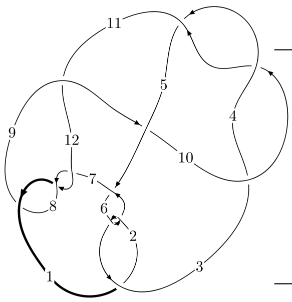
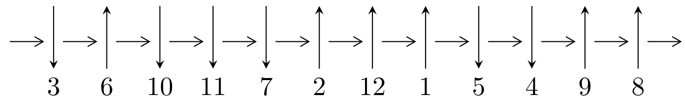
$12a_{0453}$ ($K12a_{0453}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 = \langle & -5.18498 \times 10^{53} u^{79} + 9.21176 \times 10^{53} u^{78} + \cdots + 1.01955 \times 10^{53} b + 2.95698 \times 10^{54}, \\
& -5.89948 \times 10^{53} u^{79} + 1.14051 \times 10^{54} u^{78} + \cdots + 3.56844 \times 10^{53} a + 2.68572 \times 10^{54}, \\
& u^{80} - 3u^{79} + \cdots + 39u + 7 \rangle \\
I^u_2 = \langle & -a^2 + 2b + 2a - 1,\ a^4 - 4a^3 + 8a^2 - 8a + 7,\ u - 1 \rangle \\
I^u_3 = \langle & b^2 - b + 1,\ a + 1,\ u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 86 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. $I_1^u = \langle -5.18 \times 10^{53}u^{79} + 9.21 \times 10^{53}u^{78} + \cdots + 1.02 \times 10^{53}b + 2.96 \times 10^{54},\ -5.90 \times 10^{53}u^{79} + 1.14 \times 10^{54}u^{78} + \cdots + 3.57 \times 10^{53}a + 2.69 \times 10^{54},\ u^{80} - 3u^{79} + \cdots + 39u + 7\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.65324u^{79} - 3.19611u^{78} + \cdots - 25.8162u - 7.52631 \\ 5.08555u^{79} - 9.03510u^{78} + \cdots - 179.732u - 29.0027 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 3.74801u^{79} - 5.88500u^{78} + \cdots - 176.187u - 27.7131 \\ -2.52283u^{79} + 4.91016u^{78} + \cdots + 84.4363u + 12.8759 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 3.51962u^{79} - 6.36792u^{78} + \cdots - 79.7796u - 13.5372 \\ -0.545223u^{79} + 0.560292u^{78} + \cdots + 14.1983u + 3.10047 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1.22518u^{79} - 0.974834u^{78} + \cdots - 91.7506u - 14.8372 \\ -2.52283u^{79} + 4.91016u^{78} + \cdots + 84.4363u + 12.8759 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.04068u^{79} + 1.20381u^{78} + \cdots + 93.2953u + 14.9388 \\ -2.67930u^{79} + 4.50705u^{78} + \cdots + 118.727u + 18.8216 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^5 + 2u^3 - u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 5.22259u^{79} - 7.87498u^{78} + \cdots - 229.649u - 37.4148 \\ -5.32240u^{79} + 9.42963u^{78} + \cdots + 159.124u + 25.3193 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 32.2654u^{79} - 56.5988u^{78} + \cdots - 1064.29u - 181.543$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{80} + 28u^{79} + \cdots - 16u + 1$
c_2, c_6	$u^{80} - 2u^{79} + \cdots + 6u + 1$
c_3, c_4, c_{10}	$u^{80} - u^{79} + \cdots + 12u + 4$
c_7, c_8, c_{12}	$u^{80} - 3u^{79} + \cdots + 39u + 7$
c_9	$u^{80} + 3u^{79} + \cdots - 1980u + 44$
c_{11}	$u^{80} + 15u^{79} + \cdots + 29696u + 1792$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{80} + 52y^{79} + \cdots - 232y + 1$
c_2, c_6	$y^{80} + 28y^{79} + \cdots - 16y + 1$
c_3, c_4, c_{10}	$y^{80} - 75y^{79} + \cdots + 112y + 16$
c_7, c_8, c_{12}	$y^{80} - 69y^{79} + \cdots + 887y + 49$
c_9	$y^{80} - 15y^{79} + \cdots - 3730320y + 1936$
c_{11}	$y^{80} + 29y^{79} + \cdots - 17334272y + 3211264$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.935308 + 0.435305I$ $a = 0.630371 - 0.162057I$ $b = -0.660075 + 0.935719I$	$2.61436 - 3.12647I$	0
$u = 0.935308 - 0.435305I$ $a = 0.630371 + 0.162057I$ $b = -0.660075 - 0.935719I$	$2.61436 + 3.12647I$	0
$u = 0.796363 + 0.441945I$ $a = 1.309720 - 0.265298I$ $b = -0.680200 - 0.780701I$	$3.09872 + 2.06011I$	0
$u = 0.796363 - 0.441945I$ $a = 1.309720 + 0.265298I$ $b = -0.680200 + 0.780701I$	$3.09872 - 2.06011I$	0
$u = -0.189528 + 0.882751I$ $a = -1.09473 - 1.20457I$ $b = 0.690554 - 1.030640I$	$-5.17726 - 11.04350I$	0
$u = -0.189528 - 0.882751I$ $a = -1.09473 + 1.20457I$ $b = 0.690554 + 1.030640I$	$-5.17726 + 11.04350I$	0
$u = -1.011710 + 0.480638I$ $a = -1.133710 - 0.245043I$ $b = 0.725723 - 0.676763I$	$-1.53219 + 0.73845I$	0
$u = -1.011710 - 0.480638I$ $a = -1.133710 + 0.245043I$ $b = 0.725723 + 0.676763I$	$-1.53219 - 0.73845I$	0
$u = -0.212777 + 0.844785I$ $a = -0.020548 - 0.158541I$ $b = 0.789018 + 0.625628I$	$-3.96644 - 5.45425I$	0
$u = -0.212777 - 0.844785I$ $a = -0.020548 + 0.158541I$ $b = 0.789018 - 0.625628I$	$-3.96644 + 5.45425I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.230270 + 0.805111I$ $a = 1.23350 - 1.18135I$ $b = -0.683422 - 1.002370I$	$0.43105 + 7.58116I$	$0. - 8.40866I$
$u = 0.230270 - 0.805111I$ $a = 1.23350 + 1.18135I$ $b = -0.683422 + 1.002370I$	$0.43105 - 7.58116I$	$0. + 8.40866I$
$u = -0.618703 + 0.562447I$ $a = -0.403548 - 0.367487I$ $b = 0.705780 + 0.826705I$	$0.100507 + 0.533058I$	0
$u = -0.618703 - 0.562447I$ $a = -0.403548 + 0.367487I$ $b = 0.705780 - 0.826705I$	$0.100507 - 0.533058I$	0
$u = -0.569488 + 0.611464I$ $a = -1.42307 - 0.59607I$ $b = 0.707294 - 0.877786I$	$-0.04800 - 4.87101I$	$0. + 6.91200I$
$u = -0.569488 - 0.611464I$ $a = -1.42307 + 0.59607I$ $b = 0.707294 + 0.877786I$	$-0.04800 + 4.87101I$	$0. - 6.91200I$
$u = -1.074410 + 0.502940I$ $a = -0.588936 - 0.064477I$ $b = 0.678298 + 0.993914I$	$-2.48323 + 6.12770I$	0
$u = -1.074410 - 0.502940I$ $a = -0.588936 + 0.064477I$ $b = 0.678298 - 0.993914I$	$-2.48323 - 6.12770I$	0
$u = -0.103875 + 0.802998I$ $a = 0.00658 + 1.73987I$ $b = -0.067956 + 1.091330I$	$-10.00530 - 4.77646I$	$-9.45758 + 3.89445I$
$u = -0.103875 - 0.802998I$ $a = 0.00658 - 1.73987I$ $b = -0.067956 - 1.091330I$	$-10.00530 + 4.77646I$	$-9.45758 - 3.89445I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.787931+0.048490I$ $a=-0.705941+0.065873I$ $b=-0.281416-0.032919I$	$-3.20361+0.00081I$	$-1.068722+0.283561I$
$u=-0.787931-0.048490I$ $a=-0.705941-0.065873I$ $b=-0.281416+0.032919I$	$-3.20361-0.00081I$	$-1.068722-0.283561I$
$u=0.266680+0.740721I$ $a=0.020003-0.258774I$ $b=-0.741730+0.664409I$	$1.44053+2.13306I$	$2.30999-3.70879I$
$u=0.266680-0.740721I$ $a=0.020003+0.258774I$ $b=-0.741730-0.664409I$	$1.44053-2.13306I$	$2.30999+3.70879I$
$u=-1.159110+0.364671I$ $a=-1.146160-0.714549I$ $b=-0.019630-1.019000I$	$-6.79020+0.55303I$	0
$u=-1.159110-0.364671I$ $a=-1.146160+0.714549I$ $b=-0.019630+1.019000I$	$-6.79020-0.55303I$	0
$u=-1.225370+0.147900I$ $a=-0.780791+0.104181I$ $b=0.498165+1.025250I$	$2.35150+1.12565I$	0
$u=-1.225370-0.147900I$ $a=-0.780791-0.104181I$ $b=0.498165-1.025250I$	$2.35150-1.12565I$	0
$u=1.204440+0.280604I$ $a=1.085160-0.510984I$ $b=-0.091913-0.991633I$	$-0.58135+1.79490I$	0
$u=1.204440-0.280604I$ $a=1.085160+0.510984I$ $b=-0.091913+0.991633I$	$-0.58135-1.79490I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.24271$ $a = 1.03607$ $b = -0.509667$	2.60848	0
$u = -1.253110 + 0.182081I$ $a = 0.73377 + 2.17860I$ $b = -0.682535 - 0.698735I$	$-2.04164 + 0.28284I$	0
$u = -1.253110 - 0.182081I$ $a = 0.73377 - 2.17860I$ $b = -0.682535 + 0.698735I$	$-2.04164 - 0.28284I$	0
$u = 0.057893 + 0.724540I$ $a = 0.02131 + 1.71614I$ $b = 0.042565 + 1.034450I$	$-4.07583 + 1.86281I$	$-6.38175 - 4.14946I$
$u = 0.057893 - 0.724540I$ $a = 0.02131 - 1.71614I$ $b = 0.042565 - 1.034450I$	$-4.07583 - 1.86281I$	$-6.38175 + 4.14946I$
$u = 1.301140 + 0.047924I$ $a = 0.851162 - 0.262258I$ $b = -0.353950 - 1.049460I$	$-0.52296 + 3.40294I$	0
$u = 1.301140 - 0.047924I$ $a = 0.851162 + 0.262258I$ $b = -0.353950 + 1.049460I$	$-0.52296 - 3.40294I$	0
$u = -1.278660 + 0.248936I$ $a = 3.06357 + 0.27921I$ $b = -0.663651 + 0.979925I$	$-2.89654 - 4.94761I$	0
$u = -1.278660 - 0.248936I$ $a = 3.06357 - 0.27921I$ $b = -0.663651 - 0.979925I$	$-2.89654 + 4.94761I$	0
$u = 1.291440 + 0.263515I$ $a = 0.690783 + 0.098744I$ $b = -0.552614 + 1.074470I$	$-2.71721 + 1.66465I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.291440 - 0.263515I$ $a = 0.690783 - 0.098744I$ $b = -0.552614 - 1.074470I$	$-2.71721 - 1.66465I$	0
$u = -0.150748 + 0.661001I$ $a = -0.239366 + 0.050399I$ $b = -0.636156 + 0.406125I$	$-5.24145 - 3.04676I$	$-3.68290 + 3.88325I$
$u = -0.150748 - 0.661001I$ $a = -0.239366 - 0.050399I$ $b = -0.636156 - 0.406125I$	$-5.24145 + 3.04676I$	$-3.68290 - 3.88325I$
$u = 1.32459$ $a = 1.00826$ $b = -0.636706$	2.55061	0
$u = -0.192008 + 0.640756I$ $a = -1.55726 - 1.32579I$ $b = 0.639720 - 0.972486I$	$-0.54467 - 3.78067I$	$-2.80718 + 2.65962I$
$u = -0.192008 - 0.640756I$ $a = -1.55726 + 1.32579I$ $b = 0.639720 + 0.972486I$	$-0.54467 + 3.78067I$	$-2.80718 - 2.65962I$
$u = -1.301240 + 0.293419I$ $a = -0.927140 - 0.527970I$ $b = 0.131001 - 1.090690I$	$0.16791 - 5.53918I$	0
$u = -1.301240 - 0.293419I$ $a = -0.927140 + 0.527970I$ $b = 0.131001 + 1.090690I$	$0.16791 + 5.53918I$	0
$u = -1.325140 + 0.190326I$ $a = -1.008040 - 0.071508I$ $b = 0.691635 - 0.250001I$	$4.56651 - 3.15280I$	0
$u = -1.325140 - 0.190326I$ $a = -1.008040 + 0.071508I$ $b = 0.691635 + 0.250001I$	$4.56651 + 3.15280I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.018029+0.660145I$ $a=1.26111-1.82685I$ $b=-0.594114-1.016650I$	$-6.81361+1.68208I$	$-6.85681-2.22241I$
$u=-0.018029-0.660145I$ $a=1.26111+1.82685I$ $b=-0.594114+1.016650I$	$-6.81361-1.68208I$	$-6.85681+2.22241I$
$u=1.345210+0.277688I$ $a=0.996087-0.105982I$ $b=-0.759916-0.328235I$	$-0.53214+6.49202I$	0
$u=1.345210-0.277688I$ $a=0.996087+0.105982I$ $b=-0.759916+0.328235I$	$-0.53214-6.49202I$	0
$u=1.333900+0.342685I$ $a=0.875466-0.582857I$ $b=-0.106119-1.138050I$	$-5.48737+8.90152I$	0
$u=1.333900-0.342685I$ $a=0.875466+0.582857I$ $b=-0.106119+1.138050I$	$-5.48737-8.90152I$	0
$u=1.373660+0.225693I$ $a=-0.91497+1.44154I$ $b=0.784938-0.698652I$	$5.34197+1.50444I$	0
$u=1.373660-0.225693I$ $a=-0.91497-1.44154I$ $b=0.784938+0.698652I$	$5.34197-1.50444I$	0
$u=1.373070+0.272297I$ $a=-2.49390+0.15890I$ $b=0.709636+0.998983I$	$4.42932+7.15478I$	0
$u=1.373070-0.272297I$ $a=-2.49390-0.15890I$ $b=0.709636-0.998983I$	$4.42932-7.15478I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.40021+0.29892I$ $a=0.73966+1.22831I$ $b=-0.826565-0.658485I$	$6.72479-5.90072I$	0
$u=-1.40021-0.29892I$ $a=0.73966-1.22831I$ $b=-0.826565+0.658485I$	$6.72479+5.90072I$	0
$u=-1.39785+0.33105I$ $a=2.28662+0.34323I$ $b=-0.716310+1.030440I$	$5.59576-11.68240I$	0
$u=-1.39785-0.33105I$ $a=2.28662-0.34323I$ $b=-0.716310-1.030440I$	$5.59576+11.68240I$	0
$u=1.39606+0.35207I$ $a=-0.618370+1.142030I$ $b=0.843709-0.622934I$	$1.13138+9.76187I$	0
$u=1.39606-0.35207I$ $a=-0.618370-1.142030I$ $b=0.843709+0.622934I$	$1.13138-9.76187I$	0
$u=1.39337+0.37541I$ $a=-2.20827+0.49155I$ $b=0.709809+1.051400I$	$-0.1684+15.5626I$	0
$u=1.39337-0.37541I$ $a=-2.20827-0.49155I$ $b=0.709809-1.051400I$	$-0.1684-15.5626I$	0
$u=1.45673+0.06706I$ $a=-1.57725+1.11214I$ $b=0.800472-0.820840I$	$6.99812+1.19577I$	0
$u=1.45673-0.06706I$ $a=-1.57725-1.11214I$ $b=0.800472+0.820840I$	$6.99812-1.19577I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.46037 + 0.10688I$ $a = -2.08437 - 0.58760I$ $b = 0.774088 + 0.921625I$	$6.69269 + 7.09251I$	0
$u = 1.46037 - 0.10688I$ $a = -2.08437 + 0.58760I$ $b = 0.774088 - 0.921625I$	$6.69269 - 7.09251I$	0
$u = -1.46462 + 0.02186I$ $a = 1.86638 - 0.87686I$ $b = -0.789181 + 0.874587I$	$10.49570 - 2.95503I$	0
$u = -1.46462 - 0.02186I$ $a = 1.86638 + 0.87686I$ $b = -0.789181 - 0.874587I$	$10.49570 + 2.95503I$	0
$u = -0.228484 + 0.437922I$ $a = 0.219585 - 0.751726I$ $b = 0.600073 + 0.715905I$	$0.276256 + 1.175000I$	$-2.28134 - 3.06853I$
$u = -0.228484 - 0.437922I$ $a = 0.219585 + 0.751726I$ $b = 0.600073 - 0.715905I$	$0.276256 - 1.175000I$	$-2.28134 + 3.06853I$
$u = 0.164199 + 0.364320I$ $a = 0.313161 + 0.253667I$ $b = 0.314435 + 0.339122I$	$0.038038 + 0.896508I$	$0.98315 - 7.41629I$
$u = 0.164199 - 0.364320I$ $a = 0.313161 - 0.253667I$ $b = 0.314435 - 0.339122I$	$0.038038 - 0.896508I$	$0.98315 + 7.41629I$
$u = -0.200756 + 0.298050I$ $a = -1.72839 + 2.08553I$ $b = -0.356274 + 0.854401I$	$-5.18017 - 2.38847I$	$-8.45347 + 4.78125I$
$u = -0.200756 - 0.298050I$ $a = -1.72839 - 2.08553I$ $b = -0.356274 - 0.854401I$	$-5.18017 + 2.38847I$	$-8.45347 - 4.78125I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2a^2 - 4a + 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6	$(y^2 + y + 1)^2$
c_3, c_4, c_9 c_{10}	$(y-2)^4$
c_7, c_8, c_{12}	$(y-1)^4$
c_{11}	y^4

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 0.292893 + 1.224750I$ $b = -0.500000 - 0.866025I$	$-3.28987 + 2.02988I$	$-2.00000 - 3.46410I$
$u = 1.00000$ $a = 0.292893 - 1.224750I$ $b = -0.500000 + 0.866025I$	$-3.28987 - 2.02988I$	$-2.00000 + 3.46410I$
$u = 1.00000$ $a = 1.70711 + 1.22474I$ $b = -0.500000 + 0.866025I$	$-3.28987 - 2.02988I$	$-2.00000 + 3.46410I$
$u = 1.00000$ $a = 1.70711 - 1.22474I$ $b = -0.500000 - 0.866025I$	$-3.28987 + 2.02988I$	$-2.00000 - 3.46410I$

III. $\boldsymbol{I_3^u = \langle b^2 - b + 1,\ a + 1,\ u + 1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

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

$$a_2 = \begin{pmatrix} -1 \\ b \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -b+1 \\ b-1 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0 \\ b-1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0 \\ b-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4b + 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = \quad 0.500000 + 0.866025I$	$1.64493 + 2.02988I$	$0. - 3.46410I$
$u = -1.00000$ $a = -1.00000$ $b = \quad 0.500000 - 0.866025I$	$1.64493 - 2.02988I$	$0. + 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$((u^2-u+1)^3)(u^{80}+28u^{79}+\cdots-16u+1)$
c_2	$((u^2-u+1)^2)(u^2+u+1)(u^{80}-2u^{79}+\cdots+6u+1)$
c_3, c_4, c_{10}	$u^2(u^2-2)^2(u^{80}-u^{79}+\cdots+12u+4)$
c_6	$(u^2-u+1)(u^2+u+1)^2(u^{80}-2u^{79}+\cdots+6u+1)$
c_7, c_8	$((u-1)^4)(u+1)^2(u^{80}-3u^{79}+\cdots+39u+7)$
c_9	$u^2(u^2-2)^2(u^{80}+3u^{79}+\cdots-1980u+44)$
c_{11}	$u^6(u^{80}+15u^{79}+\cdots+29696u+1792)$
c_{12}	$((u-1)^2)(u+1)^4(u^{80}-3u^{79}+\cdots+39u+7)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y^2+y+1)^3)(y^{80}+52y^{79}+\cdots-232y+1)$
c_2, c_6	$((y^2+y+1)^3)(y^{80}+28y^{79}+\cdots-16y+1)$
c_3, c_4, c_{10}	$y^2(y-2)^4(y^{80}-75y^{79}+\cdots+112y+16)$
c_7, c_8, c_{12}	$((y-1)^6)(y^{80}-69y^{79}+\cdots+887y+49)$
c_9	$y^2(y-2)^4(y^{80}-15y^{79}+\cdots-3730320y+1936)$
c_{11}	$y^6(y^{80}+29y^{79}+\cdots-1.73343\times 10^7 y+3211264)$