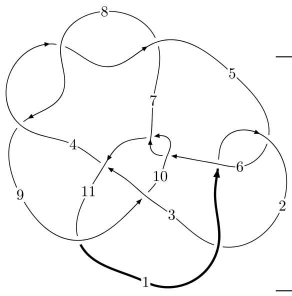
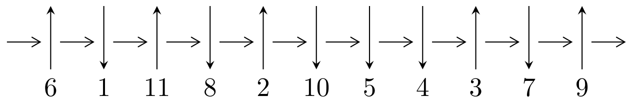
$11a_{168}$ ($K11a_{168}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -1.78806 \times 10^{130} u^{65} - 3.53692 \times 10^{130} u^{64} + \cdots + 1.19375 \times 10^{131} b - 9.79607 \times 10^{131}, \\
& -1.13631 \times 10^{131} u^{65} + 6.95957 \times 10^{131} u^{64} + \cdots + 2.74563 \times 10^{132} a - 8.44042 \times 10^{133}, \\
& u^{66} + 3u^{65} + \cdots - 49u + 23 \rangle \\
I_2^u = \langle & u^{13} + u^{12} - 7u^{11} - 7u^{10} + 19u^9 + 21u^8 - 26u^7 - 35u^6 + 19u^5 + 33u^4 - 4u^3 - 18u^2 + b - u + 4, \\
& u^{13} + 2u^{12} - 5u^{11} - 12u^{10} + 7u^9 + 28u^8 + 2u^7 - 33u^6 - 14u^5 + 20u^4 + 16u^3 - 5u^2 + a - 5u, \\
& u^{14} + 2u^{13} - 5u^{12} - 12u^{11} + 7u^{10} + 28u^9 + 2u^8 - 33u^7 - 13u^6 + 21u^5 + 14u^4 - 7u^3 - 6u^2 + u + 1 \rangle \\
I_3^u = \langle & -u^5 + 2u^4 + u^3 - 2u^2 + b - u,\ -u^5 + 2u^4 + a - u, \\
& u^{10} - 4u^9 + 2u^8 + 8u^7 - 5u^6 - 9u^5 + 4u^4 + 5u^3 - u^2 - u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 90 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. $I_1^u = \langle -1.79 \times 10^{130}u^{65} - 3.54 \times 10^{130}u^{64} + \cdots + 1.19 \times 10^{131}b - 9.80 \times 10^{131},\ -1.14 \times 10^{131}u^{65} + 6.96 \times 10^{131}u^{64} + \cdots + 2.75 \times 10^{132}a - 8.44 \times 10^{133},\ u^{66} + 3u^{65} + \cdots - 49u + 23 \rangle$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.0413863u^{65} - 0.253478u^{64} + \cdots - 71.6967u + 30.7413 \\ 0.149785u^{65} + 0.296286u^{64} + \cdots - 25.4119u + 8.20610 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.108398u^{65} - 0.549764u^{64} + \cdots - 46.2848u + 22.5351 \\ 0.149785u^{65} + 0.296286u^{64} + \cdots - 25.4119u + 8.20610 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.265019u^{65} - 0.684530u^{64} + \cdots + 16.5444u - 1.80031 \\ 0.0970785u^{65} + 0.246976u^{64} + \cdots - 17.2639u + 5.68359 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0633462u^{65} + 0.131815u^{64} + \cdots + 22.7802u - 6.63331 \\ 0.0144495u^{65} + 0.0765866u^{64} + \cdots + 23.6745u - 8.68302 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.241521u^{65} + 0.174805u^{64} + \cdots - 90.4271u + 35.3903 \\ 0.0842047u^{65} + 0.187816u^{64} + \cdots - 24.7015u + 6.71251 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.352721u^{65} - 0.894904u^{64} + \cdots + 18.6230u - 2.09481 \\ 0.119566u^{65} + 0.307098u^{64} + \cdots - 14.7416u + 4.76525 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.204510u^{65} - 0.292070u^{64} + \cdots + 36.4550u - 17.5683 \\ 0.00530887u^{65} + 0.0353219u^{64} + \cdots + 5.95418u - 2.01143 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.204510u^{65} - 0.292070u^{64} + \cdots + 36.4550u - 17.5683 \\ 0.00530887u^{65} + 0.0353219u^{64} + \cdots + 5.95418u - 2.01143 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.39895u^{65} + 3.59121u^{64} + \cdots - 107.584u + 25.1145$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{66} + 5u^{65} + \cdots + 70u + 28$
c_2	$u^{66} + 27u^{65} + \cdots + 5684u + 784$
c_3	$u^{66} + 7u^{65} + \cdots - 293u + 131$
c_4, c_7, c_8	$u^{66} - 2u^{65} + \cdots - 20u + 1$
c_6, c_{10}	$u^{66} + 3u^{65} + \cdots - 49u + 23$
c_9	$u^{66} + 2u^{64} + \cdots + 24u + 1$
c_{11}	$u^{66} + 5u^{65} + \cdots + 3276u + 667$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{66} + 27y^{65} + \cdots + 5684y + 784$
c_2	$y^{66} + 27y^{65} + \cdots + 5306896y + 614656$
c_3	$y^{66} - 15y^{65} + \cdots - 380599y + 17161$
c_4, c_7, c_8	$y^{66} + 72y^{65} + \cdots - 2y + 1$
c_6, c_{10}	$y^{66} - 33y^{65} + \cdots - 12015y + 529$
c_9	$y^{66} + 4y^{65} + \cdots - 30y + 1$
c_{11}	$y^{66} - 15y^{65} + \cdots - 11892756y + 444889$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.163567 + 0.974073I$ $a = 0.696136 - 0.268743I$ $b = -0.580597 - 1.004650I$	$1.17857 + 6.31445I$	$0. - 8.26296I$
$u = 0.163567 - 0.974073I$ $a = 0.696136 + 0.268743I$ $b = -0.580597 + 1.004650I$	$1.17857 - 6.31445I$	$0. + 8.26296I$
$u = -0.910079 + 0.369691I$ $a = 0.303793 - 0.056648I$ $b = -0.458628 + 0.318939I$	$-1.48654 + 0.69916I$	$-4.61313 - 2.12935I$
$u = -0.910079 - 0.369691I$ $a = 0.303793 + 0.056648I$ $b = -0.458628 - 0.318939I$	$-1.48654 - 0.69916I$	$-4.61313 + 2.12935I$
$u = 0.975903 + 0.320029I$ $a = -0.65293 - 2.09713I$ $b = 0.603233 - 1.184400I$	$-1.41728 - 5.05455I$	$0. + 12.20236I$
$u = 0.975903 - 0.320029I$ $a = -0.65293 + 2.09713I$ $b = 0.603233 + 1.184400I$	$-1.41728 + 5.05455I$	$0. - 12.20236I$
$u = -0.881923 + 0.307874I$ $a = -0.200444 + 0.477752I$ $b = 0.744898 - 0.630242I$	$0.032145 + 0.573668I$	$0. - 4.06060I$
$u = -0.881923 - 0.307874I$ $a = -0.200444 - 0.477752I$ $b = 0.744898 + 0.630242I$	$0.032145 - 0.573668I$	$0. + 4.06060I$
$u = -0.950720 + 0.502350I$ $a = -0.877967 + 0.026202I$ $b = -1.016380 + 0.270524I$	$6.72384 - 0.00894I$	0
$u = -0.950720 - 0.502350I$ $a = -0.877967 - 0.026202I$ $b = -1.016380 - 0.270524I$	$6.72384 + 0.00894I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.895747 + 0.113324I$ $a = -0.210467 - 0.615238I$ $b = 0.723006 - 0.613380I$	$0.35093 - 2.50495I$	$1.76854 + 6.87309I$
$u = 0.895747 - 0.113324I$ $a = -0.210467 + 0.615238I$ $b = 0.723006 + 0.613380I$	$0.35093 + 2.50495I$	$1.76854 - 6.87309I$
$u = 0.513355 + 0.969879I$ $a = -0.554489 - 0.295569I$ $b = 0.061422 + 0.772480I$	$3.81529 - 4.03349I$	0
$u = 0.513355 - 0.969879I$ $a = -0.554489 + 0.295569I$ $b = 0.061422 - 0.772480I$	$3.81529 + 4.03349I$	0
$u = -1.003490 + 0.462245I$ $a = -1.38592 + 1.18971I$ $b = 0.658324 + 1.027690I$	$-1.18063 + 5.94761I$	0
$u = -1.003490 - 0.462245I$ $a = -1.38592 - 1.18971I$ $b = 0.658324 - 1.027690I$	$-1.18063 - 5.94761I$	0
$u = 0.213343 + 0.781690I$ $a = 1.040630 + 0.205621I$ $b = -0.630515 + 0.547682I$	$2.50610 + 1.55549I$	$4.46271 - 2.30891I$
$u = 0.213343 - 0.781690I$ $a = 1.040630 - 0.205621I$ $b = -0.630515 - 0.547682I$	$2.50610 - 1.55549I$	$4.46271 + 2.30891I$
$u = -0.435912 + 0.662170I$ $a = 0.380983 + 0.238349I$ $b = -0.160229 + 0.802581I$	$-1.40850 + 1.04300I$	$-5.70485 - 4.49521I$
$u = -0.435912 - 0.662170I$ $a = 0.380983 - 0.238349I$ $b = -0.160229 - 0.802581I$	$-1.40850 - 1.04300I$	$-5.70485 + 4.49521I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.142840 + 0.408088I$ $a = 0.12099 - 2.00122I$ $b = -0.017416 - 1.388480I$	$-0.42442 + 7.17415I$	0
$u = -1.142840 - 0.408088I$ $a = 0.12099 + 2.00122I$ $b = -0.017416 + 1.388480I$	$-0.42442 - 7.17415I$	0
$u = 1.120610 + 0.507476I$ $a = -0.213239 + 0.187929I$ $b = -0.870327 - 0.488823I$	$-0.11868 - 6.20190I$	0
$u = 1.120610 - 0.507476I$ $a = -0.213239 - 0.187929I$ $b = -0.870327 + 0.488823I$	$-0.11868 + 6.20190I$	0
$u = 0.348013 + 0.685297I$ $a = 0.385405 + 0.184638I$ $b = -0.782208 + 0.911468I$	$8.00774 - 2.72139I$	$5.67340 + 3.59670I$
$u = 0.348013 - 0.685297I$ $a = 0.385405 - 0.184638I$ $b = -0.782208 - 0.911468I$	$8.00774 + 2.72139I$	$5.67340 - 3.59670I$
$u = 1.174490 + 0.439061I$ $a = 0.55437 + 2.35095I$ $b = -0.581613 + 0.937637I$	$5.38489 - 7.07352I$	0
$u = 1.174490 - 0.439061I$ $a = 0.55437 - 2.35095I$ $b = -0.581613 - 0.937637I$	$5.38489 + 7.07352I$	0
$u = 1.082830 + 0.650499I$ $a = -0.763412 - 0.125255I$ $b = -0.584235 - 0.734442I$	$6.02312 - 2.42646I$	0
$u = 1.082830 - 0.650499I$ $a = -0.763412 + 0.125255I$ $b = -0.584235 + 0.734442I$	$6.02312 + 2.42646I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.240570 + 0.249436I$ $a = -0.25707 - 1.89384I$ $b = -0.025398 - 1.232230I$	$-6.29461 - 3.96507I$	0
$u = 1.240570 - 0.249436I$ $a = -0.25707 + 1.89384I$ $b = -0.025398 + 1.232230I$	$-6.29461 + 3.96507I$	0
$u = -0.456533 + 1.193620I$ $a = -0.479732 + 0.721690I$ $b = 0.787442 + 0.623044I$	$9.11482 - 3.60155I$	0
$u = -0.456533 - 1.193620I$ $a = -0.479732 - 0.721690I$ $b = 0.787442 - 0.623044I$	$9.11482 + 3.60155I$	0
$u = 0.970943 + 0.846933I$ $a = -0.110406 - 0.251793I$ $b = 0.601898 + 0.133589I$	$3.63388 - 3.20673I$	0
$u = 0.970943 - 0.846933I$ $a = -0.110406 + 0.251793I$ $b = 0.601898 - 0.133589I$	$3.63388 + 3.20673I$	0
$u = -1.233540 + 0.392626I$ $a = 0.21257 - 2.00569I$ $b = -0.71720 - 1.24384I$	$3.82726 + 6.26660I$	0
$u = -1.233540 - 0.392626I$ $a = 0.21257 + 2.00569I$ $b = -0.71720 + 1.24384I$	$3.82726 - 6.26660I$	0
$u = -1.317410 + 0.143765I$ $a = 0.58844 - 1.71642I$ $b = 0.100771 - 0.992542I$	$-4.86658 + 0.02437I$	0
$u = -1.317410 - 0.143765I$ $a = 0.58844 + 1.71642I$ $b = 0.100771 + 0.992542I$	$-4.86658 - 0.02437I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.599634+0.293642I$ $a=-0.360866-1.059790I$ $b=-1.107300-0.801620I$	$7.97540+3.77535I$	$12.7373-9.7511I$
$u=-0.599634-0.293642I$ $a=-0.360866+1.059790I$ $b=-1.107300+0.801620I$	$7.97540-3.77535I$	$12.7373+9.7511I$
$u=1.189390+0.620718I$ $a=-0.11891+1.45206I$ $b=0.333461+1.110410I$	$0.1230110+0.0150349I$	0
$u=1.189390-0.620718I$ $a=-0.11891-1.45206I$ $b=0.333461-1.110410I$	$0.1230110-0.0150349I$	0
$u=1.229960+0.588843I$ $a=0.98305+1.56765I$ $b=-0.665256+1.110210I$	$-1.99580-11.89200I$	0
$u=1.229960-0.588843I$ $a=0.98305-1.56765I$ $b=-0.665256-1.110210I$	$-1.99580+11.89200I$	0
$u=0.626363+0.088665I$ $a=2.69216-3.52949I$ $b=-0.309304-0.848107I$	$3.63938-2.52827I$	$-1.147337-0.754292I$
$u=0.626363-0.088665I$ $a=2.69216+3.52949I$ $b=-0.309304+0.848107I$	$3.63938+2.52827I$	$-1.147337+0.754292I$
$u=-1.218200+0.688747I$ $a=0.95882-1.32677I$ $b=-0.514831-1.018630I$	$-3.18756+4.76965I$	0
$u=-1.218200-0.688747I$ $a=0.95882+1.32677I$ $b=-0.514831+1.018630I$	$-3.18756-4.76965I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.582346 + 0.119440I$ $a = \quad 0.65201 + 3.57882I$ $b = -0.423495 + 1.216100I$	$2.04523 - 4.42740I$	$0.06553 + 3.55579I$
$u = -0.582346 - 0.119440I$ $a = \quad 0.65201 - 3.57882I$ $b = -0.423495 - 1.216100I$	$2.04523 + 4.42740I$	$0.06553 - 3.55579I$
$u = -1.214820 + 0.714561I$ $a = \quad 0.338561 + 0.013564I$ $b = \quad 0.986535 - 0.471169I$	$6.64257 + 10.26800I$	0
$u = -1.214820 - 0.714561I$ $a = \quad 0.338561 - 0.013564I$ $b = \quad 0.986535 + 0.471169I$	$6.64257 - 10.26800I$	0
$u = -0.29930 + 1.39073I$ $a = -0.274401 - 0.646909I$ $b = \quad 0.664803 - 1.023810I$	$7.89254 - 9.07916I$	0
$u = -0.29930 - 1.39073I$ $a = -0.274401 + 0.646909I$ $b = \quad 0.664803 + 1.023810I$	$7.89254 + 9.07916I$	0
$u = \quad 0.477375 + 0.237133I$ $a = \quad 1.096490 - 0.505493I$ $b = \quad 0.681358 + 0.179083I$	$1.48045 + 0.06659I$	$8.57715 + 1.33589I$
$u = \quad 0.477375 - 0.237133I$ $a = \quad 1.096490 + 0.505493I$ $b = \quad 0.681358 - 0.179083I$	$1.48045 - 0.06659I$	$8.57715 - 1.33589I$
$u = -1.51195 + 0.21374I$ $a = \quad 0.104633 + 1.369450I$ $b = -0.342184 + 0.961816I$	$-4.43757 - 1.23820I$	0
$u = -1.51195 - 0.21374I$ $a = \quad 0.104633 - 1.369450I$ $b = -0.342184 - 0.961816I$	$-4.43757 + 1.23820I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.34952+0.73556I$ $a=-0.72074+1.63019I$ $b=0.695108+1.158380I$	$4.5173+16.3689I$	0
$u=-1.34952-0.73556I$ $a=-0.72074-1.63019I$ $b=0.695108-1.158380I$	$4.5173-16.3689I$	0
$u=1.13836+1.03918I$ $a=-0.99274-1.43051I$ $b=0.496265-1.089620I$	$1.16169-7.37354I$	0
$u=1.13836-1.03918I$ $a=-0.99274+1.43051I$ $b=0.496265+1.089620I$	$1.16169+7.37354I$	0
$u=0.247407+0.342006I$ $a=1.23861-0.86436I$ $b=-0.851416-0.882734I$	$8.18428+3.39136I$	$6.60752+1.70089I$
$u=0.247407-0.342006I$ $a=1.23861+0.86436I$ $b=-0.851416+0.882734I$	$8.18428-3.39136I$	$6.60752-1.70089I$

II.

$$I_2^u = \langle u^{13}+u^{12}+\cdots+b+4,\ u^{13}+2u^{12}+\cdots+a-5u,\ u^{14}+2u^{13}+\cdots+u+1\rangle$$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-u^{13}-2u^{12}+\cdots+5u^2+5u\\-u^{13}-u^{12}+\cdots+u-4\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^{12}-2u^{11}+\cdots+4u+4\\-u^{13}-u^{12}+\cdots+u-4\end{pmatrix}$$
$$a_3 = \begin{pmatrix}u^{13}+u^{12}+\cdots+5u+4\\-4u^{13}-4u^{12}+\cdots+51u^2-10\end{pmatrix}$$
$$a_5 = \begin{pmatrix}2u^{13}+4u^{12}+\cdots-8u^2+3\\4u^{13}+7u^{12}+\cdots-6u+4\end{pmatrix}$$
$$a_8 = \begin{pmatrix}2u^{13}+3u^{12}+\cdots-4u+2\\-u^{12}-u^{11}+\cdots+5u-1\end{pmatrix}$$
$$a_4 = \begin{pmatrix}u^{11}+2u^{10}+\cdots+6u+1\\-3u^{13}-3u^{12}+\cdots-u-8\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u^{12}+2u^{11}+\cdots-6u-5\\u^{13}+u^{12}+\cdots-20u^2+5\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u^{12}+2u^{11}+\cdots-6u-5\\u^{13}+u^{12}+\cdots-20u^2+5\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^{13}-9u^{12}+20u^{11}+56u^{10}-28u^9-137u^8-11u^7+169u^6+61u^5-113u^4-60u^3+42u^2+22u-10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{14} - u^{13} + \cdots + 4u^2 + 1$
c_2	$u^{14} + 7u^{13} + \cdots + 8u + 1$
c_3	$u^{14} + 2u^{11} - 2u^{10} - u^9 - u^8 - 2u^7 + 4u^6 + 2u^5 - 2u^3 - u + 1$
c_4	$u^{14} - u^{13} + \cdots + 4u^2 + 1$
c_5	$u^{14} + u^{13} + \cdots + 4u^2 + 1$
c_6	$u^{14} + 2u^{13} + \cdots + u + 1$
c_7, c_8	$u^{14} + u^{13} + \cdots + 4u^2 + 1$
c_9	$u^{14} + u^{13} + 2u^{11} - 2u^9 + 4u^8 + 2u^7 - u^6 + u^5 - 2u^4 - 2u^3 + 1$
c_{10}	$u^{14} - 2u^{13} + \cdots - u + 1$
c_{11}	$u^{14} - 4u^{12} + \cdots - 6u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{14} + 7y^{13} + \cdots + 8y + 1$
c_2	$y^{14} + 7y^{13} + \cdots + 4y + 1$
c_3	$y^{14} - 4y^{12} + \cdots - y + 1$
c_4, c_7, c_8	$y^{14} + 15y^{13} + \cdots + 8y + 1$
c_6, c_{10}	$y^{14} - 14y^{13} + \cdots - 13y + 1$
c_9	$y^{14} - y^{13} + \cdots - 4y^2 + 1$
c_{11}	$y^{14} - 8y^{13} + \cdots - 6y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.893293 + 0.330555I$ $a = -1.15727 - 1.80484I$ $b = 0.592535 - 1.077080I$	$-1.31269 - 4.25298I$	$-1.95653 + 2.08128I$
$u = 0.893293 - 0.330555I$ $a = -1.15727 + 1.80484I$ $b = 0.592535 + 1.077080I$	$-1.31269 + 4.25298I$	$-1.95653 - 2.08128I$
$u = -0.647670 + 0.662108I$ $a = -0.510220 - 1.279880I$ $b = -0.233748 + 0.627547I$	$4.41438 + 3.29645I$	$4.47890 - 2.20670I$
$u = -0.647670 - 0.662108I$ $a = -0.510220 + 1.279880I$ $b = -0.233748 - 0.627547I$	$4.41438 - 3.29645I$	$4.47890 + 2.20670I$
$u = -1.004110 + 0.573368I$ $a = 0.83903 - 2.27992I$ $b = -0.459822 - 1.169450I$	$2.10465 + 6.34173I$	$0.34884 - 6.28453I$
$u = -1.004110 - 0.573368I$ $a = 0.83903 + 2.27992I$ $b = -0.459822 + 1.169450I$	$2.10465 - 6.34173I$	$0.34884 + 6.28453I$
$u = 0.630522 + 0.153615I$ $a = 0.851195 - 1.013010I$ $b = 0.557304 + 0.531416I$	$0.482214 + 0.495105I$	$1.13492 - 1.08750I$
$u = 0.630522 - 0.153615I$ $a = 0.851195 + 1.013010I$ $b = 0.557304 - 0.531416I$	$0.482214 - 0.495105I$	$1.13492 + 1.08750I$
$u = -0.599098 + 0.137170I$ $a = -0.253842 - 0.494489I$ $b = -1.007620 - 0.852501I$	$7.61522 + 3.62847I$	$-8.05550 - 2.25038I$
$u = -0.599098 - 0.137170I$ $a = -0.253842 + 0.494489I$ $b = -1.007620 + 0.852501I$	$7.61522 - 3.62847I$	$-8.05550 + 2.25038I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.43294 + 0.11177I$ $a = 0.13928 + 1.45428I$ $b = 0.336823 + 0.911322I$	$-3.87634 + 1.39907I$	$1.20170 - 5.22268I$
$u = 1.43294 - 0.11177I$ $a = 0.13928 - 1.45428I$ $b = 0.336823 - 0.911322I$	$-3.87634 - 1.39907I$	$1.20170 + 5.22268I$
$u = -1.70588 + 0.11918I$ $a = 0.591819 + 1.217770I$ $b = -0.285468 + 0.936375I$	$-1.20276 - 1.17534I$	$-6.65232 + 0.40861I$
$u = -1.70588 - 0.11918I$ $a = 0.591819 - 1.217770I$ $b = -0.285468 - 0.936375I$	$-1.20276 + 1.17534I$	$-6.65232 - 0.40861I$

III.

$\boldsymbol{I_3^u = \langle -u^5+2u^4+u^3-2u^2+b-u,\ -u^5+2u^4+a-u,\ u^{10}-4u^9+\cdots-u+1\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} u^5-2u^4+u \\ u^5-2u^4-u^3+2u^2+u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3-2u^2 \\ u^5-2u^4-u^3+2u^2+u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^8-4u^7+3u^6+5u^5-5u^4-3u^3+2u^2+u \\ u^5-2u^4-u^3+2u^2+u-1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^8-4u^7+3u^6+5u^5-5u^4-3u^3+2u^2+u \\ u^5-2u^4-u^3+2u^2+u-1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u \\ u^3-u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^9+4u^8-4u^7-2u^6+5u^5-2u^4-2u^3+2u^2+u \\ -u^9+2u^8+3u^7-6u^6-3u^5+4u^4+2u^3+u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^2-2u+1 \\ u^4-2u^3+2u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^2-2u+1 \\ u^4-2u^3+2u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^5+8u^4+4u^3-8u^2-4u+2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^2 - u + 1)^5$
c_2	$(u^2 + u + 1)^5$
c_3, c_4, c_7 c_8	$u^{10} + 2u^8 - u^6 - u^5 - 2u^4 - u^3 + u^2 + u + 1$
c_6, c_{10}	$u^{10} - 4u^9 + 2u^8 + 8u^7 - 5u^6 - 9u^5 + 4u^4 + 5u^3 - u^2 - u + 1$
c_9	$u^{10} - 2u^8 - 4u^7 + u^6 + 5u^5 + 16u^4 + 11u^3 + 7u^2 + 3u + 1$
c_{11}	$u^{10} + 4u^9 + 2u^8 - 8u^7 - 5u^6 + 9u^5 + 4u^4 - 5u^3 - u^2 + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$(y^2+y+1)^5$
c_3, c_4, c_7 c_8	$y^{10}+4y^9+2y^8-8y^7-5y^6+9y^5+4y^4-5y^3-y^2+y+1$
c_6, c_{10}, c_{11}	$y^{10}-12y^9+\cdots-3y+1$
c_9	$y^{10}-4y^9+6y^8+12y^7-9y^6+69y^5+180y^4+75y^3+15y^2+5y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.904891 + 0.285000I$ $a = -1.49566 + 2.57455I$ $b = 0.500000 + 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = -0.904891 - 0.285000I$ $a = -1.49566 - 2.57455I$ $b = 0.500000 - 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = -0.628015 + 0.487800I$ $a = 0.387710 + 0.820455I$ $b = 0.500000 - 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = -0.628015 - 0.487800I$ $a = 0.387710 - 0.820455I$ $b = 0.500000 + 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = 1.313160 + 0.316773I$ $a = -0.878996 - 0.922989I$ $b = 0.500000 - 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = 1.313160 - 0.316773I$ $a = -0.878996 + 0.922989I$ $b = 0.500000 + 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = 0.338512 + 0.395352I$ $a = 0.463484 + 0.404816I$ $b = 0.500000 + 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = 0.338512 - 0.395352I$ $a = 0.463484 - 0.404816I$ $b = 0.500000 - 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = 1.88124 + 0.12422I$ $a = 0.023461 + 1.248230I$ $b = 0.500000 + 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = 1.88124 - 0.12422I$ $a = 0.023461 - 1.248230I$ $b = 0.500000 - 0.866025I$	$-2.02988I$	$0. + 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^5)(u^{14}-u^{13}+\cdots+4u^2+1)(u^{66}+5u^{65}+\cdots+70u+28)$
c_2	$((u^2+u+1)^5)(u^{14}+7u^{13}+\cdots+8u+1)$ $\cdot(u^{66}+27u^{65}+\cdots+5684u+784)$
c_3	$(u^{10}+2u^8-u^6-u^5-2u^4-u^3+u^2+u+1)$ $\cdot(u^{14}+2u^{11}-2u^{10}-u^9-u^8-2u^7+4u^6+2u^5-2u^3-u+1)$ $\cdot(u^{66}+7u^{65}+\cdots-293u+131)$
c_4	$(u^{10}+2u^8+\cdots+u+1)(u^{14}-u^{13}+\cdots+4u^2+1)$ $\cdot(u^{66}-2u^{65}+\cdots-20u+1)$
c_5	$((u^2-u+1)^5)(u^{14}+u^{13}+\cdots+4u^2+1)(u^{66}+5u^{65}+\cdots+70u+28)$
c_6	$(u^{10}-4u^9+2u^8+8u^7-5u^6-9u^5+4u^4+5u^3-u^2-u+1)$ $\cdot(u^{14}+2u^{13}+\cdots+u+1)(u^{66}+3u^{65}+\cdots-49u+23)$
c_7, c_8	$(u^{10}+2u^8+\cdots+u+1)(u^{14}+u^{13}+\cdots+4u^2+1)$ $\cdot(u^{66}-2u^{65}+\cdots-20u+1)$
c_9	$(u^{10}-2u^8-4u^7+u^6+5u^5+16u^4+11u^3+7u^2+3u+1)$ $\cdot(u^{14}+u^{13}+2u^{11}-2u^9+4u^8+2u^7-u^6+u^5-2u^4-2u^3+1)$ $\cdot(u^{66}+2u^{64}+\cdots+24u+1)$
c_{10}	$(u^{10}-4u^9+2u^8+8u^7-5u^6-9u^5+4u^4+5u^3-u^2-u+1)$ $\cdot(u^{14}-2u^{13}+\cdots-u+1)(u^{66}+3u^{65}+\cdots-49u+23)$
c_{11}	$(u^{10}+4u^9+2u^8-8u^7-5u^6+9u^5+4u^4-5u^3-u^2+u+1)$ $\cdot(u^{14}-4u^{12}+\cdots-6u+1)(u^{66}+5u^{65}+\cdots+3276u+667)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y^2+y+1)^5)(y^{14}+7y^{13}+\cdots+8y+1)$ $\cdot(y^{66}+27y^{65}+\cdots+5684y+784)$
c_2	$((y^2+y+1)^5)(y^{14}+7y^{13}+\cdots+4y+1)$ $\cdot(y^{66}+27y^{65}+\cdots+5306896y+614656)$
c_3	$(y^{10}+4y^9+2y^8-8y^7-5y^6+9y^5+4y^4-5y^3-y^2+y+1)$ $\cdot(y^{14}-4y^{12}+\cdots-y+1)(y^{66}-15y^{65}+\cdots-380599y+17161)$
c_4, c_7, c_8	$(y^{10}+4y^9+2y^8-8y^7-5y^6+9y^5+4y^4-5y^3-y^2+y+1)$ $\cdot(y^{14}+15y^{13}+\cdots+8y+1)(y^{66}+72y^{65}+\cdots-2y+1)$
c_6, c_{10}	$(y^{10}-12y^9+\cdots-3y+1)(y^{14}-14y^{13}+\cdots-13y+1)$ $\cdot(y^{66}-33y^{65}+\cdots-12015y+529)$
c_9	$(y^{10}-4y^9+6y^8+12y^7-9y^6+69y^5+180y^4+75y^3+15y^2+5y+1)$ $\cdot(y^{14}-y^{13}+\cdots-4y^2+1)(y^{66}+4y^{65}+\cdots-30y+1)$
c_{11}	$(y^{10}-12y^9+\cdots-3y+1)(y^{14}-8y^{13}+\cdots-6y+1)$ $\cdot(y^{66}-15y^{65}+\cdots-11892756y+444889)$