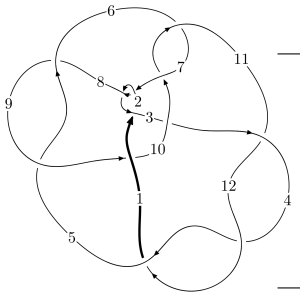
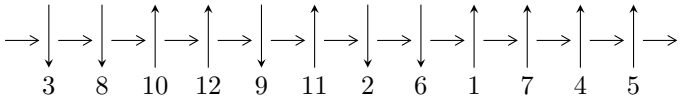
$12a_{0768}$ $(K12a_{0768})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -7.73657 \times 10^{241} u^{120} + 4.38054 \times 10^{242} u^{119} + \cdots + 2.91273 \times 10^{242} b + 6.42953 \times 10^{244}, \\ & - 3.27173 \times 10^{245} u^{120} + 6.31064 \times 10^{244} u^{119} + \cdots + 2.82535 \times 10^{244} a + 3.29447 \times 10^{247}, \\ & u^{121} - u^{120} + \cdots + 69u + 97 \rangle \\ I_2^u = \langle & 4116u^{29} - 337u^{28} + \cdots + 2119b - 4263,\ 3524u^{29} - 3466u^{28} + \cdots + 2119a - 4558, \\ & u^{30} - 9u^{28} + \cdots + u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 151 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. $\boldsymbol{I_1^u = \langle -7.74 \times 10^{241} u^{120} + 4.38 \times 10^{242} u^{119} + \cdots + 2.91 \times 10^{242} b + 6.43 \times 10^{244},\ -3.27 \times 10^{245} u^{120} + 6.31 \times 10^{244} u^{119} + \cdots + 2.83 \times 10^{244} a + 3.29 \times 10^{247},\ u^{121} - u^{120} + \cdots + 69u + 97 \rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} 11.5799u^{120} - 2.23358u^{119} + \cdots - 1801.60u - 1166.04 \\ 0.265612u^{120} - 1.50393u^{119} + \cdots - 542.124u - 220.739 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.69838u^{120} - 1.47920u^{119} + \cdots - 589.566u - 269.583 \\ 2.12353u^{120} + 0.809084u^{119} + \cdots + 114.602u - 39.3418 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 12.2633u^{120} - 2.76134u^{119} + \cdots - 2025.46u - 1280.53 \\ 1.73056u^{120} - 2.27706u^{119} + \cdots - 906.620u - 425.142 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 12.4360u^{120} + 1.22543u^{119} + \cdots - 796.514u - 810.793 \\ 4.89497u^{120} + 0.173831u^{119} + \cdots - 421.051u - 361.017 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 11.3143u^{120} - 0.729653u^{119} + \cdots - 1259.47u - 945.303 \\ 0.265612u^{120} - 1.50393u^{119} + \cdots - 542.124u - 220.739 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 21.7193u^{120} - 1.04277u^{119} + \cdots - 2277.03u - 1787.84 \\ 4.31254u^{120} - 1.71411u^{119} + \cdots - 913.787u - 535.612 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -21.9248u^{120} - 0.137626u^{119} + \cdots + 1841.17u + 1620.20 \\ -6.45237u^{120} + 0.992236u^{119} + \cdots + 856.175u + 596.164 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.96927u^{120} - 2.45619u^{119} + \cdots - 1122.54u - 555.660$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{121} + 55u^{120} + \cdots + 178585u + 9409$
c_2, c_7	$u^{121} + u^{120} + \cdots + 69u - 97$
c_3	$u^{121} - 10u^{119} + \cdots - 165094u - 9137$
c_4, c_{11}, c_{12}	$u^{121} - 3u^{120} + \cdots + 5u - 2$
c_5, c_8	$u^{121} - 3u^{120} + \cdots - 837975u + 184601$
c_6, c_{10}	$u^{121} - 2u^{120} + \cdots - 1722u + 181$
c_9	$u^{121} - 7u^{120} + \cdots - 1422961227u + 245450119$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{121} + 37y^{120} + \cdots - 3380797875y - 88529281$
c_2, c_7	$y^{121} - 55y^{120} + \cdots + 178585y - 9409$
c_3	$y^{121} - 20y^{120} + \cdots + 9314834924y - 83484769$
c_4, c_{11}, c_{12}	$y^{121} - 127y^{120} + \cdots - 235y - 4$
c_5, c_8	$y^{121} + 99y^{120} + \cdots - 1160560440125y - 34077529201$
c_6, c_{10}	$y^{121} + 66y^{120} + \cdots - 951918y - 32761$
c_9	$y^{121} - 57y^{120} + \cdots + 1931211107502902003y - 60245760917114161$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.876286+0.467559I$ $a=-1.03412+1.96518I$ $b=-0.13388+1.60777I$	$-2.33587+1.90742I$	0
$u=-0.876286-0.467559I$ $a=-1.03412-1.96518I$ $b=-0.13388-1.60777I$	$-2.33587-1.90742I$	0
$u=\ \ 0.628684+0.789411I$ $a=-0.328672-0.857919I$ $b=\ \ 0.991013-0.403719I$	$5.65841+2.00130I$	0
$u=\ \ 0.628684-0.789411I$ $a=-0.328672+0.857919I$ $b=\ \ 0.991013+0.403719I$	$5.65841-2.00130I$	0
$u=-0.785193+0.575255I$ $a=\ \ 1.09177+1.22957I$ $b=-0.499932+0.920719I$	$9.17779-1.78272I$	0
$u=-0.785193-0.575255I$ $a=\ \ 1.09177-1.22957I$ $b=-0.499932-0.920719I$	$9.17779+1.78272I$	0
$u=\ \ 1.028380+0.053307I$ $a=\ \ 0.10666+2.50499I$ $b=\ \ 0.392925+1.276220I$	$-0.69195+4.37118I$	0
$u=\ \ 1.028380-0.053307I$ $a=\ \ 0.10666-2.50499I$ $b=\ \ 0.392925-1.276220I$	$-0.69195-4.37118I$	0
$u=-0.877621+0.409911I$ $a=\ \ 2.08542-1.40668I$ $b=-0.130887-0.851392I$	$0.040148-0.611165I$	0
$u=-0.877621-0.409911I$ $a=\ \ 2.08542+1.40668I$ $b=-0.130887+0.851392I$	$0.040148+0.611165I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.555036+0.786400I$ $a=-0.562871+0.869067I$ $b=\ \ 1.172490+0.545130I$	$12.53200-5.36104I$	0
$u=-0.555036-0.786400I$ $a=-0.562871-0.869067I$ $b=\ \ 1.172490-0.545130I$	$12.53200+5.36104I$	0
$u=\ \ 0.382005+0.969451I$ $a=-0.001280+0.709004I$ $b=\ \ 0.558470+1.003670I$	$3.61406+1.95058I$	0
$u=\ \ 0.382005-0.969451I$ $a=-0.001280-0.709004I$ $b=\ \ 0.558470-1.003670I$	$3.61406-1.95058I$	0
$u=-0.579250+0.762953I$ $a=\ \ 0.582393-0.021569I$ $b=-0.482862+1.141440I$	$4.58445-5.30494I$	0
$u=-0.579250-0.762953I$ $a=\ \ 0.582393+0.021569I$ $b=-0.482862-1.141440I$	$4.58445+5.30494I$	0
$u=\ \ 0.924481+0.502615I$ $a=\ \ 1.39982+1.21824I$ $b=-0.486699+1.149380I$	$-1.93253-2.60114I$	0
$u=\ \ 0.924481-0.502615I$ $a=\ \ 1.39982-1.21824I$ $b=-0.486699-1.149380I$	$-1.93253+2.60114I$	0
$u=\ \ 0.461373+0.946018I$ $a=-0.172847+0.415912I$ $b=\ \ 0.745875+1.200540I$	$10.3436+12.1376I$	0
$u=\ \ 0.461373-0.946018I$ $a=-0.172847-0.415912I$ $b=\ \ 0.745875-1.200540I$	$10.3436-12.1376I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.835820 + 0.434595I$ $a = -0.90971 - 1.10559I$ $b = -0.66766 - 1.49732I$	$1.34302 + 1.75143I$	0
$u = 0.835820 - 0.434595I$ $a = -0.90971 + 1.10559I$ $b = -0.66766 + 1.49732I$	$1.34302 - 1.75143I$	0
$u = -0.444869 + 0.961457I$ $a = -0.067492 - 0.520847I$ $b = 0.641967 - 1.142950I$	$3.37355 - 7.82461I$	0
$u = -0.444869 - 0.961457I$ $a = -0.067492 + 0.520847I$ $b = 0.641967 + 1.142950I$	$3.37355 + 7.82461I$	0
$u = 0.952588 + 0.467385I$ $a = -1.11573 - 2.35287I$ $b = 0.49581 - 1.52570I$	$0.89960 - 5.41363I$	0
$u = 0.952588 - 0.467385I$ $a = -1.11573 + 2.35287I$ $b = 0.49581 + 1.52570I$	$0.89960 + 5.41363I$	0
$u = 0.858991 + 0.373902I$ $a = 0.271095 - 0.014070I$ $b = 0.501503 + 0.468384I$	$-1.31179 - 1.12224I$	0
$u = 0.858991 - 0.373902I$ $a = 0.271095 + 0.014070I$ $b = 0.501503 - 0.468384I$	$-1.31179 + 1.12224I$	0
$u = -0.934802$ $a = 0.887196$ $b = 0.823832$	3.31166	0
$u = -0.907481 + 0.567494I$ $a = -1.55067 + 2.95784I$ $b = 0.318129 + 0.986288I$	$8.78876 + 6.33873I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.907481-0.567494I$ $a=-1.55067-2.95784I$ $b=\ \ 0.318129-0.986288I$	$8.78876-6.33873I$	0
$u=-0.958093+0.481293I$ $a=-0.349548+0.404271I$ $b=\ \ 0.535148-0.271890I$	$-0.45371+4.02618I$	0
$u=-0.958093-0.481293I$ $a=-0.349548-0.404271I$ $b=\ \ 0.535148+0.271890I$	$-0.45371-4.02618I$	0
$u=\ \ 0.927649+0.017401I$ $a=-0.311560-1.244890I$ $b=-0.887556+0.155488I$	$6.96948-4.64303I$	0
$u=\ \ 0.927649-0.017401I$ $a=-0.311560+1.244890I$ $b=-0.887556-0.155488I$	$6.96948+4.64303I$	0
$u=\ \ 0.941684+0.514503I$ $a=-1.18628-2.38991I$ $b=\ \ 0.386899-1.296100I$	$0.79803-5.41123I$	0
$u=\ \ 0.941684-0.514503I$ $a=-1.18628+2.38991I$ $b=\ \ 0.386899+1.296100I$	$0.79803+5.41123I$	0
$u=-0.921007+0.557173I$ $a=\ \ 1.00367-1.24207I$ $b=-0.92522-1.12569I$	$2.32592+5.93979I$	0
$u=-0.921007-0.557173I$ $a=\ \ 1.00367+1.24207I$ $b=-0.92522+1.12569I$	$2.32592-5.93979I$	0
$u=-0.350745+0.852172I$ $a=-0.104211-1.025600I$ $b=\ \ 0.630751-0.791397I$	$11.40380+2.13821I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.350745-0.852172I$ $a=-0.104211+1.025600I$ $b=\ \ 0.630751+0.791397I$	$11.40380-2.13821I$	0
$u=-0.719109+0.574145I$ $a=\ \ 0.691803+0.523675I$ $b=\ \ 0.757134-0.858710I$	$2.91905-1.41856I$	0
$u=-0.719109-0.574145I$ $a=\ \ 0.691803-0.523675I$ $b=\ \ 0.757134+0.858710I$	$2.91905+1.41856I$	0
$u=\ \ 0.830251+0.391156I$ $a=\ \ 3.38644+1.37950I$ $b=-0.055557+0.599876I$	$7.60785+2.16745I$	0
$u=\ \ 0.830251-0.391156I$ $a=\ \ 3.38644-1.37950I$ $b=-0.055557-0.599876I$	$7.60785-2.16745I$	0
$u=\ \ 0.479627+0.742494I$ $a=\ \ 0.522768-0.104455I$ $b=-0.368163-1.001770I$	$-1.11708+2.95125I$	0
$u=\ \ 0.479627-0.742494I$ $a=\ \ 0.522768+0.104455I$ $b=-0.368163+1.001770I$	$-1.11708-2.95125I$	0
$u=\ \ 1.070760+0.334175I$ $a=\ \ 1.11644+1.32522I$ $b=\ \ 0.443247+1.239720I$	$-2.93291-0.35986I$	0
$u=\ \ 1.070760-0.334175I$ $a=\ \ 1.11644-1.32522I$ $b=\ \ 0.443247-1.239720I$	$-2.93291+0.35986I$	0
$u=\ \ 0.728022+0.482499I$ $a=\ \ 0.175720-0.731462I$ $b=-0.616716-1.057780I$	$1.51362+1.28957I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.728022 - 0.482499I$ $a = 0.175720 + 0.731462I$ $b = -0.616716 + 1.057780I$	$1.51362 - 1.28957I$	0
$u = -1.126030 + 0.136649I$ $a = 0.11797 - 2.12973I$ $b = 0.177424 - 1.214160I$	$-6.09582 - 1.01611I$	0
$u = -1.126030 - 0.136649I$ $a = 0.11797 + 2.12973I$ $b = 0.177424 + 1.214160I$	$-6.09582 + 1.01611I$	0
$u = 0.837251 + 0.770716I$ $a = 0.695837 - 0.221942I$ $b = -0.454504 + 0.782523I$	$9.66264 - 2.15233I$	0
$u = 0.837251 - 0.770716I$ $a = 0.695837 + 0.221942I$ $b = -0.454504 - 0.782523I$	$9.66264 + 2.15233I$	0
$u = -0.707677 + 0.891972I$ $a = -0.193028 + 0.625350I$ $b = 0.581995 + 0.488567I$	$5.07524 + 2.65277I$	0
$u = -0.707677 - 0.891972I$ $a = -0.193028 - 0.625350I$ $b = 0.581995 - 0.488567I$	$5.07524 - 2.65277I$	0
$u = -1.057440 + 0.426765I$ $a = 1.37614 - 1.42332I$ $b = 0.11276 - 1.50273I$	$0.959736 + 0.654295I$	0
$u = -1.057440 - 0.426765I$ $a = 1.37614 + 1.42332I$ $b = 0.11276 + 1.50273I$	$0.959736 - 0.654295I$	0
$u = 0.611340 + 0.968423I$ $a = -0.259712 - 0.474871I$ $b = 0.587643 - 0.851228I$	$11.23210 - 6.90153I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.611340 - 0.968423I$ $a = -0.259712 + 0.474871I$ $b = 0.587643 + 0.851228I$	$11.23210 + 6.90153I$	0
$u = 1.091290 + 0.353150I$ $a = -1.04122 - 1.67611I$ $b = -0.123169 - 0.278771I$	$6.85939 - 5.07145I$	0
$u = 1.091290 - 0.353150I$ $a = -1.04122 + 1.67611I$ $b = -0.123169 + 0.278771I$	$6.85939 + 5.07145I$	0
$u = 1.009210 + 0.564259I$ $a = -0.250923 - 1.008240I$ $b = 0.853707 + 0.108289I$	$6.25063 - 5.57396I$	0
$u = 1.009210 - 0.564259I$ $a = -0.250923 + 1.008240I$ $b = 0.853707 - 0.108289I$	$6.25063 + 5.57396I$	0
$u = -1.115600 + 0.304284I$ $a = 1.20339 - 1.05375I$ $b = 0.75678 - 1.26996I$	$2.24449 - 0.21390I$	0
$u = -1.115600 - 0.304284I$ $a = 1.20339 + 1.05375I$ $b = 0.75678 + 1.26996I$	$2.24449 + 0.21390I$	0
$u = -0.878670 + 0.772323I$ $a = 0.361367 + 0.400725I$ $b = -0.039707 - 0.474456I$	$4.22761 + 2.91062I$	0
$u = -0.878670 - 0.772323I$ $a = 0.361367 - 0.400725I$ $b = -0.039707 + 0.474456I$	$4.22761 - 2.91062I$	0
$u = -0.270783 + 0.776768I$ $a = 0.551880 + 0.363525I$ $b = -0.092386 + 0.752153I$	$0.646581 + 0.057662I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.270783-0.776768I$ $a=\ \ 0.551880-0.363525I$ $b=-0.092386-0.752153I$	$0.646581-0.057662I$	0
$u=-1.062840+0.508012I$ $a=-0.88319+1.97356I$ $b=\ \ 0.86053+1.13805I$	$-1.81072+6.57692I$	0
$u=-1.062840-0.508012I$ $a=-0.88319-1.97356I$ $b=\ \ 0.86053-1.13805I$	$-1.81072-6.57692I$	0
$u=\ \ 0.898488+0.772325I$ $a=\ \ 0.484655-0.655901I$ $b=\ \ 0.301800+0.793066I$	$9.49179-3.65525I$	0
$u=\ \ 0.898488-0.772325I$ $a=\ \ 0.484655+0.655901I$ $b=\ \ 0.301800-0.793066I$	$9.49179+3.65525I$	0
$u=\ \ 0.479958+0.637359I$ $a=\ \ 0.992882-0.043182I$ $b=-0.828420+0.013782I$	$7.76200+0.90081I$	0
$u=\ \ 0.479958-0.637359I$ $a=\ \ 0.992882+0.043182I$ $b=-0.828420-0.013782I$	$7.76200-0.90081I$	0
$u=\ \ 1.102970+0.503764I$ $a=-0.63027-1.96483I$ $b=\ \ 1.14012-1.07707I$	$3.51683-7.73270I$	0
$u=\ \ 1.102970-0.503764I$ $a=-0.63027+1.96483I$ $b=\ \ 1.14012+1.07707I$	$3.51683+7.73270I$	0
$u=-0.967783+0.734001I$ $a=-0.0906118-0.0915978I$ $b=-0.649807+0.075200I$	$4.26830+3.31666I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.967783-0.734001I$ $a=-0.0906118+0.0915978I$ $b=-0.649807-0.075200I$	$4.26830-3.31666I$	0
$u=\ \ 1.017900+0.664460I$ $a=-0.402680+0.502405I$ $b=-1.167080-0.230589I$	$4.46966-7.47764I$	0
$u=\ \ 1.017900-0.664460I$ $a=-0.402680-0.502405I$ $b=-1.167080+0.230589I$	$4.46966+7.47764I$	0
$u=-1.045940+0.653890I$ $a=-1.64671+1.40041I$ $b=\ \ 0.558259+1.194000I$	$3.18345+10.69620I$	0
$u=-1.045940-0.653890I$ $a=-1.64671-1.40041I$ $b=\ \ 0.558259-1.194000I$	$3.18345-10.69620I$	0
$u=-1.053880+0.647496I$ $a=-0.663406-0.555628I$ $b=-1.34657+0.45968I$	$11.0303+10.7709I$	0
$u=-1.053880-0.647496I$ $a=-0.663406+0.555628I$ $b=-1.34657-0.45968I$	$11.0303-10.7709I$	0
$u=\ \ 1.076090+0.621431I$ $a=-1.39040-1.41475I$ $b=\ \ 0.480219-1.111950I$	$-2.86776-8.16498I$	0
$u=\ \ 1.076090-0.621431I$ $a=-1.39040+1.41475I$ $b=\ \ 0.480219+1.111950I$	$-2.86776+8.16498I$	0
$u=-1.129880+0.567356I$ $a=-1.04797+1.34145I$ $b=\ \ 0.364899+0.870060I$	$-1.82164+4.93277I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.129880-0.567356I$ $a=-1.04797-1.34145I$ $b=\ \ 0.364899-0.870060I$	$-1.82164-4.93277I$	0
$u=\ \ 1.248140+0.268138I$ $a=\ \ 0.04522+1.80547I$ $b=-0.019964+1.054360I$	$-4.02260-3.43535I$	0
$u=\ \ 1.248140-0.268138I$ $a=\ \ 0.04522-1.80547I$ $b=-0.019964-1.054360I$	$-4.02260+3.43535I$	0
$u=\ \ 0.180834+0.663314I$ $a=\ \ 0.713938+0.212808I$ $b=-0.900032-0.977689I$	$6.04567+3.35460I$	$7.97311-2.93910I$
$u=\ \ 0.180834-0.663314I$ $a=\ \ 0.713938-0.212808I$ $b=-0.900032+0.977689I$	$6.04567-3.35460I$	$7.97311+2.93910I$
$u=-1.320090+0.033310I$ $a=-0.51815+1.76906I$ $b=-0.532315+1.158000I$	$3.75464-9.26467I$	0
$u=-1.320090-0.033310I$ $a=-0.51815-1.76906I$ $b=-0.532315-1.158000I$	$3.75464+9.26467I$	0
$u=-0.676066+0.065814I$ $a=\ \ 0.077833-0.593841I$ $b=-0.737152+0.602808I$	$0.40459-2.77385I$	$-0.59107+8.95739I$
$u=-0.676066-0.065814I$ $a=\ \ 0.077833+0.593841I$ $b=-0.737152-0.602808I$	$0.40459+2.77385I$	$-0.59107-8.95739I$
$u=-1.182310+0.615283I$ $a=\ \ 0.56765-1.99322I$ $b=-0.464189-0.971569I$	$8.90211+3.33620I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.182310-0.615283I$ $a=\ \ 0.56765+1.99322I$ $b=-0.464189+0.971569I$	$8.90211-3.33620I$	0
$u=\ \ 1.148350+0.678606I$ $a=\ \ 1.01782+1.85825I$ $b=-0.76414+1.29683I$	$8.2367-18.0724I$	0
$u=\ \ 1.148350-0.678606I$ $a=\ \ 1.01782-1.85825I$ $b=-0.76414-1.29683I$	$8.2367+18.0724I$	0
$u=-1.155810+0.679707I$ $a=\ \ 0.93692-1.81046I$ $b=-0.64751-1.27762I$	$1.19708+13.79540I$	0
$u=-1.155810-0.679707I$ $a=\ \ 0.93692+1.81046I$ $b=-0.64751+1.27762I$	$1.19708-13.79540I$	0
$u=\ \ 0.498086+0.428072I$ $a=\ \ 0.626722-0.268822I$ $b=\ \ 0.052856+0.818326I$	$-1.03941-1.27491I$	$-0.72097+4.37315I$
$u=\ \ 0.498086-0.428072I$ $a=\ \ 0.626722+0.268822I$ $b=\ \ 0.052856-0.818326I$	$-1.03941+1.27491I$	$-0.72097-4.37315I$
$u=-0.255396+0.597292I$ $a=\ \ 0.555457+0.283608I$ $b=-0.241429-1.252780I$	$3.30691+3.23521I$	$6.24553-3.44821I$
$u=-0.255396-0.597292I$ $a=\ \ 0.555457-0.283608I$ $b=-0.241429+1.252780I$	$3.30691-3.23521I$	$6.24553+3.44821I$
$u=\ \ 1.093860+0.795677I$ $a=-0.568436-0.262743I$ $b=-0.461055-0.707837I$	$9.78375+0.50006I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.093860 - 0.795677I$ $a = -0.568436 + 0.262743I$ $b = -0.461055 + 0.707837I$	$9.78375 - 0.50006I$	0
$u = 1.177980 + 0.674350I$ $a = 0.78139 + 1.79731I$ $b = -0.521615 + 1.186440I$	$1.21192 - 7.91472I$	0
$u = 1.177980 - 0.674350I$ $a = 0.78139 - 1.79731I$ $b = -0.521615 - 1.186440I$	$1.21192 + 7.91472I$	0
$u = 1.393250 + 0.062804I$ $a = -0.43332 - 1.64211I$ $b = -0.361309 - 1.025480I$	$-3.28842 + 4.58134I$	0
$u = 1.393250 - 0.062804I$ $a = -0.43332 + 1.64211I$ $b = -0.361309 + 1.025480I$	$-3.28842 - 4.58134I$	0
$u = -0.364523 + 0.453468I$ $a = 0.949005 + 0.189231I$ $b = -0.296430 + 0.043240I$	$1.074570 - 0.364625I$	$8.86158 + 1.00666I$
$u = -0.364523 - 0.453468I$ $a = 0.949005 - 0.189231I$ $b = -0.296430 - 0.043240I$	$1.074570 + 0.364625I$	$8.86158 - 1.00666I$
$u = -1.40693 + 0.26293I$ $a = -0.54852 + 1.45067I$ $b = -0.250889 + 0.828979I$	$-2.35349 + 2.05269I$	0
$u = -1.40693 - 0.26293I$ $a = -0.54852 - 1.45067I$ $b = -0.250889 - 0.828979I$	$-2.35349 - 2.05269I$	0
$u = -0.195571 + 0.479240I$ $a = 0.577297 - 0.172202I$ $b = -0.657463 + 0.925136I$	$0.29761 - 2.48770I$	$0.48068 + 5.85360I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.195571 - 0.479240I$		
$a = \quad 0.577297 + 0.172202I$	$0.29761 + 2.48770I$	$0.48068 - 5.85360I$
$b = -0.657463 - 0.925136I$		

II. $I_2^u = \langle 4116u^{29} - 337u^{28} + \cdots + 2119b - 4263,\ 3524u^{29} - 3466u^{28} + \cdots + 2119a - 4558,\ u^{30} - 9u^{28} + \cdots + u + 1 \rangle$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

$$a_{11} = \begin{pmatrix} -1.66305u^{29} + 1.63568u^{28} + \cdots + 2.02171u + 2.15101 \\ -1.94243u^{29} + 0.159037u^{28} + \cdots + 2.34545u + 2.01180 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -4.72062u^{29} + 1.47664u^{28} + \cdots + 4.67626u - 0.860783 \\ -0.183577u^{29} + 0.615857u^{28} + \cdots + 0.898537u - 4.48844 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.720623u^{29} + 1.47664u^{28} + \cdots - 0.323738u + 0.139217 \\ -1.94243u^{29} + 0.159037u^{28} + \cdots + 2.34545u + 2.01180 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2.42378u^{29} - 1.89193u^{28} + \cdots - 1.54271u - 3.77537 \\ 0.352525u^{29} - 0.280321u^{28} + \cdots + 0.115149u - 3.32940 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.279377u^{29} + 1.47664u^{28} + \cdots - 0.323738u + 0.139217 \\ -1.94243u^{29} + 0.159037u^{28} + \cdots + 2.34545u + 2.01180 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 5.18358u^{29} + 1.38414u^{28} + \cdots + 8.10146u + 3.48844 \\ u^{26} - 8u^{24} + \cdots + u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.489382u^{29} - 5.14818u^{28} + \cdots - 8.06371u + 2.60028 \\ 1.73006u^{29} - 0.122699u^{28} + \cdots - 2.61963u + 1.99387 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{8900}{2119}u^{29} + \frac{18019}{2119}u^{28} + \cdots + \frac{8901}{2119}u + \frac{21659}{2119}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 18u^{29} + \cdots - 11u + 1$
c_2	$u^{30} - 9u^{28} + \cdots - u + 1$
c_3	$u^{30} + u^{29} + \cdots - 2u + 1$
c_4	$u^{30} + 2u^{29} + \cdots - 5u^2 + 1$
c_5	$u^{30} - 2u^{29} + \cdots + u + 1$
c_6	$u^{30} - u^{29} + \cdots + 2u + 1$
c_7	$u^{30} - 9u^{28} + \cdots + u + 1$
c_8	$u^{30} + 2u^{29} + \cdots - u + 1$
c_9	$u^{30} - 2u^{28} + \cdots + u + 1$
c_{10}	$u^{30} + u^{29} + \cdots - 2u + 1$
c_{11}, c_{12}	$u^{30} - 2u^{29} + \cdots - 5u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} + 2y^{29} + \cdots + y + 1$
c_2, c_7	$y^{30} - 18y^{29} + \cdots - 11y + 1$
c_3	$y^{30} - 3y^{29} + \cdots + 2y + 1$
c_4, c_{11}, c_{12}	$y^{30} - 34y^{29} + \cdots - 10y + 1$
c_5, c_8	$y^{30} + 28y^{29} + \cdots + 23y + 1$
c_6, c_{10}	$y^{30} + 23y^{29} + \cdots + 28y + 1$
c_9	$y^{30} - 4y^{29} + \cdots + 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.966271 + 0.269036I$ $a = 1.24147 + 1.66698I$ $b = 0.14443 + 1.41752I$	$-3.40495 - 1.05591I$	$-5.82237 + 2.38521I$
$u = 0.966271 - 0.269036I$ $a = 1.24147 - 1.66698I$ $b = 0.14443 - 1.41752I$	$-3.40495 + 1.05591I$	$-5.82237 - 2.38521I$
$u = -0.978892 + 0.382177I$ $a = 1.48694 - 1.15115I$ $b = 0.72991 - 1.53743I$	$0.327230 - 1.299880I$	$-2.12440 + 0.19277I$
$u = -0.978892 - 0.382177I$ $a = 1.48694 + 1.15115I$ $b = 0.72991 + 1.53743I$	$0.327230 + 1.299880I$	$-2.12440 - 0.19277I$
$u = -0.768142 + 0.723630I$ $a = -0.662423 + 0.544176I$ $b = -0.179634 - 0.516897I$	$9.84264 + 4.95395I$	$8.83133 - 5.31332I$
$u = -0.768142 - 0.723630I$ $a = -0.662423 - 0.544176I$ $b = -0.179634 + 0.516897I$	$9.84264 - 4.95395I$	$8.83133 + 5.31332I$
$u = 1.070350 + 0.392320I$ $a = -0.74629 - 2.79697I$ $b = 0.371818 - 0.748142I$	$6.53291 - 5.89094I$	$2.27303 + 8.94029I$
$u = 1.070350 - 0.392320I$ $a = -0.74629 + 2.79697I$ $b = 0.371818 + 0.748142I$	$6.53291 + 5.89094I$	$2.27303 - 8.94029I$
$u = -0.805620 + 0.267311I$ $a = 1.09601 - 2.05634I$ $b = -0.44975 - 1.45693I$	$1.12308 + 4.13957I$	$3.26069 - 2.03081I$
$u = -0.805620 - 0.267311I$ $a = 1.09601 + 2.05634I$ $b = -0.44975 + 1.45693I$	$1.12308 - 4.13957I$	$3.26069 + 2.03081I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.024780 + 0.550928I$ $a = -0.95340 - 1.80855I$ $b = 1.01457 - 1.21354I$	$1.57890 - 7.20026I$	$2.19842 + 8.70081I$
$u = 1.024780 - 0.550928I$ $a = -0.95340 + 1.80855I$ $b = 1.01457 + 1.21354I$	$1.57890 + 7.20026I$	$2.19842 - 8.70081I$
$u = 0.580019 + 0.597744I$ $a = -0.193773 + 0.430270I$ $b = -0.823602 - 1.036890I$	$2.95005 + 2.61429I$	$7.03202 - 4.12812I$
$u = 0.580019 - 0.597744I$ $a = -0.193773 - 0.430270I$ $b = -0.823602 + 1.036890I$	$2.95005 - 2.61429I$	$7.03202 + 4.12812I$
$u = 0.868055 + 0.811428I$ $a = 0.297066 - 0.186122I$ $b = -0.070011 + 0.601724I$	$3.99743 - 3.02628I$	$-9.94746 + 9.52022I$
$u = 0.868055 - 0.811428I$ $a = 0.297066 + 0.186122I$ $b = -0.070011 - 0.601724I$	$3.99743 + 3.02628I$	$-9.94746 - 9.52022I$
$u = -1.087410 + 0.524809I$ $a = -0.90908 + 1.89495I$ $b = 0.650725 + 1.041370I$	$-1.34299 + 6.08940I$	$4.73638 - 5.01445I$
$u = -1.087410 - 0.524809I$ $a = -0.90908 - 1.89495I$ $b = 0.650725 - 1.041370I$	$-1.34299 - 6.08940I$	$4.73638 + 5.01445I$
$u = 0.701285 + 0.329100I$ $a = 2.86496 - 0.04510I$ $b = -0.405490 - 0.568796I$	$7.93470 + 2.79540I$	$7.59390 - 5.95030I$
$u = 0.701285 - 0.329100I$ $a = 2.86496 + 0.04510I$ $b = -0.405490 + 0.568796I$	$7.93470 - 2.79540I$	$7.59390 + 5.95030I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.999295+0.730244I$ $a=\ 1.169430-0.186254I$ $b=\ 0.080356-0.588102I$	$9.13336+0.61404I$	$5.37852-1.13112I$
$u=-0.999295-0.730244I$ $a=\ 1.169430+0.186254I$ $b=\ 0.080356+0.588102I$	$9.13336-0.61404I$	$5.37852+1.13112I$
$u=-1.315190+0.133456I$ $a=\ 0.30717+1.87100I$ $b=\ 0.172765+0.971955I$	$-2.96738+3.56678I$	$3.83488-2.93852I$
$u=-1.315190-0.133456I$ $a=\ 0.30717-1.87100I$ $b=\ 0.172765-0.971955I$	$-2.96738-3.56678I$	$3.83488+2.93852I$
$u=\ 1.311350+0.314323I$ $a=\ 0.67987+1.39055I$ $b=\ 0.225561+0.968785I$	$-3.05332-1.98040I$	$-2.05636+0.I$
$u=\ 1.311350-0.314323I$ $a=\ 0.67987-1.39055I$ $b=\ 0.225561-0.968785I$	$-3.05332+1.98040I$	$-2.05636+0.I$
$u=-0.037392+0.644829I$ $a=\ 0.076852+0.630212I$ $b=-0.450772+0.904715I$	$1.08731-1.85225I$	$6.27991+2.11843I$
$u=-0.037392-0.644829I$ $a=\ 0.076852-0.630212I$ $b=-0.450772-0.904715I$	$1.08731+1.85225I$	$6.27991-2.11843I$
$u=-0.530159+0.292116I$ $a=\ 1.245200+0.312529I$ $b=-0.510873+0.768213I$	$0.80464-2.06359I$	$5.03150+3.05155I$
$u=-0.530159-0.292116I$ $a=\ 1.245200-0.312529I$ $b=-0.510873-0.768213I$	$0.80464+2.06359I$	$5.03150-3.05155I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{30}-18u^{29}+\cdots-11u+1)(u^{121}+55u^{120}+\cdots+178585u+9409)$
c_2	$(u^{30}-9u^{28}+\cdots-u+1)(u^{121}+u^{120}+\cdots+69u-97)$
c_3	$(u^{30}+u^{29}+\cdots-2u+1)(u^{121}-10u^{119}+\cdots-165094u-9137)$
c_4	$(u^{30}+2u^{29}+\cdots-5u^2+1)(u^{121}-3u^{120}+\cdots+5u-2)$
c_5	$(u^{30}-2u^{29}+\cdots+u+1)(u^{121}-3u^{120}+\cdots-837975u+184601)$
c_6	$(u^{30}-u^{29}+\cdots+2u+1)(u^{121}-2u^{120}+\cdots-1722u+181)$
c_7	$(u^{30}-9u^{28}+\cdots+u+1)(u^{121}+u^{120}+\cdots+69u-97)$
c_8	$(u^{30}+2u^{29}+\cdots-u+1)(u^{121}-3u^{120}+\cdots-837975u+184601)$
c_9	$(u^{30}-2u^{28}+\cdots+u+1)$ $\cdot(u^{121}-7u^{120}+\cdots-1422961227u+245450119)$
c_{10}	$(u^{30}+u^{29}+\cdots-2u+1)(u^{121}-2u^{120}+\cdots-1722u+181)$
c_{11}, c_{12}	$(u^{30}-2u^{29}+\cdots-5u^2+1)(u^{121}-3u^{120}+\cdots+5u-2)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{30}+2y^{29}+\cdots+y+1)$ $\cdot(y^{121}+37y^{120}+\cdots-3380797875y-88529281)$
c_2, c_7	$(y^{30}-18y^{29}+\cdots-11y+1)(y^{121}-55y^{120}+\cdots+178585y-9409)$
c_3	$(y^{30}-3y^{29}+\cdots+2y+1)$ $\cdot(y^{121}-20y^{120}+\cdots+9314834924y-83484769)$
c_4, c_{11}, c_{12}	$(y^{30}-34y^{29}+\cdots-10y+1)(y^{121}-127y^{120}+\cdots-235y-4)$
c_5, c_8	$(y^{30}+28y^{29}+\cdots+23y+1)$ $\cdot(y^{121}+99y^{120}+\cdots-1160560440125y-34077529201)$
c_6, c_{10}	$(y^{30}+23y^{29}+\cdots+28y+1)(y^{121}+66y^{120}+\cdots-951918y-32761)$
c_9	$(y^{30}-4y^{29}+\cdots+3y+1)$ $\cdot(y^{121}-57y^{120}+\cdots+1931211107502902003y-60245760917114161)$