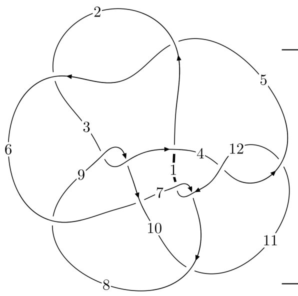
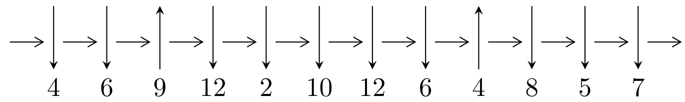
$12n_{0801}$ $(K12n_{0801})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 139726521u^{15} - 216650645u^{14} + \cdots + 864519475b - 245546684,\ a-1,\ u^{16} - u^{15} + \cdots - 3u^2 - 1\rangle$$
$$I_2^u = \langle -u^6 + u^5 - u^4 + 10u^3 + 13u^2 + 5b + u + 1,\ a+1,\ u^7 + 5u^5 - 4u^4 + 7u^3 - 4u^2 + 3u - 1\rangle$$
$$I_3^u = \langle -51u^{11} - 95u^{10} + \cdots + 185b + 342,\ -224u^{11} - 188u^{10} + \cdots + 185a - 115,$$
$$u^{12} + u^{11} + 5u^{10} + 5u^9 + 9u^8 + 6u^7 + u^6 - 5u^5 - 11u^4 - 15u^3 - 11u^2 - 4u - 1\rangle$$
$$I_4^u = \langle -964489278415u^{11} + 117148284431u^{10} + \cdots + 3010179062836623b + 191146639374112,$$
$$199776571521368u^{11} - 160244377858182u^{10} + \cdots + 8729519282225067a - 77902584840567367,$$
$$u^{12} - u^{11} + 15u^{10} - 3u^9 + 83u^8 + 74u^7 + 245u^6 + 355u^5 + 477u^4 + 227u^3 - 109u^2 - 372u + 29\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 47 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. $I^u_1 = \langle 1.40 \times 10^8 u^{15} - 2.17 \times 10^8 u^{14} + \cdots + 8.65 \times 10^8 b - 2.46 \times 10^8,\ a - 1,\ u^{16} - u^{15} + \cdots - 3u^2 - 1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\-0.161623u^{15} + 0.250602u^{14} + \cdots - 0.962108u + 0.284027\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\-0.161623u^{15} + 0.250602u^{14} + \cdots - 0.962108u + 0.284027\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.0889791u^{15} + 0.0677199u^{14} + \cdots - 2.28403u + 0.161623\\-0.457683u^{15} + 0.568849u^{14} + \cdots + 0.832397u + 0.604244\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u\\0.0889791u^{15} - 0.0677199u^{14} + \cdots + 1.28403u - 0.161623\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.0889791u^{15} - 0.0677199u^{14} + \cdots + 2.28403u - 0.161623\\0.158988u^{15} - 0.177074u^{14} + \cdots + 1.37301u - 0.140364\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.127953u^{15} + 0.0697779u^{14} + \cdots + 0.974879u + 0.182022\\-0.145027u^{15} + 0.362922u^{14} + \cdots + 0.962468u - 0.461260\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.831219u^{15} + 0.864475u^{14} + \cdots - 2.13140u + 0.842638\\-0.913992u^{15} + 1.16510u^{14} + \cdots + 1.31352u + 1.03630\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0.476653u^{15} - 0.527214u^{14} + \cdots + 1.36265u - 0.787127\\0.687117u^{15} - 0.912956u^{14} + \cdots + 0.517385u - 0.960091\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{447574308}{864519475}u^{15} - \frac{223753298}{172903895}u^{14} + \cdots + \frac{6627598422}{864519475}u - \frac{4377348818}{864519475}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{16} - 2u^{15} + \cdots - 63u - 27$
c_2, c_5, c_6	$u^{16} + 2u^{15} + \cdots + 14u + 1$
c_3, c_9	$u^{16} + 7u^{15} + \cdots + 39u + 19$
c_4, c_7, c_{11} c_{12}	$u^{16} + u^{15} + \cdots - 3u^2 - 1$
c_8	$u^{16} + 2u^{15} + \cdots + 4u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{16} + 36y^{15} + \cdots - 4131y + 729$
c_2, c_5, c_6	$y^{16} + 4y^{15} + \cdots - 104y + 1$
c_3, c_9	$y^{16} - 17y^{15} + \cdots - 1977y + 361$
c_4, c_7, c_{11} c_{12}	$y^{16} + 21y^{15} + \cdots + 6y + 1$
c_8	$y^{16} + 16y^{15} + \cdots + 8y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.315992 + 0.923692I$ $a = 1.00000$ $b = -1.072170 + 0.739909I$	$0.73896 - 4.05435I$	$-4.39569 + 8.69732I$
$u = 0.315992 - 0.923692I$ $a = 1.00000$ $b = -1.072170 - 0.739909I$	$0.73896 + 4.05435I$	$-4.39569 - 8.69732I$
$u = -0.946702$ $a = 1.00000$ $b = -0.982882$	-3.88612	-24.3560
$u = -0.012719 + 1.092980I$ $a = 1.00000$ $b = -1.42699 + 0.92099I$	$10.45990 + 3.54053I$	$0.82342 - 2.71051I$
$u = -0.012719 - 1.092980I$ $a = 1.00000$ $b = -1.42699 - 0.92099I$	$10.45990 - 3.54053I$	$0.82342 + 2.71051I$
$u = -0.212701 + 0.840300I$ $a = 1.00000$ $b = -1.02555 - 1.53512I$	$-0.301618 + 0.879889I$	$-7.11415 - 1.14520I$
$u = -0.212701 - 0.840300I$ $a = 1.00000$ $b = -1.02555 + 1.53512I$	$-0.301618 - 0.879889I$	$-7.11415 + 1.14520I$
$u = 1.24735$ $a = 1.00000$ $b = -0.0213320$	-2.33062	-0.734580
$u = -0.361980 + 0.330445I$ $a = 1.00000$ $b = 1.42983 + 0.27839I$	$5.02983 + 5.57711I$	$-7.96481 - 3.29725I$
$u = -0.361980 - 0.330445I$ $a = 1.00000$ $b = 1.42983 - 0.27839I$	$5.02983 - 5.57711I$	$-7.96481 + 3.29725I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.264024 + 0.315325I$		
$a = 1.00000$	$-0.654553 - 0.896356I$	$-9.07271 + 7.71736I$
$b = 0.055251 - 0.498554I$		
$u = 0.264024 - 0.315325I$		
$a = 1.00000$	$-0.654553 + 0.896356I$	$-9.07271 - 7.71736I$
$b = 0.055251 + 0.498554I$		
$u = -0.28076 + 1.98483I$		
$a = 1.00000$	$15.0967 + 4.8816I$	$-2.19849 - 4.64135I$
$b = -6.38980 - 0.96015I$		
$u = -0.28076 - 1.98483I$		
$a = 1.00000$	$15.0967 - 4.8816I$	$-2.19849 + 4.64135I$
$b = -6.38980 + 0.96015I$		
$u = 0.63782 + 2.37815I$		
$a = 1.00000$	$-14.9238 - 11.4240I$	$-3.53223 + 3.90898I$
$b = -7.56846 + 2.89468I$		
$u = 0.63782 - 2.37815I$		
$a = 1.00000$	$-14.9238 + 11.4240I$	$-3.53223 - 3.90898I$
$b = -7.56846 - 2.89468I$		

II. $I^u_2 =$ $\langle -u^6+u^5-u^4+10u^3+13u^2+5b+u+1,\ a+1,\ u^7+5u^5-4u^4+7u^3-4u^2+3u-1\rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1 \\ \frac{1}{5}u^6 - \frac{1}{5}u^5 + \cdots - \frac{1}{5}u - \frac{1}{5} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1 \\ \frac{1}{5}u^6 - \frac{1}{5}u^5 + \cdots - \frac{1}{5}u - \frac{1}{5} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{5}u^6 - \frac{4}{5}u^5 + \cdots - \frac{14}{5}u + \frac{1}{5} \\ u^5 + 5u^3 - 3u^2 + 5u - 2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ \frac{1}{5}u^6 + \frac{4}{5}u^5 + \cdots + \frac{9}{5}u - \frac{1}{5} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{1}{5}u^6 + \frac{4}{5}u^5 + \cdots + \frac{14}{5}u - \frac{1}{5} \\ \frac{2}{5}u^6 + \frac{3}{5}u^5 + \cdots - \frac{2}{5}u + \frac{3}{5} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ \frac{3}{5}u^6 + \frac{2}{5}u^5 + \cdots - \frac{3}{5}u - \frac{3}{5} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{1}{5}u^6 - \frac{4}{5}u^5 + \cdots - \frac{14}{5}u + \frac{1}{5} \\ -\frac{6}{5}u^6 + \frac{6}{5}u^5 + \cdots + \frac{46}{5}u - \frac{19}{5} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^5 + u^4 + 5u^3 + u^2 + 3u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{43}{5}u^6 - \frac{12}{5}u^5 - \frac{208}{5}u^4 + 24u^3 - \frac{216}{5}u^2 + \frac{93}{5}u - \frac{82}{5}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^7 - u^6 + 7u^5 - 3u^4 - 13u^3 + 7u^2 + 8u - 5$
c_2, c_6	$u^7 + u^6 + u^5 - u^4 - u^2 + u - 1$
c_3	$u^7 - 6u^6 + 16u^5 - 25u^4 + 26u^3 - 18u^2 + 6u + 1$
c_4, c_{12}	$u^7 + 5u^5 + 4u^4 + 7u^3 + 4u^2 + 3u + 1$
c_5	$u^7 - u^6 + u^5 + u^4 + u^2 + u + 1$
c_7, c_{11}	$u^7 + 5u^5 - 4u^4 + 7u^3 - 4u^2 + 3u - 1$
c_8	$u^7 - u^6 + 3u^5 - 3u^4 + 2u^3 + 3u^2 - u + 1$
c_9	$u^7 + 6u^6 + 16u^5 + 25u^4 + 26u^3 + 18u^2 + 6u - 1$
c_{10}	$u^7 + u^6 + 7u^5 + 3u^4 - 13u^3 - 7u^2 + 8u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^7 + 13y^6 + 17y^5 - 161y^4 + 313y^3 - 287y^2 + 134y - 25$
c_2, c_5, c_6	$y^7 + y^6 + 3y^5 + 3y^4 + 2y^3 - 3y^2 - y - 1$
c_3, c_9	$y^7 - 4y^6 + 8y^5 + 3y^4 - 20y^3 + 38y^2 + 72y - 1$
c_4, c_7, c_{11} c_{12}	$y^7 + 10y^6 + 39y^5 + 60y^4 + 47y^3 + 18y^2 + y - 1$
c_8	$y^7 + 5y^6 + 7y^5 + 7y^4 + 18y^3 - 7y^2 - 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.381257 + 0.787604I$ $a = -1.00000$ $b = 2.24160 - 1.44010I$	$5.73082 - 6.35876I$	$-3.32185 + 8.09951I$
$u = 0.381257 - 0.787604I$ $a = -1.00000$ $b = 2.24160 + 1.44010I$	$5.73082 + 6.35876I$	$-3.32185 - 8.09951I$
$u = -0.060693 + 0.837302I$ $a = -1.00000$ $b = 1.43171 + 1.17322I$	$0.771836 + 0.196666I$	$-1.060679 + 0.531434I$
$u = -0.060693 - 0.837302I$ $a = -1.00000$ $b = 1.43171 - 1.17322I$	$0.771836 - 0.196666I$	$-1.060679 - 0.531434I$
$u = 0.414510$ $a = -1.00000$ $b = -0.867599$	-2.57196	-15.7040
$u = -0.52782 + 2.04747I$ $a = -1.00000$ $b = 6.26049 + 1.92207I$	$14.5225 + 3.4415I$	$-3.76523 - 0.87607I$
$u = -0.52782 - 2.04747I$ $a = -1.00000$ $b = 6.26049 - 1.92207I$	$14.5225 - 3.4415I$	$-3.76523 + 0.87607I$

III. $\boldsymbol{I_3^u = \langle -51u^{11} - 95u^{10} + \cdots + 185b + 342,\ -224u^{11} - 188u^{10} + \cdots + 185a - 115,\ u^{12} + u^{11} + \cdots - 4u - 1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.21081u^{11} + 1.01622u^{10} + \cdots - 6.87027u + 0.621622 \\ 0.275676u^{11} + 0.513514u^{10} + \cdots - 4.89189u - 1.84865 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.21081u^{11} + 1.01622u^{10} + \cdots - 6.87027u + 0.621622 \\ 0.772973u^{11} + 0.459459u^{10} + \cdots - 5.32432u - 1.65405 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.88108u^{11} + 2.02162u^{10} + \cdots - 20.8270u - 6.03784 \\ -0.832432u^{11} - 0.448649u^{10} + \cdots + 4.41081u + 0.135135 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.07027u^{11} - 2.20541u^{10} + \cdots + 20.3568u + 5.25946 \\ 0.821622u^{11} + 0.232432u^{10} + \cdots - 2.14054u + 0.643243 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.88108u^{11} - 2.02162u^{10} + \cdots + 20.8270u + 6.03784 \\ 0.518919u^{11} + 0.378378u^{10} + \cdots - 1.97297u + 0.637838 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.46486u^{11} + 2.49730u^{10} + \cdots - 24.0216u - 6.27027 \\ -0.637838u^{11} - 0.356757u^{10} + \cdots + 3.14595u - 0.675676 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.627027u^{11} - 1.05946u^{10} + \cdots + 7.52432u + 4.25405 \\ 0.432432u^{11} + 0.448649u^{10} + \cdots - 3.41081u - 0.335135 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -2.70811u^{11} - 2.16216u^{10} + \cdots + 23.7027u + 4.98378 \\ 0.329730u^{11} - 0.00540541u^{10} + \cdots + 0.956757u + 1.65946 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $=$
$\frac{117}{185}u^{11}+\frac{24}{37}u^{10}+\frac{608}{185}u^9+\frac{593}{185}u^8+\frac{1109}{185}u^7+\frac{683}{185}u^6+\frac{14}{37}u^5-\frac{661}{185}u^4-\frac{1488}{185}u^3-\frac{337}{37}u^2-\frac{252}{37}u-\frac{1024}{185}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} + 4u^{11} + \cdots - 20u - 5$
c_2, c_6	$u^{12} + 2u^{11} + \cdots - 5u + 1$
c_3	$(u^2 + u - 1)^6$
c_4, c_{12}	$u^{12} - u^{11} + \cdots + 4u - 1$
c_5	$u^{12} - 2u^{11} + \cdots + 5u + 1$
c_7, c_{11}	$u^{12} + u^{11} + \cdots - 4u - 1$
c_8	$u^{12} + 2u^{11} + \cdots + 25u + 25$
c_9	$(u^2 - u - 1)^6$
c_{10}	$u^{12} - 4u^{11} + \cdots + 20u - 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{12} - 2y^{11} + \cdots - 550y + 25$
c_2, c_5, c_6	$y^{12} - 4y^{11} + \cdots - 49y + 1$
c_3, c_9	$(y^2 - 3y + 1)^6$
c_4, c_7, c_{11} c_{12}	$y^{12} + 9y^{11} + \cdots + 6y + 1$
c_8	$y^{12} + 8y^{11} + \cdots - 125y + 625$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.09790$ $a = 0.679223$ $b = -0.936157$	-3.41636	-3.43020
$u = -0.686696 + 0.529141I$ $a = -0.80710 + 1.68749I$ $b = 0.949158 + 0.164926I$	$8.61690 + 2.82812I$	$-3.78492 - 1.30714I$
$u = -0.686696 - 0.529141I$ $a = -0.80710 - 1.68749I$ $b = 0.949158 - 0.164926I$	$8.61690 - 2.82812I$	$-3.78492 + 1.30714I$
$u = 0.318837 + 1.198780I$ $a = 0.343080 - 0.063834I$ $b = -0.531922 + 1.092370I$	$0.72122 - 2.82812I$	$-3.78492 + 1.30714I$
$u = 0.318837 - 1.198780I$ $a = 0.343080 + 0.063834I$ $b = -0.531922 - 1.092370I$	$0.72122 + 2.82812I$	$-3.78492 - 1.30714I$
$u = -0.745717$ $a = 1.47227$ $b = -0.936157$	-3.41636	-3.43020
$u = -0.46101 + 1.38957I$ $a = 0.801692 - 0.597738I$ $b = -3.89832$	4.47932	$-3.43016 + 0.I$
$u = -0.46101 - 1.38957I$ $a = 0.801692 + 0.597738I$ $b = -3.89832$	4.47932	$-3.43016 + 0.I$
$u = -0.185910 + 0.390926I$ $a = 2.81724 - 0.52418I$ $b = -0.531922 - 1.092370I$	$0.72122 + 2.82812I$	$-3.78492 - 1.30714I$
$u = -0.185910 - 0.390926I$ $a = 2.81724 + 0.52418I$ $b = -0.531922 + 1.092370I$	$0.72122 - 2.82812I$	$-3.78492 + 1.30714I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.33869 + 1.58586I$ $a = -0.230664 - 0.482275I$ $b = 0.949158 + 0.164926I$	$8.61690 + 2.82812I$	$-3.78492 - 1.30714I$
$u = 0.33869 - 1.58586I$ $a = -0.230664 + 0.482275I$ $b = 0.949158 - 0.164926I$	$8.61690 - 2.82812I$	$-3.78492 + 1.30714I$

IV. $I_4^u = \langle -9.64\times10^{11}u^{11} + 1.17\times10^{11}u^{10} + \cdots + 3.01\times10^{14}b + 1.91\times10^{14},\ 2.00\times10^{14}u^{11} - 1.60\times10^{14}u^{10} + \cdots + 8.73\times10^{15}a - 7.79\times10^{16},\ u^{12} - u^{11} + \cdots - 372u + 29\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.0228852u^{11} + 0.0183566u^{10} + \cdots + 2.42642u + 8.92404\\0.00320409u^{11} - 0.000389174u^{10} + \cdots - 1.48022u - 0.635001\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-0.0228852u^{11} + 0.0183566u^{10} + \cdots + 2.42642u + 8.92404\\0.000832894u^{11} + 0.000856200u^{10} + \cdots - 0.459261u - 0.766329\end{pmatrix}$$
$$a_2 = \begin{pmatrix}0.0142037u^{11} - 0.0130176u^{10} + \cdots - 1.64789u - 5.71216\\-0.00197737u^{11} + 0.000849745u^{10} + \cdots + 0.812663u + 0.524750\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.0148371u^{11} + 0.0143087u^{10} + \cdots + 0.974746u + 6.24715\\-0.00552270u^{11} + 0.00817319u^{10} + \cdots + 0.906846u - 0.519668\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.0142037u^{11} + 0.0130176u^{10} + \cdots + 1.64789u + 5.71216\\0.000288279u^{11} + 0.00217888u^{10} + \cdots + 0.643829u - 0.500596\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.00769425u^{11} + 0.00607718u^{10} + \cdots + 0.854249u + 3.54318\\0.000610414u^{11} - 0.00374271u^{10} + \cdots - 0.565834u - 0.151468\end{pmatrix}$$
$$a_3 = \begin{pmatrix}0.0231155u^{11} - 0.0220108u^{10} + \cdots - 2.29090u - 9.06157\\-0.00495739u^{11} + 0.00815269u^{10} + \cdots + 1.27226u + 0.682710\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0.00121749u^{11} - 0.00291598u^{10} + \cdots + 0.211235u + 0.193772\\-0.00262321u^{11} + 0.00771675u^{10} + \cdots + 1.37367u - 0.0600595\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$$= \frac{202582417527}{100339302094541}u^{11} + \frac{1528171064}{100339302094541}u^{10} + \cdots - \frac{89065053079638}{100339302094541}u - \frac{519580686866412}{100339302094541}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{12} + 4u^{11} + \cdots + 306u - 181$
c_2, c_5, c_6	$u^{12} + 2u^{11} + \cdots + 51u - 29$
c_3, c_9	$(u^2 - u - 1)^6$
c_4, c_7, c_{11} c_{12}	$u^{12} + u^{11} + \cdots + 372u + 29$
c_8	$u^{12} - 2u^{11} + \cdots + 225u + 71$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{12} + 26y^{11} + \cdots - 185946y + 32761$
c_2, c_5, c_6	$y^{12} + 8y^{11} + \cdots - 2253y + 841$
c_3, c_9	$(y^2 - 3y + 1)^6$
c_4, c_7, c_{11} c_{12}	$y^{12} + 29y^{11} + \cdots - 144706y + 841$
c_8	$y^{12} + 24y^{11} + \cdots - 99473y + 5041$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.008830 + 0.525673I$ $a = 0.572924 + 0.819609I$ $b = 0.492128$	6.29775	$-5.24698 + 0.I$
$u = -1.008830 - 0.525673I$ $a = 0.572924 - 0.819609I$ $b = 0.492128$	6.29775	$-5.24698 + 0.I$
$u = 0.694116$ $a = 0.110299$ $b = -0.748796$	-1.59794	-5.24700
$u = -0.556829 + 1.187920I$ $a = -0.639719 + 0.768609I$ $b = 2.27616$	4.04184	$-2.19806 + 0.I$
$u = -0.556829 - 1.187920I$ $a = -0.639719 - 0.768609I$ $b = 2.27616$	4.04184	$-2.19806 + 0.I$
$u = 0.0765601$ $a = 9.06629$ $b = -0.748796$	-1.59794	-5.24700
$u = 0.36005 + 2.25095I$ $a = -0.950106 - 0.311926I$ $b = 7.44338$	-16.2613	$-3.55496 + 0.I$
$u = 0.36005 - 2.25095I$ $a = -0.950106 + 0.311926I$ $b = 7.44338$	-16.2613	$-3.55496 + 0.I$
$u = 1.45780 + 2.14952I$ $a = -0.369908 - 0.929068I$ $b = 7.30056$	11.9375	$-2.19806 + 0.I$
$u = 1.45780 - 2.14952I$ $a = -0.369908 + 0.929068I$ $b = 7.30056$	11.9375	$-2.19806 + 0.I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.13753 + 2.64020I$ $a = -0.994588 + 0.103896I$ $b = \ \ 9.23656$	15.3214	$-3.55496 + 0.I$
$u = -0.13753 - 2.64020I$ $a = -0.994588 - 0.103896I$ $b = \ \ 9.23656$	15.3214	$-3.55496 + 0.I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^7-u^6+\cdots+8u-5)(u^{12}+4u^{11}+\cdots-20u-5)$ $\cdot(u^{12}+4u^{11}+\cdots+306u-181)(u^{16}-2u^{15}+\cdots-63u-27)$
c_2,c_6	$(u^7+u^6+u^5-u^4-u^2+u-1)(u^{12}+2u^{11}+\cdots-5u+1)$ $\cdot(u^{12}+2u^{11}+\cdots+51u-29)(u^{16}+2u^{15}+\cdots+14u+1)$
c_3	$(u^2-u-1)^6(u^2+u-1)^6$ $\cdot(u^7-6u^6+16u^5-25u^4+26u^3-18u^2+6u+1)$ $\cdot(u^{16}+7u^{15}+\cdots+39u+19)$
c_4,c_{12}	$(u^7+5u^5+\cdots+3u+1)(u^{12}-u^{11}+\cdots+4u-1)$ $\cdot(u^{12}+u^{11}+\cdots+372u+29)(u^{16}+u^{15}+\cdots-3u^2-1)$
c_5	$(u^7-u^6+u^5+u^4+u^2+u+1)(u^{12}-2u^{11}+\cdots+5u+1)$ $\cdot(u^{12}+2u^{11}+\cdots+51u-29)(u^{16}+2u^{15}+\cdots+14u+1)$
c_7,c_{11}	$(u^7+5u^5+\cdots+3u-1)(u^{12}+u^{11}+\cdots-4u-1)$ $\cdot(u^{12}+u^{11}+\cdots+372u+29)(u^{16}+u^{15}+\cdots-3u^2-1)$
c_8	$(u^7-u^6+\cdots-u+1)(u^{12}-2u^{11}+\cdots+225u+71)$ $\cdot(u^{12}+2u^{11}+\cdots+25u+25)(u^{16}+2u^{15}+\cdots+4u+1)$
c_9	$(u^2-u-1)^{12}(u^7+6u^6+16u^5+25u^4+26u^3+18u^2+6u-1)$ $\cdot(u^{16}+7u^{15}+\cdots+39u+19)$
c_{10}	$(u^7+u^6+\cdots+8u+5)(u^{12}-4u^{11}+\cdots+20u-5)$ $\cdot(u^{12}+4u^{11}+\cdots+306u-181)(u^{16}-2u^{15}+\cdots-63u-27)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^7 + 13y^6 + 17y^5 - 161y^4 + 313y^3 - 287y^2 + 134y - 25)$ $\cdot (y^{12} - 2y^{11} + \cdots - 550y + 25)(y^{12} + 26y^{11} + \cdots - 185946y + 32761)$ $\cdot (y^{16} + 36y^{15} + \cdots - 4131y + 729)$
c_2, c_5, c_6	$(y^7 + y^6 + \cdots - y - 1)(y^{12} - 4y^{11} + \cdots - 49y + 1)$ $\cdot (y^{12} + 8y^{11} + \cdots - 2253y + 841)(y^{16} + 4y^{15} + \cdots - 104y + 1)$
c_3, c_9	$(y^2 - 3y + 1)^{12}(y^7 - 4y^6 + 8y^5 + 3y^4 - 20y^3 + 38y^2 + 72y - 1)$ $\cdot (y^{16} - 17y^{15} + \cdots - 1977y + 361)$
c_4, c_7, c_{11} c_{12}	$(y^7 + 10y^6 + 39y^5 + 60y^4 + 47y^3 + 18y^2 + y - 1)$ $\cdot (y^{12} + 9y^{11} + \cdots + 6y + 1)(y^{12} + 29y^{11} + \cdots - 144706y + 841)$ $\cdot (y^{16} + 21y^{15} + \cdots + 6y + 1)$
c_8	$(y^7 + 5y^6 + 7y^5 + 7y^4 + 18y^3 - 7y^2 - 5y - 1)$ $\cdot (y^{12} + 8y^{11} + \cdots - 125y + 625)(y^{12} + 24y^{11} + \cdots - 99473y + 5041)$ $\cdot (y^{16} + 16y^{15} + \cdots + 8y + 1)$