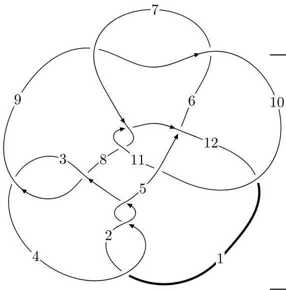
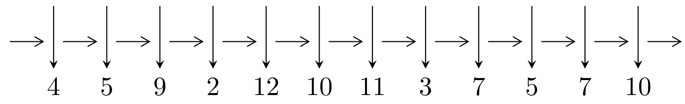
$12n_{0694}$ ($K12n_{0694}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 5542348185u^{14} + 12483915678u^{13} + \cdots + 193710435976b - 48755007008, \\
&\quad - 57969081u^{14} - 531745184u^{13} + \cdots + 22789463056a - 38728287076, \\
&\quad u^{15} + 3u^{14} + \cdots + 60u - 16\rangle \\
I_2^u &= \langle u^4 + 2u^3 - u^2 + b - 2u + 2,\ u^4 + 3u^3 + a - 6u - 4,\ u^5 + 4u^4 + 3u^3 - 4u^2 - 4u + 1\rangle \\
I_3^u &= \langle 13a^3u^2 + 2a^3u + 3a^2u^2 - 9a^3 - 3a^2u + 24u^2a + a^2 + 11au + 14u^2 + 5b - 22a - 4u + 3, \\
&\quad - 2a^3u^2 + a^4 - 2a^3u + 2a^2u^2 - a^3 + 3a^2u - 32u^2a + 4a^2 - 53au + 17u^2 - 38a + 31u + 23,\ u^3 + u^2 - 1\rangle \\
I_4^u &= \langle b - u,\ 2u^2 + a + u - 1,\ u^3 - u + 1\rangle \\
I_5^u &= \langle b - 2a + 1,\ 4a^2 - 6a + 1,\ u - 1\rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 37 representations.

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[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.
$\boldsymbol{I_1^u = \langle 5.54\times10^{9}u^{14}+1.25\times10^{10}u^{13}+\cdots+1.94\times10^{11}b-4.88\times10^{10},\ -5.80\times10^{7}u^{14}-5.32\times10^{8}u^{13}+\cdots+2.28\times10^{10}a-3.87\times10^{10},\ u^{15}+3u^{14}+\cdots+60u-16\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.00254368u^{14}+0.0233329u^{13}+\cdots+0.0452708u+1.69939\\-0.0286115u^{14}-0.0644463u^{13}+\cdots-1.99339u+0.251690\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.0380093u^{14}+0.0802367u^{13}+\cdots+2.56494u+0.802099\\0.0511056u^{14}+0.0966535u^{13}+\cdots+3.44007u-0.786612\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.0455457u^{14}-0.0977825u^{13}+\cdots-5.28838u+0.536706\\-0.107164u^{14}-0.218718u^{13}+\cdots-7.08098u+1.73158\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.00280296u^{14}-0.0172477u^{13}+\cdots-1.86151u-0.654871\\-0.0399111u^{14}-0.0794444u^{13}+\cdots-2.27957u+0.756192\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0.00251495u^{14}+0.0394902u^{13}+\cdots+0.759483u+1.78965\\0.120131u^{14}+0.203886u^{13}+\cdots+7.47958u-1.83534\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-0.00985312u^{14}-0.00127324u^{13}+\cdots+1.07235u+1.36528\\0.102369u^{14}+0.176801u^{13}+\cdots+5.54963u-1.50976\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0.0247410u^{14}+0.0688107u^{13}+\cdots+1.90500u+1.26192\\-0.0282390u^{14}-0.0646220u^{13}+\cdots-2.23111u+0.351338\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{22363926543}{45578926112}u^{14}+\frac{10216429583}{11394731528}u^{13}+\cdots+\frac{485831949075}{11394731528}u-\frac{73524844069}{2848682882}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$u^{15} - 3u^{14} + \cdots + 60u + 16$
c_3, c_8	$u^{15} + 8u^{14} + \cdots - 112u - 64$
c_5, c_6, c_9	$u^{15} + 9u^{12} + \cdots + 7u^2 - 1$
c_7, c_{10}, c_{11}	$u^{15} - u^{14} + \cdots + u + 1$
c_{12}	$u^{15} - 14u^{14} + \cdots + 68u - 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^{15} - 15y^{14} + \cdots + 5232y - 256$
c_3, c_8	$y^{15} - 12y^{14} + \cdots + 41728y - 4096$
c_5, c_6, c_9	$y^{15} - 4y^{13} + \cdots + 14y - 1$
c_7, c_{10}, c_{11}	$y^{15} + 23y^{14} + \cdots - 23y - 1$
c_{12}	$y^{15} - 68y^{14} + \cdots + 2576y - 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.07635$ $a = 1.19704$ $b = 1.58782$	-10.6859	-41.6000
$u = 1.178640 + 0.172680I$ $a = 0.627487 - 0.433643I$ $b = 0.282219 - 0.202348I$	$-1.55215 - 0.88269I$	$-10.53205 + 2.04290I$
$u = 1.178640 - 0.172680I$ $a = 0.627487 + 0.433643I$ $b = 0.282219 + 0.202348I$	$-1.55215 + 0.88269I$	$-10.53205 - 2.04290I$
$u = 0.160834 + 0.708843I$ $a = 0.014785 + 0.187812I$ $b = 0.520261 - 0.168254I$	$1.32905 - 2.33965I$	$-9.51656 + 6.09486I$
$u = 0.160834 - 0.708843I$ $a = 0.014785 - 0.187812I$ $b = 0.520261 + 0.168254I$	$1.32905 + 2.33965I$	$-9.51656 - 6.09486I$
$u = -1.360170 + 0.309898I$ $a = 0.509328 + 0.442124I$ $b = 0.714313 + 0.230460I$	$-3.48368 + 6.07143I$	$-13.1701 - 10.7080I$
$u = -1.360170 - 0.309898I$ $a = 0.509328 - 0.442124I$ $b = 0.714313 - 0.230460I$	$-3.48368 - 6.07143I$	$-13.1701 + 10.7080I$
$u = -0.12171 + 1.44460I$ $a = -0.280558 - 0.267780I$ $b = 2.37166 + 0.47398I$	$9.74508 - 5.81410I$	$-9.65717 + 3.18656I$
$u = -0.12171 - 1.44460I$ $a = -0.280558 + 0.267780I$ $b = 2.37166 - 0.47398I$	$9.74508 + 5.81410I$	$-9.65717 - 3.18656I$
$u = -1.42958 + 0.70949I$ $a = 1.01628 + 1.25193I$ $b = 2.03512 - 0.49412I$	$5.6640 + 13.2045I$	$-12.63072 - 5.98469I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.42958 - 0.70949I$ $a = 1.01628 - 1.25193I$ $b = 2.03512 + 0.49412I$	$5.6640 - 13.2045I$	$-12.63072 + 5.98469I$
$u = 0.219796$ $a = 1.78361$ $b = -0.198958$	-0.592779	-16.9910
$u = 1.68228 + 0.91262I$ $a = 0.793163 - 0.925065I$ $b = 3.00988 + 0.43262I$	$4.36534 - 2.50283I$	$-8.50423 + 2.90053I$
$u = 1.68228 - 0.91262I$ $a = 0.793163 + 0.925065I$ $b = 3.00988 - 0.43262I$	$4.36534 + 2.50283I$	$-8.50423 - 2.90053I$
$u = -2.36403$ $a = -1.34162$ $b = -5.25577$	-19.2116	16.8620

II.

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

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -u^4 - 3u^3 + 6u + 4 \\ -u^4 - 2u^3 + u^2 + 2u - 2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2u^4 - 5u^3 + u^2 + 10u + 7 \\ -4u^4 - 7u^3 + 4u^2 + 7u - 4 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 4u^4 + 17u^3 + 17u^2 - 7u - 12 \\ -2u^4 - 6u^3 - 3u^2 + 3u + 3 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2u^4 + 8u^3 + 7u^2 - 4u - 5 \\ -u^4 - 3u^3 - u^2 + 2u + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 + 2u^2 - u - 2 \\ -2u^4 - 5u^3 + u^2 + 6u - 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3u^4 + 7u^3 - u^2 - 8u \\ 6u^4 + 10u^3 - 5u^2 - 12u + 3 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^4 - 2u^3 + u^2 + 5u + 4 \\ -4u^4 - 7u^3 + 4u^2 + 7u - 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -10u^4 - 33u^3 - 29u^2 + 3u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$u^5 + 4u^4 + 3u^3 - 4u^2 - 4u + 1$
c_3	$u^5 - 6u^3 + 11u^2 - 6u + 1$
c_4	$u^5 - 4u^4 + 3u^3 + 4u^2 - 4u - 1$
c_5, c_9	$u^5 + u^4 - u^3 - 2u^2 - u + 1$
c_6	$u^5 - u^4 - u^3 + 2u^2 - u - 1$
c_7, c_{10}	$u^5 + u^4 - 2u^3 + u^2 + u - 1$
c_8	$u^5 - 6u^3 - 11u^2 - 6u - 1$
c_{11}	$u^5 - u^4 - 2u^3 - u^2 + u + 1$
c_{12}	$u^5 + 10u^4 + 34u^3 + 55u^2 + 46u + 17$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$y^5 - 10y^4 + 33y^3 - 48y^2 + 24y - 1$
c_3, c_8	$y^5 - 12y^4 + 24y^3 - 49y^2 + 14y - 1$
c_5, c_6, c_9	$y^5 - 3y^4 + 3y^3 - 4y^2 + 5y - 1$
c_7, c_{10}, c_{11}	$y^5 - 5y^4 + 4y^3 - 3y^2 + 3y - 1$
c_{12}	$y^5 - 32y^4 + 148y^3 - 237y^2 + 246y - 289$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.935978$ $a = 6.38849$ $b = -1.65940$	-5.47443	-63.3310
$u = -1.41748 + 0.38647I$ $a = -0.124879 - 0.421155I$ $b = -0.807993 - 0.790836I$	$-3.56702 + 5.27138I$	$-13.75047 - 1.28258I$
$u = -1.41748 - 0.38647I$ $a = -0.124879 + 0.421155I$ $b = -0.807993 + 0.790836I$	$-3.56702 - 5.27138I$	$-13.75047 + 1.28258I$
$u = 0.213816$ $a = 5.25148$ $b = -1.54829$	-4.24110	-7.02780
$u = -2.31483$ $a = -1.39021$ $b = -5.17632$	-19.3390	-46.1400

III.

$\boldsymbol{I_3^u = \langle 13a^3u^2+3a^2u^2+\cdots-22a+3,\ -2a^3u^2+2a^2u^2+\cdots-38a+23,\ u^3+u^2-1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u^2+u-1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} a \\ -2.60000a^3u^2-0.600000a^2u^2+\cdots+4.40000a-0.600000 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -\frac{2}{5}a^3u^2+\frac{1}{5}a^2u^2+\cdots-\frac{2}{5}a-\frac{4}{5} \\ -2.60000a^3u^2-0.600000a^2u^2+\cdots+4.40000a-1.60000 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -a^3u^2-\frac{3}{5}a^2u^2+\cdots-a-\frac{3}{5} \\ \frac{7}{5}a^3u^2+\frac{8}{5}a^2u^2+\cdots-\frac{18}{5}a-\frac{17}{5} \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{4}{5}a^2u^2-\frac{2}{5}u^2+\cdots+\frac{2}{5}a^2+\frac{6}{5} \\ \frac{9}{5}a^3u^2+\frac{2}{5}a^2u^2+\cdots-\frac{11}{5}a+\frac{2}{5} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u \\ 2u^2+u-2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^2+1 \\ u^2-u+1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -2u+1 \\ 5u^2+2u-4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{2}{5}a^3u^2+\frac{7}{5}a^2u^2+\cdots-\frac{13}{5}a-\frac{18}{5} \\ -7.40000a^3u^2-2.40000a^2u^2+\cdots+15.6000a+1.60000 \end{pmatrix}$$

(ii) Obstruction class $=-1$

(iii) Cusp Shapes $=-4u-14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_4	$(u^3 - u^2 + 1)^4$
c_3, c_8	$(u^3 - u^2 + 2u - 1)^4$
c_5, c_6, c_9	$u^{12} - 3u^{11} + \cdots - 2u - 59$
c_7, c_{10}, c_{11}	$u^{12} + 3u^{11} + \cdots - 314u - 121$
c_{12}	$(u^2 + u - 1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y^3 - y^2 + 2y - 1)^4$
c_3, c_8	$(y^3 + 3y^2 + 2y - 1)^4$
c_5, c_6, c_9	$y^{12} - y^{11} + \cdots + 5424y + 3481$
c_7, c_{10}, c_{11}	$y^{12} + 11y^{11} + \cdots - 50196y + 14641$
c_{12}	$(y^2 - 3y + 1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.877439 + 0.744862I$ $a = -0.037366 - 0.810507I$ $b = 0.618034$	$6.97197 + 2.82812I$	$-10.49024 - 2.97945I$
$u = -0.877439 + 0.744862I$ $a = -0.127901 - 1.361650I$ $b = -1.61803$	$-0.92371 + 2.82812I$	$-10.49024 - 2.97945I$
$u = -0.877439 + 0.744862I$ $a = -0.397503 - 0.457922I$ $b = -1.61803$	$-0.92371 + 2.82812I$	$-10.49024 - 2.97945I$
$u = -0.877439 + 0.744862I$ $a = 0.23805 + 1.50552I$ $b = 0.618034$	$6.97197 + 2.82812I$	$-10.49024 - 2.97945I$
$u = -0.877439 - 0.744862I$ $a = -0.037366 + 0.810507I$ $b = 0.618034$	$6.97197 - 2.82812I$	$-10.49024 + 2.97945I$
$u = -0.877439 - 0.744862I$ $a = -0.127901 + 1.361650I$ $b = -1.61803$	$-0.92371 - 2.82812I$	$-10.49024 + 2.97945I$
$u = -0.877439 - 0.744862I$ $a = -0.397503 + 0.457922I$ $b = -1.61803$	$-0.92371 - 2.82812I$	$-10.49024 + 2.97945I$
$u = -0.877439 - 0.744862I$ $a = 0.23805 - 1.50552I$ $b = 0.618034$	$6.97197 - 2.82812I$	$-10.49024 + 2.97945I$
$u = 0.754878$ $a = 0.603863$ $b = -1.61803$	-5.06130	-17.0200
$u = 0.754878$ $a = -1.12774 + 4.03110I$ $b = 0.618034$	2.83439	-17.0200

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.754878$ $a = -1.12774 - 4.03110I$ $b = 0.618034$	2.83439	-17.0200
$u = 0.754878$ $a = 5.30105$ $b = -1.61803$	-5.06130	-17.0200

IV. $I_4^u = \langle b - u,\ 2u^2 + a + u - 1,\ u^3 - u + 1 \rangle$

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2u^2 - u + 1 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^2 + u - 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u + 1 \\ u^2 - u + 1 \end{pmatrix}$$

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

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

$$a_3 = \begin{pmatrix} -u^2 + 1 \\ u^2 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^2 - u \\ -u^2 + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2u^2 + 5u - 14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.662359 + 0.562280I$ $a = 0.09252 - 2.05200I$ $b = 0.662359 + 0.562280I$	$2.83014 - 0.94271I$	$-10.44308 + 4.30112I$
$u = 0.662359 - 0.562280I$ $a = 0.09252 + 2.05200I$ $b = 0.662359 - 0.562280I$	$2.83014 + 0.94271I$	$-10.44308 - 4.30112I$
$u = -1.32472$ $a = -1.18504$ $b = -1.32472$	-8.95014	-17.1140

V. $\boldsymbol{I_5^u = \langle b - 2a + 1,\ 4a^2 - 6a + 1,\ u - 1\rangle}$

(i) Arc colorings

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

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

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

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

$a_{10} = \begin{pmatrix} a \\ 2a - 1 \end{pmatrix}$

$a_{12} = \begin{pmatrix} -2a + \frac{3}{2} \\ -2a \end{pmatrix}$

$a_6 = \begin{pmatrix} -3a \\ -6a + 1 \end{pmatrix}$

$a_7 = \begin{pmatrix} -0.5 \\ -2a \end{pmatrix}$

$a_9 = \begin{pmatrix} 0 \\ -4a \end{pmatrix}$

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

$a_8 = \begin{pmatrix} 0 \\ -4a \end{pmatrix}$

$a_{11} = \begin{pmatrix} -a + 1 \\ 2a - 1 \end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{45}{2}a - 20$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 1.30902$ $b = 1.61803$	-10.5276	9.45290
$u = 1.00000$ $a = 0.190983$ $b = -0.618034$	-2.63189	-15.7030

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^2(u^3-u+1)(u^3-u^2+1)^4(u^5+4u^4+3u^3-4u^2-4u+1)$ $\cdot(u^{15}-3u^{14}+\cdots+60u+16)$
c_3	$u^2(u+1)^3(u^3-u^2+2u-1)^4(u^5-6u^3+11u^2-6u+1)$ $\cdot(u^{15}+8u^{14}+\cdots-112u-64)$
c_4	$(u+1)^2(u^3-u-1)(u^3-u^2+1)^4(u^5-4u^4+3u^3+4u^2-4u-1)$ $\cdot(u^{15}-3u^{14}+\cdots+60u+16)$
c_5	$(u^2-3u+1)(u^3+2u^2+u+1)(u^5+u^4-u^3-2u^2-u+1)$ $\cdot(u^{12}-3u^{11}+\cdots-2u-59)(u^{15}+9u^{12}+\cdots+7u^2-1)$
c_6	$(u^2-3u+1)(u^3-2u^2+u-1)(u^5-u^4-u^3+2u^2-u-1)$ $\cdot(u^{12}-3u^{11}+\cdots-2u-59)(u^{15}+9u^{12}+\cdots+7u^2-1)$
c_7	$(u^2+u-1)(u^3-u^2+2u-1)(u^5+u^4-2u^3+u^2+u-1)$ $\cdot(u^{12}+3u^{11}+\cdots-314u-121)(u^{15}-u^{14}+\cdots+u+1)$
c_8	$u^2(u-1)^3(u^3-u^2+2u-1)^4(u^5-6u^3-11u^2-6u-1)$ $\cdot(u^{15}+8u^{14}+\cdots-112u-64)$
c_9	$(u^2+3u+1)(u^3+2u^2+u+1)(u^5+u^4-u^3-2u^2-u+1)$ $\cdot(u^{12}-3u^{11}+\cdots-2u-59)(u^{15}+9u^{12}+\cdots+7u^2-1)$
c_{10}	$(u^2-u-1)(u^3-u^2+2u-1)(u^5+u^4-2u^3+u^2+u-1)$ $\cdot(u^{12}+3u^{11}+\cdots-314u-121)(u^{15}-u^{14}+\cdots+u+1)$
c_{11}	$(u^2-u-1)(u^3+u^2+2u+1)(u^5-u^4-2u^3-u^2+u+1)$ $\cdot(u^{12}+3u^{11}+\cdots-314u-121)(u^{15}-u^{14}+\cdots+u+1)$
c_{12}	$(u^2-u-1)(u^2+u-1)^6(u^3-u+1)$ $\cdot(u^5+10u^4+\cdots+46u+17)(u^{15}-14u^{14}+\cdots+68u-8)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^2(y^3-2y^2+y-1)(y^3-y^2+2y-1)^4$ $\cdot\,(y^5-10y^4+\cdots+24y-1)(y^{15}-15y^{14}+\cdots+5232y-256)$
c_3, c_8	$y^2(y-1)^3(y^3+3y^2+2y-1)^4(y^5-12y^4+\cdots+14y-1)$ $\cdot\,(y^{15}-12y^{14}+\cdots+41728y-4096)$
c_5, c_6, c_9	$(y^2-7y+1)(y^3-2y^2-3y-1)(y^5-3y^4+3y^3-4y^2+5y-1)$ $\cdot\,(y^{12}-y^{11}+\cdots+5424y+3481)(y^{15}-4y^{13}+\cdots+14y-1)$
c_7, c_{10}, c_{11}	$(y^2-3y+1)(y^3+3y^2+2y-1)(y^5-5y^4+4y^3-3y^2+3y-1)$ $\cdot\,(y^{12}+11y^{11}+\cdots-50196y+14641)(y^{15}+23y^{14}+\cdots-23y-1)$
c_{12}	$(y^2-3y+1)^7(y^3-2y^2+y-1)$ $\cdot\,(y^5-32y^4+148y^3-237y^2+246y-289)$ $\cdot\,(y^{15}-68y^{14}+\cdots+2576y-64)$