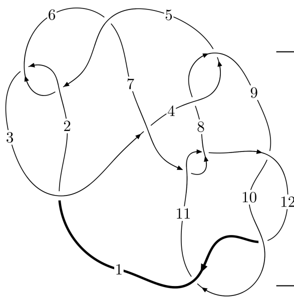
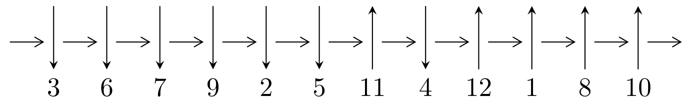
$12a_{0211}$ $(K12a_{0211})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -9.86194 \times 10^{263} u^{97} + 1.50956 \times 10^{264} u^{96} + \cdots + 4.00373 \times 10^{264} b + 1.42422 \times 10^{266}, \\ & 1.21954 \times 10^{264} u^{97} - 1.97917 \times 10^{264} u^{96} + \cdots + 8.00746 \times 10^{264} a - 1.99719 \times 10^{266}, \\ & u^{98} - 2u^{97} + \cdots - 160u + 64 \rangle \\ I_2^u = \langle & b,\ 2u^7 - 3u^6 - 5u^5 + 7u^4 + 4u^3 - 3u^2 + a - 4,\ u^8 - u^7 - 3u^6 + 2u^5 + 3u^4 - 2u - 1 \rangle \end{aligned}$$

$$I_1^v = \langle a,\ 26v^5 - 33v^4 + 317v^3 - 123v^2 + 413b + 89v - 685,\ v^6 - 3v^5 + 15v^4 - 24v^3 + 11v^2 - 6v + 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 112 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. $\boldsymbol{I_1^u = \langle -9.86\times 10^{263}u^{97} + 1.51\times 10^{264}u^{96} + \cdots + 4.00\times 10^{264}b + 1.42\times 10^{266},\ 1.22\times 10^{264}u^{97} - 1.98\times 10^{264}u^{96} + \cdots + 8.01\times 10^{264}a - 2.00\times 10^{266},\ u^{98} - 2u^{97} + \cdots - 160u + 64\rangle}$

(i) Arc colorings

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

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

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

$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.152300u^{97} + 0.247165u^{96} + \cdots - 4.59357u + 24.9416 \\ 0.246319u^{97} - 0.377039u^{96} + \cdots + 7.83550u - 35.5724 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0398059u^{97} + 0.0702429u^{96} + \cdots - 3.05431u + 8.48553 \\ -0.411031u^{97} + 0.653363u^{96} + \cdots - 7.40277u + 62.7622 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.00297584u^{97} - 0.00863836u^{96} + \cdots + 1.05873u - 0.848853 \\ -0.411031u^{97} + 0.653363u^{96} + \cdots - 7.40277u + 62.7622 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.398619u^{97} + 0.624205u^{96} + \cdots - 12.4291u + 60.5140 \\ 0.246319u^{97} - 0.377039u^{96} + \cdots + 7.83550u - 35.5724 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.402842u^{97} + 0.642002u^{96} + \cdots - 5.72372u + 61.7414 \\ 0.405818u^{97} - 0.650640u^{96} + \cdots + 6.78245u - 62.5902 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0603712u^{97} - 0.0945033u^{96} + \cdots + 3.51045u - 8.93865 \\ -0.286712u^{97} + 0.446756u^{96} + \cdots - 6.09763u + 42.5150 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.402533u^{97} + 0.632225u^{96} + \cdots - 6.75744u + 60.4412 \\ 0.389959u^{97} - 0.628287u^{96} + \cdots + 6.33110u - 60.7040 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0840663u^{97} - 0.138202u^{96} + \cdots + 6.02197u - 11.8518 \\ -0.634821u^{97} + 0.986175u^{96} + \cdots - 17.0563u + 92.8076 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.75154u^{97} + 2.69397u^{96} + \cdots - 90.1293u + 259.318$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{98} + 32u^{97} + \cdots + 46u + 1$
c_2, c_5	$u^{98} + 4u^{97} + \cdots + 14u + 1$
c_3	$u^{98} - 4u^{97} + \cdots + 19016u + 4129$
c_4, c_8	$u^{98} + 2u^{97} + \cdots + 160u + 64$
c_7, c_{11}	$u^{98} - 4u^{97} + \cdots - 128u + 256$
c_9, c_{10}, c_{12}	$u^{98} + 12u^{97} + \cdots - 31u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{98} + 72y^{97} + \cdots - 2334y + 1$
c_2, c_5	$y^{98} - 32y^{97} + \cdots - 46y + 1$
c_3	$y^{98} + 76y^{96} + \cdots - 284998790y + 17048641$
c_4, c_8	$y^{98} - 42y^{97} + \cdots - 87040y + 4096$
c_7, c_{11}	$y^{98} - 60y^{97} + \cdots - 3457024y + 65536$
c_9, c_{10}, c_{12}	$y^{98} - 96y^{97} + \cdots - 903y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.836034 + 0.535484I$ $a = -0.62066 - 1.46991I$ $b = -0.276978 - 1.030340I$	$2.71965 - 2.17187I$	0
$u = 0.836034 - 0.535484I$ $a = -0.62066 + 1.46991I$ $b = -0.276978 + 1.030340I$	$2.71965 + 2.17187I$	0
$u = 1.007890 + 0.057843I$ $a = 0.515193 + 1.015350I$ $b = 0.482660 + 0.606015I$	$-1.69730 - 0.04707I$	0
$u = 1.007890 - 0.057843I$ $a = 0.515193 - 1.015350I$ $b = 0.482660 - 0.606015I$	$-1.69730 + 0.04707I$	0
$u = 0.988943 + 0.038650I$ $a = 0.298767 + 1.109500I$ $b = -0.915779 + 0.645889I$	$0.81536 + 3.65505I$	0
$u = 0.988943 - 0.038650I$ $a = 0.298767 - 1.109500I$ $b = -0.915779 - 0.645889I$	$0.81536 - 3.65505I$	0
$u = 0.640994 + 0.748545I$ $a = -1.24753 - 1.31283I$ $b = 0.099282 - 1.047820I$	$6.60141 - 1.31084I$	0
$u = 0.640994 - 0.748545I$ $a = -1.24753 + 1.31283I$ $b = 0.099282 + 1.047820I$	$6.60141 + 1.31084I$	0
$u = 0.958058 + 0.352709I$ $a = 0.462382 + 0.808485I$ $b = -1.122110 + 0.350042I$	$-1.92679 - 1.50494I$	0
$u = 0.958058 - 0.352709I$ $a = 0.462382 - 0.808485I$ $b = -1.122110 - 0.350042I$	$-1.92679 + 1.50494I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.945192 + 0.184243I$ $a = 0.063153 + 1.354140I$ $b = -0.690539 + 0.806870I$	$1.09894 - 0.93181I$	0
$u = -0.945192 - 0.184243I$ $a = 0.063153 - 1.354140I$ $b = -0.690539 - 0.806870I$	$1.09894 + 0.93181I$	0
$u = -0.566049 + 0.872784I$ $a = 0.561625 - 0.370323I$ $b = -1.047790 + 0.313579I$	$4.33302 - 0.85349I$	0
$u = -0.566049 - 0.872784I$ $a = 0.561625 + 0.370323I$ $b = -1.047790 - 0.313579I$	$4.33302 + 0.85349I$	0
$u = -0.577362 + 0.766403I$ $a = -1.41361 + 1.28993I$ $b = 0.174263 + 1.005380I$	$6.01938 - 4.43105I$	0
$u = -0.577362 - 0.766403I$ $a = -1.41361 - 1.28993I$ $b = 0.174263 - 1.005380I$	$6.01938 + 4.43105I$	0
$u = -0.413184 + 0.978752I$ $a = 0.192652 - 0.001510I$ $b = 1.327370 - 0.296247I$	$8.16464 - 2.11391I$	0
$u = -0.413184 - 0.978752I$ $a = 0.192652 + 0.001510I$ $b = 1.327370 + 0.296247I$	$8.16464 + 2.11391I$	0
$u = 0.523046 + 0.927802I$ $a = 0.550866 + 0.336203I$ $b = -1.026850 - 0.381970I$	$3.59665 + 6.49124I$	0
$u = 0.523046 - 0.927802I$ $a = 0.550866 - 0.336203I$ $b = -1.026850 + 0.381970I$	$3.59665 - 6.49124I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.945040 + 0.577805I$ $a = 0.464812 - 0.635543I$ $b = -1.252900 - 0.141177I$	$3.98973 + 1.09003I$	0
$u = -0.945040 - 0.577805I$ $a = 0.464812 + 0.635543I$ $b = -1.252900 + 0.141177I$	$3.98973 - 1.09003I$	0
$u = -0.685394 + 0.556168I$ $a = -0.51862 + 2.07030I$ $b = 0.966579 + 0.148747I$	$4.79276 + 3.49348I$	$0. - 7.89856I$
$u = -0.685394 - 0.556168I$ $a = -0.51862 - 2.07030I$ $b = 0.966579 - 0.148747I$	$4.79276 - 3.49348I$	$0. + 7.89856I$
$u = 0.295338 + 0.821202I$ $a = 0.653295 + 0.245041I$ $b = -0.779521 - 0.351251I$	$-1.36442 + 1.59603I$	$-6.13954 - 4.68221I$
$u = 0.295338 - 0.821202I$ $a = 0.653295 - 0.245041I$ $b = -0.779521 + 0.351251I$	$-1.36442 - 1.59603I$	$-6.13954 + 4.68221I$
$u = 1.072730 + 0.347020I$ $a = 0.084885 - 1.334090I$ $b = 0.898101 - 0.581765I$	$-2.07276 - 0.59423I$	0
$u = 1.072730 - 0.347020I$ $a = 0.084885 + 1.334090I$ $b = 0.898101 + 0.581765I$	$-2.07276 + 0.59423I$	0
$u = -1.009660 + 0.504740I$ $a = -0.429556 + 1.236740I$ $b = -0.466522 + 1.159040I$	$-0.85776 + 4.36308I$	0
$u = -1.009660 - 0.504740I$ $a = -0.429556 - 1.236740I$ $b = -0.466522 - 1.159040I$	$-0.85776 - 4.36308I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.004060+0.523832I$ $a=-0.16333+1.43855I$ $b=\ \ 1.054600+0.456626I$	$0.08244+4.26327I$	0
$u=-1.004060-0.523832I$ $a=-0.16333-1.43855I$ $b=\ \ 1.054600-0.456626I$	$0.08244-4.26327I$	0
$u=\ \ 1.003640+0.555239I$ $a=\ \ 0.429213+0.654904I$ $b=-1.293330+0.197292I$	$3.15484-6.74893I$	0
$u=\ \ 1.003640-0.555239I$ $a=\ \ 0.429213-0.654904I$ $b=-1.293330-0.197292I$	$3.15484+6.74893I$	0
$u=-0.645737+0.552571I$ $a=\ \ 0.191518+0.001250I$ $b=\ \ 1.66186-0.25832I$	$12.53660-1.88182I$	$4.98464-2.28984I$
$u=-0.645737-0.552571I$ $a=\ \ 0.191518-0.001250I$ $b=\ \ 1.66186+0.25832I$	$12.53660+1.88182I$	$4.98464+2.28984I$
$u=\ \ 1.036730+0.499877I$ $a=-0.97362+1.91004I$ $b=-1.310510+0.383002I$	$10.82510-0.18571I$	0
$u=\ \ 1.036730-0.499877I$ $a=-0.97362-1.91004I$ $b=-1.310510-0.383002I$	$10.82510+0.18571I$	0
$u=-0.097083+0.832554I$ $a=\ \ 0.645250+0.020161I$ $b=-0.410288-0.453030I$	$1.80058-2.93404I$	$-2.97782+1.88762I$
$u=-0.097083-0.832554I$ $a=\ \ 0.645250-0.020161I$ $b=-0.410288+0.453030I$	$1.80058+2.93404I$	$-2.97782-1.88762I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.213026 + 1.154770I$ $a = 0.189633 + 0.002822I$ $b = 1.149250 + 0.171052I$	$6.34419 - 1.80278I$	0
$u = 0.213026 - 1.154770I$ $a = 0.189633 - 0.002822I$ $b = 1.149250 - 0.171052I$	$6.34419 + 1.80278I$	0
$u = -1.040490 + 0.550713I$ $a = -0.76305 - 1.93141I$ $b = -1.327380 - 0.426303I$	$11.23540 + 6.34533I$	0
$u = -1.040490 - 0.550713I$ $a = -0.76305 + 1.93141I$ $b = -1.327380 + 0.426303I$	$11.23540 - 6.34533I$	0
$u = 1.109200 + 0.410240I$ $a = 0.405843 + 0.678327I$ $b = 0.187608 + 0.716386I$	$-0.53991 - 1.97315I$	0
$u = 1.109200 - 0.410240I$ $a = 0.405843 - 0.678327I$ $b = 0.187608 - 0.716386I$	$-0.53991 + 1.97315I$	0
$u = 0.674999 + 0.448882I$ $a = 0.191020 - 0.001236I$ $b = 1.71246 + 0.21779I$	$12.08790 - 3.77750I$	$2.50485 + 8.33450I$
$u = 0.674999 - 0.448882I$ $a = 0.191020 + 0.001236I$ $b = 1.71246 - 0.21779I$	$12.08790 + 3.77750I$	$2.50485 - 8.33450I$
$u = -1.193260 + 0.019414I$ $a = 0.299196 + 1.016150I$ $b = 0.586869 + 0.776976I$	$-3.03641 + 4.53724I$	0
$u = -1.193260 - 0.019414I$ $a = 0.299196 - 1.016150I$ $b = 0.586869 - 0.776976I$	$-3.03641 - 4.53724I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.004200 + 0.653502I$ $a = -0.602734 - 1.133920I$ $b = -0.326421 - 1.294080I$	$5.49575 - 4.02919I$	0
$u = 1.004200 - 0.653502I$ $a = -0.602734 + 1.133920I$ $b = -0.326421 + 1.294080I$	$5.49575 + 4.02919I$	0
$u = 0.600377 + 0.503296I$ $a = -0.54654 - 2.46979I$ $b = 0.890404 - 0.099731I$	$4.41694 + 2.33204I$	$2.30899 + 3.70876I$
$u = 0.600377 - 0.503296I$ $a = -0.54654 + 2.46979I$ $b = 0.890404 + 0.099731I$	$4.41694 - 2.33204I$	$2.30899 - 3.70876I$
$u = 0.238587 + 0.745701I$ $a = 0.669615 + 0.070375I$ $b = -0.264277 + 0.421377I$	$2.12182 - 2.26046I$	$-2.69224 + 4.33377I$
$u = 0.238587 - 0.745701I$ $a = 0.669615 - 0.070375I$ $b = -0.264277 - 0.421377I$	$2.12182 + 2.26046I$	$-2.69224 - 4.33377I$
$u = -1.204290 + 0.213731I$ $a = 0.350525 - 0.833986I$ $b = 0.353431 - 0.806311I$	$-6.24882 + 1.48049I$	0
$u = -1.204290 - 0.213731I$ $a = 0.350525 + 0.833986I$ $b = 0.353431 + 0.806311I$	$-6.24882 - 1.48049I$	0
$u = -1.046130 + 0.645338I$ $a = -0.560990 + 1.100540I$ $b = -0.373512 + 1.324650I$	$4.59791 + 9.79417I$	0
$u = -1.046130 - 0.645338I$ $a = -0.560990 - 1.100540I$ $b = -0.373512 - 1.324650I$	$4.59791 - 9.79417I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.635410+1.087650I$ $a=\ 0.196297-0.001060I$ $b=\ 1.32653-0.52109I$	$10.54050-4.32714I$	0
$u=-0.635410-1.087650I$ $a=\ 0.196297+0.001060I$ $b=\ 1.32653+0.52109I$	$10.54050+4.32714I$	0
$u=\ 0.493999+1.159450I$ $a=\ 0.194594+0.003965I$ $b=\ 1.200110+0.420492I$	$4.11910+4.28811I$	0
$u=\ 0.493999-1.159450I$ $a=\ 0.194594-0.003965I$ $b=\ 1.200110-0.420492I$	$4.11910-4.28811I$	0
$u=\ 1.130640+0.562921I$ $a=-0.178921-1.268500I$ $b=\ 1.139660-0.572230I$	$-3.85649-6.65841I$	0
$u=\ 1.130640-0.562921I$ $a=-0.178921+1.268500I$ $b=\ 1.139660+0.572230I$	$-3.85649+6.65841I$	0
$u=-0.571342+0.450763I$ $a=\ 0.799690-0.588134I$ $b=-0.876514-0.040008I$	$1.381480-0.079256I$	$5.31373-0.44192I$
$u=-0.571342-0.450763I$ $a=\ 0.799690+0.588134I$ $b=-0.876514+0.040008I$	$1.381480+0.079256I$	$5.31373+0.44192I$
$u=-1.202490+0.418464I$ $a=\ 0.338934-0.689561I$ $b=\ 0.169739-0.787709I$	$-1.65592+7.43184I$	0
$u=-1.202490-0.418464I$ $a=\ 0.338934+0.689561I$ $b=\ 0.169739+0.787709I$	$-1.65592-7.43184I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.085590 + 0.676848I$		
$a = -0.316501 + 1.272240I$	$2.71709 + 6.60282I$	0
$b = 1.241290 + 0.481735I$		
$u = -1.085590 - 0.676848I$		
$a = -0.316501 - 1.272240I$	$2.71709 - 6.60282I$	0
$b = 1.241290 - 0.481735I$		
$u = 0.647434 + 1.135080I$		
$a = 0.197276 + 0.001542I$	$9.53500 + 10.09170I$	0
$b = 1.289260 + 0.557225I$		
$u = 0.647434 - 1.135080I$		
$a = 0.197276 - 0.001542I$	$9.53500 - 10.09170I$	0
$b = 1.289260 - 0.557225I$		
$u = 1.123060 + 0.685056I$		
$a = -0.305837 - 1.231590I$	$1.72661 - 12.41470I$	0
$b = 1.265010 - 0.517604I$		
$u = 1.123060 - 0.685056I$		
$a = -0.305837 + 1.231590I$	$1.72661 + 12.41470I$	0
$b = 1.265010 + 0.517604I$		
$u = -1.172330 + 0.684132I$		
$a = -0.29816 - 1.53310I$	$5.85743 + 8.14777I$	0
$b = -1.273590 - 0.614310I$		
$u = -1.172330 - 0.684132I$		
$a = -0.29816 + 1.53310I$	$5.85743 - 8.14777I$	0
$b = -1.273590 + 0.614310I$		
$u = 1.232490 + 0.616049I$		
$a = -0.45590 + 1.35591I$	$3.06376 - 4.20801I$	0
$b = -1.172930 + 0.574754I$		
$u = 1.232490 - 0.616049I$		
$a = -0.45590 - 1.35591I$	$3.06376 + 4.20801I$	0
$b = -1.172930 - 0.574754I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.161510+0.793472I$ $a=-0.02680-1.54017I$ $b=-1.35879-0.71390I$	$8.8284+11.1189I$	0
$u=-1.161510-0.793472I$ $a=-0.02680+1.54017I$ $b=-1.35879+0.71390I$	$8.8284-11.1189I$	0
$u=-0.395569+0.441362I$ $a=-1.83851+3.13114I$ $b=\ \ 0.042317+0.538401I$	$0.744221-0.347993I$	$-10.77580-1.35993I$
$u=-0.395569-0.441362I$ $a=-1.83851-3.13114I$ $b=\ \ 0.042317-0.538401I$	$0.744221+0.347993I$	$-10.77580+1.35993I$
$u=\ \ 1.42094+0.14910I$ $a=-1.037220+0.312565I$ $b=-0.917859+0.126132I$	$1.73398-1.68885I$	0
$u=\ \ 1.42094-0.14910I$ $a=-1.037220-0.312565I$ $b=-0.917859-0.126132I$	$1.73398+1.68885I$	0
$u=\ \ 1.22262+0.74228I$ $a=-0.15511+1.41210I$ $b=-1.25942+0.70773I$	$1.75267-11.04810I$	0
$u=\ \ 1.22262-0.74228I$ $a=-0.15511-1.41210I$ $b=-1.25942-0.70773I$	$1.75267+11.04810I$	0
$u=\ \ 1.17840+0.81196I$ $a=\ \ 0.00730+1.49544I$ $b=-1.35718+0.74462I$	$7.7850-17.0818I$	0
$u=\ \ 1.17840-0.81196I$ $a=\ \ 0.00730-1.49544I$ $b=-1.35718-0.74462I$	$7.7850+17.0818I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.50976 + 0.23215I$ $a = -0.815003 - 0.384063I$ $b = -0.836256 - 0.194442I$	$0.01719 + 7.01679I$	0
$u = -1.50976 - 0.23215I$ $a = -0.815003 + 0.384063I$ $b = -0.836256 + 0.194442I$	$0.01719 - 7.01679I$	0
$u = -1.56343$ $a = -0.832965$ $b = -0.802385$	-4.01787	0
$u = 0.428199$ $a = 0.190716$ $b = 1.68418$	7.58133	-22.6420
$u = 0.410800$ $a = 1.26130$ $b = 0.180308$	-0.884136	-11.8670
$u = 0.002190 + 0.400188I$ $a = -8.30916 - 0.20003I$ $b = 0.448143 + 0.052970I$	$4.27018 + 2.77355I$	$35.2011 - 5.5393I$
$u = 0.002190 - 0.400188I$ $a = -8.30916 + 0.20003I$ $b = 0.448143 - 0.052970I$	$4.27018 - 2.77355I$	$35.2011 + 5.5393I$
$u = -0.372816$ $a = 2.12859$ $b = -0.521179$	1.14364	10.4810

II. $\boldsymbol{I_2^u =}$
$\boldsymbol{\langle b,\ 2u^7 - 3u^6 - 5u^5 + 7u^4 + 4u^3 - 3u^2 + a - 4,\ u^8 - u^7 - 3u^6 + 2u^5 + 3u^4 - 2u - 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -2u^7 + 3u^6 + 5u^5 - 7u^4 - 4u^3 + 3u^2 + 4 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -2u^7 + 3u^6 + 5u^5 - 7u^4 - 4u^3 + 3u^2 + 5 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -2u^7 + 3u^6 + 5u^5 - 7u^4 - 4u^3 + 3u^2 + 4 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^4 + u^2 + 1 \\ -u^6 + 2u^4 - u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^4 - u^2 - 1 \\ u^4 - 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8u^7 - 16u^6 - 18u^5 + 36u^4 + 15u^3 - 13u^2 - 4u - 25$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^8 - 3u^7 + 7u^6 - 10u^5 + 11u^4 - 10u^3 + 6u^2 - 4u + 1$
c_2	$u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1$
c_3, c_4	$u^8 + u^7 - 3u^6 - 2u^5 + 3u^4 + 2u - 1$
c_5	$u^8 + u^7 - u^6 - 2u^5 + u^4 + 2u^3 - 2u - 1$
c_6	$u^8 + 3u^7 + 7u^6 + 10u^5 + 11u^4 + 10u^3 + 6u^2 + 4u + 1$
c_7, c_{11}	u^8
c_8	$u^8 - u^7 - 3u^6 + 2u^5 + 3u^4 - 2u - 1$
c_9, c_{10}	$(u + 1)^8$
c_{12}	$(u - 1)^8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1$
c_2, c_5	$y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1$
c_3, c_4, c_8	$y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1$
c_7, c_{11}	y^8
c_9, c_{10}, c_{12}	$(y-1)^8$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.180120 + 0.268597I$ $a = 0.615431 + 0.295452I$ $b = 0$	$0.604279 + 1.131230I$	$-1.048604 + 0.799861I$
$u = -1.180120 - 0.268597I$ $a = 0.615431 - 0.295452I$ $b = 0$	$0.604279 - 1.131230I$	$-1.048604 - 0.799861I$
$u = -0.108090 + 0.747508I$ $a = -1.68119 + 0.49658I$ $b = 0$	$3.80435 + 2.57849I$	$0.86993 - 2.07507I$
$u = -0.108090 - 0.747508I$ $a = -1.68119 - 0.49658I$ $b = 0$	$3.80435 - 2.57849I$	$0.86993 + 2.07507I$
$u = 1.37100$ $a = 0.532015$ $b = 0$	-4.85780	-9.68010
$u = 1.334530 + 0.318930I$ $a = 0.473764 - 0.240160I$ $b = 0$	$-0.73474 - 6.44354I$	$-3.69048 + 2.66284I$
$u = 1.334530 - 0.318930I$ $a = 0.473764 + 0.240160I$ $b = 0$	$-0.73474 + 6.44354I$	$-3.69048 - 2.66284I$
$u = -0.463640$ $a = 4.65198$ $b = 0$	0.799899	-25.5820

III.

$\boldsymbol{I_1^v = \langle a,\ 26v^5 - 33v^4 + \cdots + 413b - 685,\ v^6 - 3v^5 + 15v^4 - 24v^3 + 11v^2 - 6v + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -0.0629540v^5 + 0.0799031v^4 + \cdots - 0.215496v + 1.65860 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0.0629540v^5 - 0.0799031v^4 + \cdots + 0.215496v - 2.65860 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.0629540v^5 + 0.0799031v^4 + \cdots - 0.215496v + 1.65860 \\ 0.0629540v^5 - 0.0799031v^4 + \cdots + 0.215496v - 2.65860 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.0629540v^5 - 0.0799031v^4 + \cdots + 0.215496v - 1.65860 \\ -0.0629540v^5 + 0.0799031v^4 + \cdots - 0.215496v + 1.65860 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.0629540v^5 - 0.0799031v^4 + \cdots + 0.215496v - 1.65860 \\ -0.0629540v^5 + 0.0799031v^4 + \cdots - 0.215496v + 2.65860 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.217918v^5 + 0.353511v^4 + \cdots + 4.56174v + 0.125908 \\ 0.326877v^5 - 0.530266v^4 + \cdots - 5.84262v - 0.188862 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.0871671v^5 + 0.341404v^4 + \cdots - 0.375303v - 1.54964 \\ -0.0629540v^5 + 0.0799031v^4 + \cdots - 0.215496v + 2.65860 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.963680v^5 + 2.60775v^4 + \cdots - 3.76029v + 2.31235 \\ 1.26392v^5 - 3.45036v^4 + \cdots + 4.94189v - 3.53027 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{1914}{413}v^5 + \frac{5225}{413}v^4 - \frac{27339}{413}v^3 + \frac{38886}{413}v^2 - \frac{10650}{413}v + \frac{9063}{413}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$(u^3 - u^2 + 2u - 1)^2$
c_2	$(u^3 + u^2 - 1)^2$
c_4, c_8	u^6
c_5	$(u^3 - u^2 + 1)^2$
c_6	$(u^3 + u^2 + 2u + 1)^2$
c_7, c_9, c_{10}	$(u^2 - u - 1)^3$
c_{11}, c_{12}	$(u^2 + u - 1)^3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_6	$(y^3 + 3y^2 + 2y - 1)^2$
c_2, c_5	$(y^3 - y^2 + 2y - 1)^2$
c_4, c_8	y^6
c_7, c_9, c_{10} c_{11}, c_{12}	$(y^2 - 3y + 1)^3$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 1.49186$ $a = 0$ $b = -0.618034$	-0.126494	1.65540
$v = 0.082153 + 0.499284I$ $a = 0$ $b = 1.61803$	$11.90680 - 2.82812I$	$1.56739 + 1.81005I$
$v = 0.082153 - 0.499284I$ $a = 0$ $b = 1.61803$	$11.90680 + 2.82812I$	$1.56739 - 1.81005I$
$v = 0.217660$ $a = 0$ $b = 1.61803$	7.76919	20.1360
$v = 0.56309 + 3.42214I$ $a = 0$ $b = -0.618034$	$4.01109 - 2.82812I$	$-5.96298 + 6.80673I$
$v = 0.56309 - 3.42214I$ $a = 0$ $b = -0.618034$	$4.01109 + 2.82812I$	$-5.96298 - 6.80673I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^3-u^2+2u-1)^2$ $\cdot(u^8-3u^7+7u^6-10u^5+11u^4-10u^3+6u^2-4u+1)$ $\cdot(u^{98}+32u^{97}+\cdots+46u+1)$
c_2	$(u^3+u^2-1)^2(u^8-u^7-u^6+2u^5+u^4-2u^3+2u-1)$ $\cdot(u^{98}+4u^{97}+\cdots+14u+1)$
c_3	$(u^3-u^2+2u-1)^2(u^8+u^7-3u^6-2u^5+3u^4+2u-1)$ $\cdot(u^{98}-4u^{97}+\cdots+19016u+4129)$
c_4	$u^6(u^8+u^7+\cdots+2u-1)(u^{98}+2u^{97}+\cdots+160u+64)$
c_5	$(u^3-u^2+1)^2(u^8+u^7-u^6-2u^5+u^4+2u^3-2u-1)$ $\cdot(u^{98}+4u^{97}+\cdots+14u+1)$
c_6	$(u^3+u^2+2u+1)^2$ $\cdot(u^8+3u^7+7u^6+10u^5+11u^4+10u^3+6u^2+4u+1)$ $\cdot(u^{98}+32u^{97}+\cdots+46u+1)$
c_7	$u^8(u^2-u-1)^3(u^{98}-4u^{97}+\cdots-128u+256)$
c_8	$u^6(u^8-u^7+\cdots-2u-1)(u^{98}+2u^{97}+\cdots+160u+64)$
c_9, c_{10}	$((u+1)^8)(u^2-u-1)^3(u^{98}+12u^{97}+\cdots-31u+1)$
c_{11}	$u^8(u^2+u-1)^3(u^{98}-4u^{97}+\cdots-128u+256)$
c_{12}	$((u-1)^8)(u^2+u-1)^3(u^{98}+12u^{97}+\cdots-31u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^3 + 3y^2 + 2y - 1)^2$ $\cdot (y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1)$ $\cdot (y^{98} + 72y^{97} + \cdots - 2334y + 1)$
c_2, c_5	$(y^3 - y^2 + 2y - 1)^2$ $\cdot (y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1)$ $\cdot (y^{98} - 32y^{97} + \cdots - 46y + 1)$
c_3	$(y^3 + 3y^2 + 2y - 1)^2$ $\cdot (y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1)$ $\cdot (y^{98} + 76y^{96} + \cdots - 284998790y + 17048641)$
c_4, c_8	$y^6(y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1)$ $\cdot (y^{98} - 42y^{97} + \cdots - 87040y + 4096)$
c_7, c_{11}	$y^8(y^2 - 3y + 1)^3(y^{98} - 60y^{97} + \cdots - 3457024y + 65536)$
c_9, c_{10}, c_{12}	$((y-1)^8)(y^2 - 3y + 1)^3(y^{98} - 96y^{97} + \cdots - 903y + 1)$