.727872 + 0.868167I$	$0.488345 - 1.251270I$	0
$u = 0.837846 - 0.549307I$ $a = 3.47986 - 0.41455I$ $b = -0.727872 - 0.868167I$	$0.488345 + 1.251270I$	0
$u = 0.738899 + 0.681368I$ $a = -0.945762 - 0.131379I$ $b = 0.645324 - 0.176703I$	$2.85702 - 0.94017I$	0
$u = 0.738899 - 0.681368I$ $a = -0.945762 + 0.131379I$ $b = 0.645324 + 0.176703I$	$2.85702 + 0.94017I$	0
$u = -0.801992 + 0.582367I$ $a = 1.77385 + 0.10818I$ $b = -0.946357 - 0.853076I$	$5.44949 + 4.76272I$	0
$u = -0.801992 - 0.582367I$ $a = 1.77385 - 0.10818I$ $b = -0.946357 + 0.853076I$	$5.44949 - 4.76272I$	0
$u = 0.569934 + 0.836668I$ $a = 1.45649 - 0.70116I$ $b = -0.848678 + 0.794378I$	$7.77386 + 0.60727I$	0
$u = 0.569934 - 0.836668I$ $a = 1.45649 + 0.70116I$ $b = -0.848678 - 0.794378I$	$7.77386 - 0.60727I$	0
$u = -0.521046 + 0.834885I$ $a = 1.66324 - 0.38714I$ $b = -0.784742 + 0.975593I$	$7.21061 - 6.69518I$	0
$u = -0.521046 - 0.834885I$ $a = 1.66324 + 0.38714I$ $b = -0.784742 - 0.975593I$	$7.21061 + 6.69518I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.015020 + 0.089474I$ $a = -0.443199 - 0.837408I$ $b = 0.690637 + 0.366255I$	$-4.17899 + 2.70950I$	0
$u = 1.015020 - 0.089474I$ $a = -0.443199 + 0.837408I$ $b = 0.690637 - 0.366255I$	$-4.17899 - 2.70950I$	0
$u = -0.772593 + 0.591990I$ $a = 0.98832 - 2.34518I$ $b = -0.725888 + 0.881649I$	$0.44638 - 4.29353I$	0
$u = -0.772593 - 0.591990I$ $a = 0.98832 + 2.34518I$ $b = -0.725888 - 0.881649I$	$0.44638 + 4.29353I$	0
$u = 0.879122 + 0.553894I$ $a = -1.47816 - 1.86865I$ $b = 0.785743 + 0.814817I$	$0.34887 - 3.16762I$	0
$u = 0.879122 - 0.553894I$ $a = -1.47816 + 1.86865I$ $b = 0.785743 - 0.814817I$	$0.34887 + 3.16762I$	0
$u = -0.247760 + 0.918909I$ $a = 1.74816 + 0.53629I$ $b = -0.823192 - 0.895739I$	$6.21835 + 3.18298I$	0
$u = -0.247760 - 0.918909I$ $a = 1.74816 - 0.53629I$ $b = -0.823192 + 0.895739I$	$6.21835 - 3.18298I$	0
$u = 0.986857 + 0.374682I$ $a = 0.11667 - 1.73761I$ $b = -0.052535 - 1.031140I$	$-6.17843 - 1.22320I$	0
$u = 0.986857 - 0.374682I$ $a = 0.11667 + 1.73761I$ $b = -0.052535 + 1.031140I$	$-6.17843 + 1.22320I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.198122 + 0.921347I$ $a = 1.58183 + 0.70299I$ $b = -0.819161 - 0.899719I$	$6.20339 + 2.94822I$	0
$u = 0.198122 - 0.921347I$ $a = 1.58183 - 0.70299I$ $b = -0.819161 + 0.899719I$	$6.20339 - 2.94822I$	0
$u = 0.900622 + 0.258632I$ $a = -1.69639 - 2.72780I$ $b = -0.058372 - 0.785928I$	$-3.18317 + 1.73612I$	0
$u = 0.900622 - 0.258632I$ $a = -1.69639 + 2.72780I$ $b = -0.058372 + 0.785928I$	$-3.18317 - 1.73612I$	0
$u = 0.923325 + 0.113739I$ $a = 1.10579 + 2.21213I$ $b = -0.320453 + 0.887390I$	$-3.72106 - 2.39646I$	0
$u = 0.923325 - 0.113739I$ $a = 1.10579 - 2.21213I$ $b = -0.320453 - 0.887390I$	$-3.72106 + 2.39646I$	0
$u = 1.028760 + 0.297636I$ $a = 1.45891 + 0.31108I$ $b = -0.211476 - 0.392322I$	$-3.81731 - 3.79382I$	0
$u = 1.028760 - 0.297636I$ $a = 1.45891 - 0.31108I$ $b = -0.211476 + 0.392322I$	$-3.81731 + 3.79382I$	0
$u = -0.856282 + 0.644920I$ $a = -0.935673 + 0.291087I$ $b = -0.028328 + 1.233560I$	$-1.77111 + 2.51661I$	0
$u = -0.856282 - 0.644920I$ $a = -0.935673 - 0.291087I$ $b = -0.028328 - 1.233560I$	$-1.77111 - 2.51661I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.761538 + 0.520822I$ $a = 1.065400 + 0.896290I$ $b = -0.884082 - 0.986812I$	$5.03019 + 1.92758I$	0
$u = 0.761538 - 0.520822I$ $a = 1.065400 - 0.896290I$ $b = -0.884082 + 0.986812I$	$5.03019 - 1.92758I$	0
$u = 0.861221 + 0.319500I$ $a = -0.89814 + 1.16750I$ $b = 0.675323 + 1.002060I$	$-1.70069 + 4.51817I$	0
$u = 0.861221 - 0.319500I$ $a = -0.89814 - 1.16750I$ $b = 0.675323 - 1.002060I$	$-1.70069 - 4.51817I$	0
$u = -0.751154 + 0.780296I$ $a = -1.059250 + 0.743059I$ $b = 0.769638 - 1.038270I$	$4.31054 - 4.50108I$	0
$u = -0.751154 - 0.780296I$ $a = -1.059250 - 0.743059I$ $b = 0.769638 + 1.038270I$	$4.31054 + 4.50108I$	0
$u = -0.583906 + 0.704669I$ $a = 0.994060 - 0.654478I$ $b = -0.807640 - 0.029711I$	$0.64232 - 3.58642I$	0
$u = -0.583906 - 0.704669I$ $a = 0.994060 + 0.654478I$ $b = -0.807640 + 0.029711I$	$0.64232 + 3.58642I$	0
$u = -1.088150 + 0.046799I$ $a = 0.007861 - 0.437998I$ $b = 0.739339 - 0.837483I$	$1.61109 - 0.51782I$	0
$u = -1.088150 - 0.046799I$ $a = 0.007861 + 0.437998I$ $b = 0.739339 + 0.837483I$	$1.61109 + 0.51782I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.408397 + 0.813659I$ $a = 0.144674 + 0.121440I$ $b = -0.299766 - 1.080180I$	$-2.87341 + 7.30102I$	0
$u = 0.408397 - 0.813659I$ $a = 0.144674 - 0.121440I$ $b = -0.299766 + 1.080180I$	$-2.87341 - 7.30102I$	0
$u = -0.900828 + 0.617380I$ $a = -0.259939 + 1.214590I$ $b = 0.914727 - 0.770669I$	$5.11294 - 0.01279I$	0
$u = -0.900828 - 0.617380I$ $a = -0.259939 - 1.214590I$ $b = 0.914727 + 0.770669I$	$5.11294 + 0.01279I$	0
$u = -0.822721 + 0.380864I$ $a = -0.243214 + 0.016316I$ $b = 0.728615 + 0.639865I$	$-0.643269 + 0.860111I$	0
$u = -0.822721 - 0.380864I$ $a = -0.243214 - 0.016316I$ $b = 0.728615 - 0.639865I$	$-0.643269 - 0.860111I$	0
$u = -0.922603 + 0.587180I$ $a = -2.95088 - 0.29973I$ $b = 0.753223 + 0.938531I$	$-0.03377 + 8.97195I$	0
$u = -0.922603 - 0.587180I$ $a = -2.95088 + 0.29973I$ $b = 0.753223 - 0.938531I$	$-0.03377 - 8.97195I$	0
$u = -1.062180 + 0.261883I$ $a = -1.70287 + 0.83819I$ $b = 0.497158 + 1.060170I$	$-6.30678 + 1.84535I$	0
$u = -1.062180 - 0.261883I$ $a = -1.70287 - 0.83819I$ $b = 0.497158 - 1.060170I$	$-6.30678 - 1.84535I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.107250 + 0.035734I$ $a = -0.495103 + 1.209300I$ $b = 0.733878 + 0.906815I$	$1.40011 + 5.08875I$	0
$u = 1.107250 - 0.035734I$ $a = -0.495103 - 1.209300I$ $b = 0.733878 - 0.906815I$	$1.40011 - 5.08875I$	0
$u = 0.953368 + 0.572242I$ $a = -2.18044 - 0.91967I$ $b = 0.810679 - 1.014940I$	$4.34858 - 6.34502I$	0
$u = 0.953368 - 0.572242I$ $a = -2.18044 + 0.91967I$ $b = 0.810679 + 1.014940I$	$4.34858 + 6.34502I$	0
$u = -0.546878 + 0.968527I$ $a = -1.57642 - 0.50198I$ $b = 0.889697 + 0.747015I$	$5.03853 - 6.68272I$	0
$u = -0.546878 - 0.968527I$ $a = -1.57642 + 0.50198I$ $b = 0.889697 - 0.747015I$	$5.03853 + 6.68272I$	0
$u = 0.809457 + 0.769869I$ $a = -1.65062 + 0.12823I$ $b = 0.883741 - 0.702760I$	$5.33849 - 1.63229I$	0
$u = 0.809457 - 0.769869I$ $a = -1.65062 - 0.12823I$ $b = 0.883741 + 0.702760I$	$5.33849 + 1.63229I$	0
$u = -0.942886 + 0.599438I$ $a = -0.809607 + 0.966035I$ $b = 0.050884 + 0.906797I$	$-1.00262 + 2.60826I$	0
$u = -0.942886 - 0.599438I$ $a = -0.809607 - 0.966035I$ $b = 0.050884 - 0.906797I$	$-1.00262 - 2.60826I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.512297 + 1.000230I$ $a = -1.48358 - 0.53876I$ $b = 0.782382 + 1.019350I$	$4.18815 + 12.87770I$	0
$u = 0.512297 - 1.000230I$ $a = -1.48358 + 0.53876I$ $b = 0.782382 - 1.019350I$	$4.18815 - 12.87770I$	0
$u = -0.873494$ $a = -0.241858$ $b = -0.385300$	-1.60500	0
$u = 0.990679 + 0.557826I$ $a = 0.147944 + 0.284062I$ $b = 0.356353 + 1.220020I$	$-4.52529 - 4.27752I$	0
$u = 0.990679 - 0.557826I$ $a = 0.147944 - 0.284062I$ $b = 0.356353 - 1.220020I$	$-4.52529 + 4.27752I$	0
$u = -0.710690 + 0.480340I$ $a = -0.414232 + 1.089740I$ $b = -0.434090 + 0.746331I$	$-0.19106 + 2.03705I$	0
$u = -0.710690 - 0.480340I$ $a = -0.414232 - 1.089740I$ $b = -0.434090 - 0.746331I$	$-0.19106 - 2.03705I$	0
$u = 0.934076 + 0.664817I$ $a = 0.554498 + 0.652392I$ $b = -0.628288 - 0.047339I$	$2.27294 - 4.26108I$	0
$u = 0.934076 - 0.664817I$ $a = 0.554498 - 0.652392I$ $b = -0.628288 + 0.047339I$	$2.27294 + 4.26108I$	0
$u = -1.030690 + 0.535424I$ $a = 0.296703 - 0.090559I$ $b = -0.553915 + 0.288517I$	$-2.01508 + 2.69284I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.030690-0.535424I$ $a=\ \ 0.296703+0.090559I$ $b=-0.553915-0.288517I$	$-2.01508-2.69284I$	0
$u=-1.001540+0.589241I$ $a=\ \ 1.50809-1.40878I$ $b=-0.232258-1.006970I$	$-0.82402+7.17042I$	0
$u=-1.001540-0.589241I$ $a=\ \ 1.50809+1.40878I$ $b=-0.232258+1.006970I$	$-0.82402-7.17042I$	0
$u=\ \ 0.683918+0.481571I$ $a=\ \ 1.76761+0.91991I$ $b=-0.243416+1.195690I$	$-3.47632-0.06082I$	0
$u=\ \ 0.683918-0.481571I$ $a=\ \ 1.76761-0.91991I$ $b=-0.243416-1.195690I$	$-3.47632+0.06082I$	0
$u=-0.576307+0.605495I$ $a=-0.628781-0.421348I$ $b=\ \ 0.317220-0.944877I$	$0.41091-2.40943I$	0
$u=-0.576307-0.605495I$ $a=-0.628781+0.421348I$ $b=\ \ 0.317220+0.944877I$	$0.41091+2.40943I$	0
$u=\ \ 0.915712+0.732937I$ $a=\ \ 0.616361+1.194120I$ $b=-0.900460-0.639307I$	$5.00727-4.04437I$	0
$u=\ \ 0.915712-0.732937I$ $a=\ \ 0.616361-1.194120I$ $b=-0.900460+0.639307I$	$5.00727+4.04437I$	0
$u=-1.062460+0.500568I$ $a=\ \ 2.14397-0.51017I$ $b=-0.127740-0.855162I$	$-5.29829+5.19403I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.062460-0.500568I$ $a=\ \ 2.14397+0.51017I$ $b=-0.127740+0.855162I$	$-5.29829-5.19403I$	0
$u=-0.960901+0.717724I$ $a=\ \ 2.22511-0.54786I$ $b=-0.750150-1.078180I$	$3.66546+10.15880I$	0
$u=-0.960901-0.717724I$ $a=\ \ 2.22511+0.54786I$ $b=-0.750150+1.078180I$	$3.66546-10.15880I$	0
$u=\ \ 1.134910+0.405474I$ $a=\ \ 0.90419+1.47896I$ $b=-0.642270+0.922379I$	$-2.96795-6.55687I$	0
$u=\ \ 1.134910-0.405474I$ $a=\ \ 0.90419-1.47896I$ $b=-0.642270-0.922379I$	$-2.96795+6.55687I$	0
$u=-1.024370+0.637294I$ $a=-0.820719+0.505993I$ $b=\ \ 0.899893+0.066855I$	$-0.65690+8.76915I$	0
$u=-1.024370-0.637294I$ $a=-0.820719-0.505993I$ $b=\ \ 0.899893-0.066855I$	$-0.65690-8.76915I$	0
$u=-1.153770+0.444884I$ $a=-0.422033+0.245986I$ $b=-0.650349+0.837693I$	$-2.69484+1.53947I$	0
$u=-1.153770-0.444884I$ $a=-0.422033-0.245986I$ $b=-0.650349-0.837693I$	$-2.69484-1.53947I$	0
$u=-0.592443+1.086910I$ $a=-1.41991+0.53113I$ $b=\ \ 0.774626-0.859232I$	$4.77894+0.45267I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.592443-1.086910I$ $a=-1.41991-0.53113I$ $b=\ 0.774626+0.859232I$	$4.77894-0.45267I$	0
$u=-0.054885+0.750979I$ $a=-0.982064-0.151947I$ $b=\ 0.705365+0.878939I$	$0.54159+2.70298I$	$-4.00000-3.06390I$
$u=-0.054885-0.750979I$ $a=-0.982064+0.151947I$ $b=\ 0.705365-0.878939I$	$0.54159-2.70298I$	$-4.00000+3.06390I$
$u=-1.254810+0.086935I$ $a=\ 0.304737-1.114830I$ $b=\ 0.127612-1.038370I$	$-8.51866-4.64065I$	0
$u=-1.254810-0.086935I$ $a=\ 0.304737+1.114830I$ $b=\ 0.127612+1.038370I$	$-8.51866+4.64065I$	0
$u=\ 1.069060+0.679445I$ $a=-0.140517-1.218130I$ $b=\ 0.847336+0.749850I$	$6.25878-6.27171I$	0
$u=\ 1.069060-0.679445I$ $a=-0.140517+1.218130I$ $b=\ 0.847336-0.749850I$	$6.25878+6.27171I$	0
$u=\ 1.104370+0.629280I$ $a=-1.26415-0.82417I$ $b=\ 0.276967-1.164500I$	$-4.89583-12.67280I$	0
$u=\ 1.104370-0.629280I$ $a=-1.26415+0.82417I$ $b=\ 0.276967+1.164500I$	$-4.89583+12.67280I$	0
$u=-1.090360+0.659240I$ $a=-2.25378+1.03744I$ $b=\ 0.762662+0.999424I$	$5.48667+12.28060I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.090360-0.659240I$ $a=-2.25378-1.03744I$ $b=\ \ 0.762662-0.999424I$	$5.48667-12.28060I$	0
$u=\ \ 0.855915+0.946372I$ $a=\ \ 0.276920-0.109031I$ $b=-0.069775+0.745002I$	$-0.17056-3.40106I$	0
$u=\ \ 0.855915-0.946372I$ $a=\ \ 0.276920+0.109031I$ $b=-0.069775-0.745002I$	$-0.17056+3.40106I$	0
$u=\ \ 0.657174+1.102080I$ $a=-1.60995+0.41140I$ $b=\ \ 0.762457-0.901852I$	$4.64611-6.25368I$	0
$u=\ \ 0.657174-1.102080I$ $a=-1.60995-0.41140I$ $b=\ \ 0.762457+0.901852I$	$4.64611+6.25368I$	0
$u=\ \ 0.673428+0.129119I$ $a=-0.36445+1.80930I$ $b=-0.602808+0.996059I$	$-1.27128-6.58046I$	$-5.57818+9.58377I$
$u=\ \ 0.673428-0.129119I$ $a=-0.36445-1.80930I$ $b=-0.602808-0.996059I$	$-1.27128+6.58046I$	$-5.57818-9.58377I$
$u=-0.468380+0.490538I$ $a=-0.428854+0.629875I$ $b=-0.422370+0.485088I$	$-0.12335+2.02633I$	$-1.81995-3.09268I$
$u=-0.468380-0.490538I$ $a=-0.428854-0.629875I$ $b=-0.422370-0.485088I$	$-0.12335-2.02633I$	$-1.81995+3.09268I$
$u=\ \ 1.222430+0.507927I$ $a=\ \ 0.901635+1.067490I$ $b=-0.315255+0.815593I$	$-3.54988-5.88834I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.222430 - 0.507927I$ $a = 0.901635 - 1.067490I$ $b = -0.315255 - 0.815593I$	$-3.54988 + 5.88834I$	0
$u = -1.124450 + 0.720853I$ $a = 0.447818 - 1.098490I$ $b = -0.919777 + 0.714233I$	$3.24675 + 12.83940I$	0
$u = -1.124450 - 0.720853I$ $a = 0.447818 + 1.098490I$ $b = -0.919777 - 0.714233I$	$3.24675 - 12.83940I$	0
$u = -0.049467 + 0.655701I$ $a = -0.746773 + 0.282440I$ $b = 0.358215 + 0.522250I$	$0.12571 + 1.44748I$	$0.98140 - 4.84063I$
$u = -0.049467 - 0.655701I$ $a = -0.746773 - 0.282440I$ $b = 0.358215 - 0.522250I$	$0.12571 - 1.44748I$	$0.98140 + 4.84063I$
$u = 1.151120 + 0.718010I$ $a = 2.10994 + 0.70002I$ $b = -0.779988 + 1.047910I$	$2.2018 - 19.1078I$	0
$u = 1.151120 - 0.718010I$ $a = 2.10994 - 0.70002I$ $b = -0.779988 - 1.047910I$	$2.2018 + 19.1078I$	0
$u = -0.401560 + 0.492664I$ $a = -1.58216 + 1.08063I$ $b = -0.032625 - 0.835482I$	$-3.38867 - 0.99482I$	$-10.07383 + 1.16774I$
$u = -0.401560 - 0.492664I$ $a = -1.58216 - 1.08063I$ $b = -0.032625 + 0.835482I$	$-3.38867 + 0.99482I$	$-10.07383 - 1.16774I$
$u = -1.097490 + 0.820738I$ $a = 2.07504 - 0.42675I$ $b = -0.729126 - 0.899111I$	$3.24610 + 6.33780I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.097490-0.820738I$ $a=2.07504+0.42675I$ $b=-0.729126+0.899111I$	$3.24610-6.33780I$	0
$u=1.370070+0.126708I$ $a=0.583843-0.197013I$ $b=-0.762509-0.739399I$	$-2.55274-4.27611I$	0
$u=1.370070-0.126708I$ $a=0.583843+0.197013I$ $b=-0.762509+0.739399I$	$-2.55274+4.27611I$	0
$u=1.070410+0.876427I$ $a=0.715657+0.975087I$ $b=-0.735732-0.852521I$	$3.39082-0.75782I$	0
$u=1.070410-0.876427I$ $a=0.715657-0.975087I$ $b=-0.735732+0.852521I$	$3.39082+0.75782I$	0
$u=-0.374673+0.456666I$ $a=-0.891817+0.362912I$ $b=0.353608+0.704334I$	$-0.20172+1.40318I$	$-2.20499-4.71222I$
$u=-0.374673-0.456666I$ $a=-0.891817-0.362912I$ $b=0.353608-0.704334I$	$-0.20172-1.40318I$	$-2.20499+4.71222I$
$u=-1.407960+0.061965I$ $a=0.818152-0.594108I$ $b=-0.723651-0.978919I$	$-3.27568+9.92697I$	0
$u=-1.407960-0.061965I$ $a=0.818152+0.594108I$ $b=-0.723651+0.978919I$	$-3.27568-9.92697I$	0
$u=-1.21309+0.74985I$ $a=-0.689409+0.789660I$ $b=0.835672-0.835560I$	$3.40704+3.10784I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.21309-0.74985I$ $a=-0.689409-0.789660I$ $b=\ \ 0.835672+0.835560I$	$3.40704-3.10784I$	0
$u=\ \ 1.25978+0.73154I$ $a=-1.82844-0.40908I$ $b=\ \ 0.796937-0.947480I$	$3.05788-9.20261I$	0
$u=\ \ 1.25978-0.73154I$ $a=-1.82844+0.40908I$ $b=\ \ 0.796937+0.947480I$	$3.05788+9.20261I$	0
$u=-0.177069+0.228757I$ $a=\ \ 0.37500-4.55706I$ $b=-0.238165+0.943505I$	$-3.58469+0.66676I$	$-10.42977-1.76887I$
$u=-0.177069-0.228757I$ $a=\ \ 0.37500+4.55706I$ $b=-0.238165-0.943505I$	$-3.58469-0.66676I$	$-10.42977+1.76887I$

II. $I_2^u =$
$\langle 7u^{27}-42u^{25}+\cdots+16u^3+b,\ 18u^{27}+3u^{26}+\cdots+a+18,\ u^{28}-7u^{26}+\cdots+u+1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -18u^{27}-3u^{26}+\cdots+17u-18 \\ -7u^{27}+42u^{25}+\cdots-17u^4-16u^3 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -25u^{27}-3u^{26}+\cdots+17u-18 \\ -7u^{27}+42u^{25}+\cdots-17u^4-16u^3 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -18u^{27}+2u^{26}+\cdots+28u-7 \\ -7u^{27}+42u^{25}+\cdots+5u+5 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5-u^3+u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 7u^{27}-43u^{25}+\cdots-13u+1 \\ 6u^{27}-36u^{25}+\cdots-u-1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2u^{27}+12u^{26}+\cdots-16u-24 \\ 11u^{26}-u^{25}+\cdots-17u-11 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 6u^{27}-37u^{25}+\cdots-13u+1 \\ 6u^{27}-36u^{25}+\cdots+16u^3-1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^{27}+u^{26}+\cdots-u-7 \\ u^{27}-7u^{25}+\cdots-31u^2+6 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -46u^{27}-15u^{26}+299u^{25}+50u^{24}-1146u^{23}-62u^{22}+3025u^{21}-109u^{20}-6005u^{19}+626u^{18}+9264u^{17}-1414u^{16}-11442u^{15}+2006u^{14}+11384u^{13}-2028u^{12}-9229u^{11}+1510u^{10}+6139u^9-807u^8-3424u^7+231u^6+1500u^5+37u^4-445u^3-71u^2+62u+14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{28} - 14u^{27} + \cdots - 15u + 1$
c_2	$u^{28} - 7u^{26} + \cdots - u + 1$
c_3	$u^{28} + 10u^{26} + \cdots - u + 1$
c_4	$u^{28} + 6u^{27} + \cdots - 4u^2 + 1$
c_5	$u^{28} + 6u^{26} + \cdots + u + 1$
c_6	$u^{28} - 7u^{26} + \cdots + u + 1$
c_7	$u^{28} + u^{27} + \cdots - 2u + 1$
c_8	$u^{28} + 10u^{26} + \cdots + u + 1$
c_9	$u^{28} - 12u^{27} + \cdots - 19u + 1$
c_{10}	$u^{28} + 6u^{26} + \cdots - u + 1$
c_{11}	$u^{28} + 12u^{27} + \cdots + 19u + 1$
c_{12}	$u^{28} + 4u^{27} + \cdots - 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{28} + 14y^{27} + \cdots + 5y + 1$
c_2, c_6	$y^{28} - 14y^{27} + \cdots - 15y + 1$
c_3, c_8	$y^{28} + 20y^{27} + \cdots + 27y + 1$
c_4	$y^{28} - 2y^{27} + \cdots - 8y + 1$
c_5, c_{10}	$y^{28} + 12y^{27} + \cdots + 19y + 1$
c_7	$y^{28} - 9y^{27} + \cdots + 2y + 1$
c_9, c_{11}	$y^{28} + 20y^{27} + \cdots - 13y + 1$
c_{12}	$y^{28} - 4y^{27} + \cdots - 12y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.853384+0.664222I$ $a=-0.921383+0.258055I$ $b=-0.055540+1.152000I$	$-2.15467+2.58168I$	$-15.4577-5.3068I$
$u=-0.853384-0.664222I$ $a=-0.921383-0.258055I$ $b=-0.055540-1.152000I$	$-2.15467-2.58168I$	$-15.4577+5.3068I$
$u=\ \ 0.537923+0.717505I$ $a=-1.99323+0.20226I$ $b=\ \ 0.869642-0.869300I$	$5.43172-3.57143I$	$-2.98977+3.30245I$
$u=\ \ 0.537923-0.717505I$ $a=-1.99323-0.20226I$ $b=\ \ 0.869642+0.869300I$	$5.43172+3.57143I$	$-2.98977-3.30245I$
$u=\ \ 1.031470+0.394259I$ $a=-0.450658+0.292084I$ $b=\ \ 0.253524+0.965914I$	$-5.17749-2.73582I$	$-11.73220+2.21047I$
$u=\ \ 1.031470-0.394259I$ $a=-0.450658-0.292084I$ $b=\ \ 0.253524-0.965914I$	$-5.17749+2.73582I$	$-11.73220-2.21047I$
$u=\ \ 1.090380+0.316011I$ $a=-0.295171-1.029100I$ $b=\ \ 0.645164-0.927138I$	$-2.68784-7.50140I$	$-8.12652+10.76502I$
$u=\ \ 1.090380-0.316011I$ $a=-0.295171+1.029100I$ $b=\ \ 0.645164+0.927138I$	$-2.68784+7.50140I$	$-8.12652-10.76502I$
$u=-1.120860+0.329178I$ $a=-0.067572-0.968275I$ $b=\ \ 0.655538-0.798001I$	$-2.27516+2.43520I$	$-6.89671-3.43524I$
$u=-1.120860-0.329178I$ $a=-0.067572+0.968275I$ $b=\ \ 0.655538+0.798001I$	$-2.27516-2.43520I$	$-6.89671+3.43524I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.748185 + 0.343846I$ $a = 2.22988 + 1.79124I$ $b = -0.238931 + 1.062580I$	$-4.09327 - 0.37099I$	$-13.59106 + 3.12265I$
$u = 0.748185 - 0.343846I$ $a = 2.22988 - 1.79124I$ $b = -0.238931 - 1.062580I$	$-4.09327 + 0.37099I$	$-13.59106 - 3.12265I$
$u = 0.776045 + 0.214980I$ $a = 0.38031 - 2.21138I$ $b = -0.643350 - 0.967561I$	$-1.37394 + 5.26603I$	$-7.23259 - 7.22757I$
$u = 0.776045 - 0.214980I$ $a = 0.38031 + 2.21138I$ $b = -0.643350 + 0.967561I$	$-1.37394 - 5.26603I$	$-7.23259 + 7.22757I$
$u = 0.832341 + 0.859052I$ $a = 0.047412 + 0.407998I$ $b = -0.069032 + 0.532020I$	$0.43105 - 3.19291I$	$3.46551 + 4.89112I$
$u = 0.832341 - 0.859052I$ $a = 0.047412 - 0.407998I$ $b = -0.069032 - 0.532020I$	$0.43105 + 3.19291I$	$3.46551 - 4.89112I$
$u = -1.120250 + 0.425286I$ $a = -1.80356 + 1.04784I$ $b = 0.269140 + 0.713663I$	$-4.21536 + 5.05069I$	$-9.66651 - 6.13377I$
$u = -1.120250 - 0.425286I$ $a = -1.80356 - 1.04784I$ $b = 0.269140 - 0.713663I$	$-4.21536 - 5.05069I$	$-9.66651 + 6.13377I$
$u = -0.507051 + 0.619888I$ $a = -1.22357 + 1.17769I$ $b = 0.854058 - 0.944793I$	$5.20778 - 2.80858I$	$-2.47118 + 3.99824I$
$u = -0.507051 - 0.619888I$ $a = -1.22357 - 1.17769I$ $b = 0.854058 + 0.944793I$	$5.20778 + 2.80858I$	$-2.47118 - 3.99824I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.736353+0.196912I$ $a=-1.207980-0.207227I$ $b=-0.656573-0.740205I$	$-0.655155-0.190217I$	$-7.57670+2.36942I$
$u=-0.736353-0.196912I$ $a=-1.207980+0.207227I$ $b=-0.656573+0.740205I$	$-0.655155+0.190217I$	$-7.57670-2.36942I$
$u=-0.635766+0.271311I$ $a=1.45686-2.51592I$ $b=-0.289866+0.585639I$	$-2.24709-1.99325I$	$-2.97836+3.98199I$
$u=-0.635766-0.271311I$ $a=1.45686+2.51592I$ $b=-0.289866-0.585639I$	$-2.24709+1.99325I$	$-2.97836-3.98199I$
$u=1.047480+0.810442I$ $a=0.815180+0.964801I$ $b=-0.817347-0.793291I$	$3.89299-2.42778I$	$-0.195076+1.065798I$
$u=1.047480-0.810442I$ $a=0.815180-0.964801I$ $b=-0.817347+0.793291I$	$3.89299+2.42778I$	$-0.195076-1.065798I$
$u=-1.090150+0.754545I$ $a=2.03347-0.35200I$ $b=-0.776426-0.974996I$	$3.33670+8.40990I$	$-2.55111-5.17401I$
$u=-1.090150-0.754545I$ $a=2.03347+0.35200I$ $b=-0.776426+0.974996I$	$3.33670-8.40990I$	$-2.55111+5.17401I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{28}-14u^{27}+\cdots-15u+1)(u^{135}+55u^{134}+\cdots+544081u+27889)$
c_2	$(u^{28}-7u^{26}+\cdots-u+1)(u^{135}-u^{134}+\cdots+885u+167)$
c_3	$(u^{28}+10u^{26}+\cdots-u+1)(u^{135}-u^{134}+\cdots+8241u+1341)$
c_4	$(u^{28}+6u^{27}+\cdots-4u^2+1)(u^{135}-3u^{134}+\cdots-54u+1)$
c_5	$(u^{28}+6u^{26}+\cdots+u+1)(u^{135}+u^{134}+\cdots+315u+43)$
c_6	$(u^{28}-7u^{26}+\cdots+u+1)(u^{135}-u^{134}+\cdots+885u+167)$
c_7	$(u^{28}+u^{27}+\cdots-2u+1)(u^{135}-4u^{134}+\cdots-3344250u+838321)$
c_8	$(u^{28}+10u^{26}+\cdots+u+1)(u^{135}-u^{134}+\cdots+8241u+1341)$
c_9	$(u^{28}-12u^{27}+\cdots-19u+1)(u^{135}+43u^{134}+\cdots-46545u-1849)$
c_{10}	$(u^{28}+6u^{26}+\cdots-u+1)(u^{135}+u^{134}+\cdots+315u+43)$
c_{11}	$(u^{28}+12u^{27}+\cdots+19u+1)(u^{135}+43u^{134}+\cdots-46545u-1849)$
c_{12}	$(u^{28}+4u^{27}+\cdots-4u+1)(u^{135}-3u^{134}+\cdots+44u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{28}+14y^{27}+\cdots+5y+1)$ $\cdot(y^{135}+65y^{134}+\cdots-226517556159y-777796321)$
c_2, c_6	$(y^{28}-14y^{27}+\cdots-15y+1)(y^{135}-55y^{134}+\cdots+544081y-27889)$
c_3, c_8	$(y^{28}+20y^{27}+\cdots+27y+1)$ $\cdot(y^{135}+79y^{134}+\cdots-103538133y-1798281)$
c_4	$(y^{28}-2y^{27}+\cdots-8y+1)(y^{135}-11y^{134}+\cdots+230y-1)$
c_5, c_{10}	$(y^{28}+12y^{27}+\cdots+19y+1)(y^{135}+43y^{134}+\cdots-46545y-1849)$
c_7	$(y^{28}-9y^{27}+\cdots+2y+1)$ $\cdot(y^{135}+30y^{134}+\cdots-25519271420832y-702782099041)$
c_9, c_{11}	$(y^{28}+20y^{27}+\cdots-13y+1)$ $\cdot(y^{135}+111y^{134}+\cdots+44824163y-3418801)$
c_{12}	$(y^{28}-4y^{27}+\cdots-12y+1)(y^{135}-5y^{134}+\cdots-346y-1)$