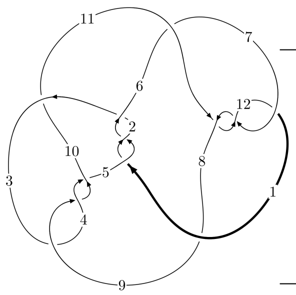
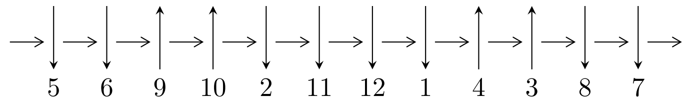
$12a_{1234}$ ($K12a_{1234}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.93075 \times 10^{22} u^{71} - 9.36918 \times 10^{22} u^{70} + \cdots + 2.61600 \times 10^{23} b - 2.51001 \times 10^{23},$$
$$3.91390 \times 10^{23} u^{71} - 8.79983 \times 10^{23} u^{70} + \cdots + 2.61600 \times 10^{23} a - 2.96665 \times 10^{24},\ u^{72} - 2u^{71} + \cdots - 8u - 1$$
$$I_2^u = \langle -au - u^2 + b + u - 1,\ a^2 - 4u^2 + 2u - 6,\ u^3 - u^2 + 2u - 1 \rangle$$
$$I_3^u = \langle -u^2 + b - u - 1,\ a,\ u^3 + u^2 + 2u + 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 81 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.

$\boldsymbol{I_1^u = \langle 1.93\times10^{22}u^{71} - 9.37\times10^{22}u^{70} + \cdots + 2.62\times10^{23}b - 2.51\times10^{23},\ 3.91\times10^{23}u^{71} - 8.80\times10^{23}u^{70} + \cdots + 2.62\times10^{23}a - 2.97\times10^{24},\ u^{72} - 2u^{71} + \cdots - 8u - 1\rangle}$

(i) Arc colorings

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

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

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

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.49614u^{71} + 3.36385u^{70} + \cdots + 9.35049u + 11.3404 \\ -0.0738055u^{71} + 0.358149u^{70} + \cdots - 1.96687u + 0.959482 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.70670u^{71} + 4.43356u^{70} + \cdots + 11.3889u + 11.8788 \\ -0.0934270u^{71} + 1.10929u^{70} + \cdots - 1.29641u + 1.19703 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.959482u^{71} - 1.99277u^{70} + \cdots - 1.06519u - 9.64273 \\ 0.371572u^{71} - 0.601476u^{70} + \cdots - 0.628716u - 1.49614 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.52657u^{71} + 5.46669u^{70} + \cdots + 6.75726u + 15.3627 \\ -0.515104u^{71} + 0.594756u^{70} + \cdots + 2.97411u + 2.22254 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.82146u^{71} + 4.39966u^{70} + \cdots + 11.3717u + 12.1549 \\ 0.225358u^{71} + 0.517327u^{70} + \cdots - 1.91838u + 0.946928 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1314513188101413528816 32}{1308000779951112994111 01}u^{71} - \frac{277192896356154580549909}{130800077995111299411101}u^{70} + \cdots + \frac{732571967736991836052242}{130800077995111299411101}u + \frac{336112699848274877396314}{130800077995111299411101}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5	$u^{72} + 4u^{71} + \cdots + 51u - 7$
c_3, c_4, c_9	$u^{72} - u^{71} + \cdots + 8u - 8$
c_6, c_8	$u^{72} - 2u^{71} + \cdots + 5260u - 481$
c_7, c_{11}, c_{12}	$u^{72} + 2u^{71} + \cdots + 8u - 1$
c_{10}	$u^{72} + 3u^{71} + \cdots - 2888u - 5768$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$y^{72} - 70y^{71} + \cdots + 423y + 49$
c_3, c_4, c_9	$y^{72} - 65y^{71} + \cdots - 448y + 64$
c_6, c_8	$y^{72} - 52y^{71} + \cdots - 12759486y + 231361$
c_7, c_{11}, c_{12}	$y^{72} + 60y^{71} + \cdots - 62y + 1$
c_{10}	$y^{72} + 19y^{71} + \cdots - 312337216y + 33269824$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.855221+0.104555I$ $a=-3.51455-0.94548I$ $b=-2.90722-0.53414I$	$-11.19460+5.99079I$	$-11.45914-4.34329I$
$u=-0.855221-0.104555I$ $a=-3.51455+0.94548I$ $b=-2.90722+0.53414I$	$-11.19460-5.99079I$	$-11.45914+4.34329I$
$u=0.846928+0.141420I$ $a=-3.30013+1.21203I$ $b=-2.78162+0.68434I$	$-5.95434-10.47780I$	$-7.43345+6.18173I$
$u=0.846928-0.141420I$ $a=-3.30013-1.21203I$ $b=-2.78162-0.68434I$	$-5.95434+10.47780I$	$-7.43345-6.18173I$
$u=0.849158+0.055790I$ $a=-3.83366+0.58255I$ $b=-3.09139+0.33000I$	$-8.96835-1.04646I$	$-9.68773-0.28213I$
$u=0.849158-0.055790I$ $a=-3.83366-0.58255I$ $b=-3.09139-0.33000I$	$-8.96835+1.04646I$	$-9.68773+0.28213I$
$u=0.413905+1.104350I$ $a=1.63797-1.57519I$ $b=2.11853+0.95743I$	$-3.00550+5.94009I$	0
$u=0.413905-1.104350I$ $a=1.63797+1.57519I$ $b=2.11853-0.95743I$	$-3.00550-5.94009I$	0
$u=0.805296+0.104399I$ $a=1.033840-0.702962I$ $b=0.912278-0.053298I$	$0.09644-6.17633I$	$-4.65210+5.74472I$
$u=0.805296-0.104399I$ $a=1.033840+0.702962I$ $b=0.912278+0.053298I$	$0.09644+6.17633I$	$-4.65210-5.74472I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.340749 + 1.153980I$ $a = -0.553879 + 0.101561I$ $b = -0.951773 - 0.318003I$	$3.29054 + 2.00837I$	0
$u = 0.340749 - 1.153980I$ $a = -0.553879 - 0.101561I$ $b = -0.951773 + 0.318003I$	$3.29054 - 2.00837I$	0
$u = -0.789046 + 0.047967I$ $a = 0.926833 + 0.645835I$ $b = 0.870318 + 0.061520I$	$-4.46192 + 2.46018I$	$-10.16635 - 4.00752I$
$u = -0.789046 - 0.047967I$ $a = 0.926833 - 0.645835I$ $b = 0.870318 - 0.061520I$	$-4.46192 - 2.46018I$	$-10.16635 + 4.00752I$
$u = 0.782297 + 0.041244I$ $a = 0.717071 + 0.660038I$ $b = 0.814839 + 0.084621I$	$-1.27923 - 1.03150I$	$-6.99400 + 0.63948I$
$u = 0.782297 - 0.041244I$ $a = 0.717071 - 0.660038I$ $b = 0.814839 - 0.084621I$	$-1.27923 + 1.03150I$	$-6.99400 - 0.63948I$
$u = -0.414055 + 1.158140I$ $a = 1.60375 + 1.71714I$ $b = 2.38953 - 0.91844I$	$-7.96420 - 1.43495I$	0
$u = -0.414055 - 1.158140I$ $a = 1.60375 - 1.71714I$ $b = 2.38953 + 0.91844I$	$-7.96420 + 1.43495I$	0
$u = -0.481039 + 0.598411I$ $a = 0.375183 - 1.317490I$ $b = 0.464545 + 0.103622I$	$-1.22913 + 5.72696I$	$-4.74473 - 6.15763I$
$u = -0.481039 - 0.598411I$ $a = 0.375183 + 1.317490I$ $b = 0.464545 - 0.103622I$	$-1.22913 - 5.72696I$	$-4.74473 + 6.15763I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.767390$ $a=-5.25539$ $b=-3.90280$	-0.107189	-8.73150
$u=-0.089470+1.249190I$ $a=\ 0.634254+0.081148I$ $b=-0.714517+1.152590I$	$1.49723+1.57721I$	0
$u=-0.089470-1.249190I$ $a=\ 0.634254-0.081148I$ $b=-0.714517-1.152590I$	$1.49723-1.57721I$	0
$u=\ 0.324593+1.231220I$ $a=\ 0.095849+0.773188I$ $b=-0.573454-0.363220I$	$2.37868-2.96753I$	0
$u=\ 0.324593-1.231220I$ $a=\ 0.095849-0.773188I$ $b=-0.573454+0.363220I$	$2.37868+2.96753I$	0
$u=-0.332624+1.229470I$ $a=-0.494776-0.054404I$ $b=-0.964484+0.433638I$	$-0.83246+1.58738I$	0
$u=-0.332624-1.229470I$ $a=-0.494776+0.054404I$ $b=-0.964484-0.433638I$	$-0.83246-1.58738I$	0
$u=-0.621231+0.374947I$ $a=\ 0.245228-1.110140I$ $b=\ 0.612440-0.033140I$	$-1.94589-1.80647I$	$-6.41560-0.05777I$
$u=-0.621231-0.374947I$ $a=\ 0.245228+1.110140I$ $b=\ 0.612440+0.033140I$	$-1.94589+1.80647I$	$-6.41560+0.05777I$
$u=\ 0.401285+1.213440I$ $a=\ 1.52913-1.92577I$ $b=\ 2.74245+0.83179I$	$-5.40292-3.44004I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.401285 - 1.213440I$ $a = 1.52913 + 1.92577I$ $b = 2.74245 - 0.83179I$	$-5.40292 + 3.44004I$	0
$u = 0.526133 + 0.479268I$ $a = 0.264306 + 1.274860I$ $b = 0.551953 - 0.042979I$	$-5.48345 - 1.89351I$	$-9.94754 + 3.92631I$
$u = 0.526133 - 0.479268I$ $a = 0.264306 - 1.274860I$ $b = 0.551953 + 0.042979I$	$-5.48345 + 1.89351I$	$-9.94754 - 3.92631I$
$u = -0.021601 + 1.289030I$ $a = 0.982879 - 0.665839I$ $b = -1.11100 - 1.60954I$	$7.38621 + 0.45778I$	0
$u = -0.021601 - 1.289030I$ $a = 0.982879 + 0.665839I$ $b = -1.11100 + 1.60954I$	$7.38621 - 0.45778I$	0
$u = 0.260985 + 1.272720I$ $a = -0.153726 + 0.524674I$ $b = -0.776623 - 0.528444I$	$2.21876 - 3.34010I$	0
$u = 0.260985 - 1.272720I$ $a = -0.153726 - 0.524674I$ $b = -0.776623 + 0.528444I$	$2.21876 + 3.34010I$	0
$u = 0.047615 + 1.309970I$ $a = -0.701791 + 0.007598I$ $b = 0.040193 - 0.254286I$	$4.63025 - 1.60850I$	0
$u = 0.047615 - 1.309970I$ $a = -0.701791 - 0.007598I$ $b = 0.040193 + 0.254286I$	$4.63025 + 1.60850I$	0
$u = -0.327283 + 1.273420I$ $a = 1.52077 + 2.75302I$ $b = 3.91217 - 0.83641I$	$3.84964 + 3.94691I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.327283 - 1.273420I$ $a = 1.52077 - 2.75302I$ $b = 3.91217 + 0.83641I$	$3.84964 - 3.94691I$	0
$u = 0.663829$ $a = 0.875997$ $b = 0.804619$	-1.74281	-3.26010
$u = 0.340856 + 1.295450I$ $a = -0.439050 - 0.044410I$ $b = -1.021930 - 0.522230I$	$2.89162 - 5.08382I$	0
$u = 0.340856 - 1.295450I$ $a = -0.439050 + 0.044410I$ $b = -1.021930 + 0.522230I$	$2.89162 + 5.08382I$	0
$u = -0.345526 + 1.301720I$ $a = -0.055600 - 0.900464I$ $b = -0.736941 + 0.208894I$	$-0.24447 + 6.55260I$	0
$u = -0.345526 - 1.301720I$ $a = -0.055600 + 0.900464I$ $b = -0.736941 - 0.208894I$	$-0.24447 - 6.55260I$	0
$u = -0.240433 + 1.331850I$ $a = -0.521834 - 0.837953I$ $b = -1.098430 + 0.565000I$	$8.17221 + 2.72991I$	0
$u = -0.240433 - 1.331850I$ $a = -0.521834 + 0.837953I$ $b = -1.098430 - 0.565000I$	$8.17221 - 2.72991I$	0
$u = 0.381480 + 1.308120I$ $a = 1.02332 - 2.24320I$ $b = 3.24181 + 0.18133I$	$-4.70869 - 5.46372I$	0
$u = 0.381480 - 1.308120I$ $a = 1.02332 + 2.24320I$ $b = 3.24181 - 0.18133I$	$-4.70869 + 5.46372I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.070481 + 1.375000I$ $a = -0.710558 + 0.082467I$ $b = 0.434145 + 0.464159I$	$10.20230 + 4.09393I$	0
$u = -0.070481 - 1.375000I$ $a = -0.710558 - 0.082467I$ $b = 0.434145 - 0.464159I$	$10.20230 - 4.09393I$	0
$u = 0.351583 + 1.335210I$ $a = -0.094715 + 0.966773I$ $b = -0.805731 - 0.126163I$	$4.61739 - 10.34930I$	0
$u = 0.351583 - 1.335210I$ $a = -0.094715 - 0.966773I$ $b = -0.805731 + 0.126163I$	$4.61739 + 10.34930I$	0
$u = -0.380105 + 1.341130I$ $a = 0.77057 + 2.17800I$ $b = 3.17864 + 0.12703I$	$-6.65706 + 10.42950I$	0
$u = -0.380105 - 1.341130I$ $a = 0.77057 - 2.17800I$ $b = 3.17864 - 0.12703I$	$-6.65706 - 10.42950I$	0
$u = 0.142108 + 1.400830I$ $a = 0.073563 - 0.435223I$ $b = -1.082410 - 0.884379I$	$0.48745 - 4.08574I$	0
$u = 0.142108 - 1.400830I$ $a = 0.073563 + 0.435223I$ $b = -1.082410 + 0.884379I$	$0.48745 + 4.08574I$	0
$u = 0.369333 + 1.361460I$ $a = 0.58444 - 2.15508I$ $b = 3.15725 - 0.33932I$	$-1.2207 - 14.8549I$	0
$u = 0.369333 - 1.361460I$ $a = 0.58444 + 2.15508I$ $b = 3.15725 + 0.33932I$	$-1.2207 + 14.8549I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.317187 + 0.489927I$ $a = \quad 0.090286 - 0.752772I$ $b = -0.635338 - 0.425944I$	$4.43235 + 2.91765I$	$1.16854 - 6.33914I$
$u = -0.317187 - 0.489927I$ $a = \quad 0.090286 + 0.752772I$ $b = -0.635338 + 0.425944I$	$4.43235 - 2.91765I$	$1.16854 + 6.33914I$
$u = -0.22131 + 1.40591I$ $a = -0.133181 + 0.324090I$ $b = -1.068390 + 0.764012I$	$3.69568 + 1.17982I$	0
$u = -0.22131 - 1.40591I$ $a = -0.133181 - 0.324090I$ $b = -1.068390 - 0.764012I$	$3.69568 - 1.17982I$	0
$u = -0.09732 + 1.43277I$ $a = \quad 0.098014 + 0.602807I$ $b = -1.16805 + 0.91404I$	$5.29029 + 7.47149I$	0
$u = -0.09732 - 1.43277I$ $a = \quad 0.098014 - 0.602807I$ $b = -1.16805 - 0.91404I$	$5.29029 - 7.47149I$	0
$u = -0.492033 + 0.179262I$ $a = \quad 1.73174 + 0.27386I$ $b = \quad 0.789924 - 0.245115I$	$3.53660 - 0.14057I$	$-0.86825 - 1.39722I$
$u = -0.492033 - 0.179262I$ $a = \quad 1.73174 - 0.27386I$ $b = \quad 0.789924 + 0.245115I$	$3.53660 + 0.14057I$	$-0.86825 + 1.39722I$
$u = -0.365925$ $a = -1.20803$ $b = \quad 0.774716$	-2.24878	1.74900
$u = \quad 0.213495 + 0.279988I$ $a = \quad 0.805720 + 0.480004I$ $b = -0.165356 + 0.323439I$	$-0.160994 - 0.786143I$	$-4.51480 + 8.79169I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.213495 - 0.279988I$ $a = 0.805720 - 0.480004I$ $b = -0.165356 - 0.323439I$	$-0.160994 + 0.786143I$	$-4.51480 - 8.79169I$
$u = -0.134176$ $a = 9.11290$ $b = 1.17072$	3.24436	2.13710

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = -0.173328 + 1.053390I$ $b = -2.29165 - 0.74486I$	$6.31400 - 2.82812I$	$-0.49024 + 2.97945I$
$u = 0.215080 + 1.307140I$ $a = 0.173328 - 1.053390I$ $b = 0.536775 - 0.744862I$	$6.31400 - 2.82812I$	$-0.49024 + 2.97945I$
$u = 0.215080 - 1.307140I$ $a = -0.173328 - 1.053390I$ $b = -2.29165 + 0.74486I$	$6.31400 + 2.82812I$	$-0.49024 - 2.97945I$
$u = 0.215080 - 1.307140I$ $a = 0.173328 + 1.053390I$ $b = 0.536775 + 0.744862I$	$6.31400 + 2.82812I$	$-0.49024 - 2.97945I$
$u = 0.569840$ $a = -2.48177$ $b = -0.659336$	2.17641	-7.01950
$u = 0.569840$ $a = 2.48177$ $b = 2.16909$	2.17641	-7.01950

III. $I_3^u = \langle -u^2 + b - u - 1,\ a,\ u^3 + u^2 + 2u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6u^2 - 4u - 16$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.215080 + 1.307140I$ $a = 0$ $b = -0.877439 + 0.744862I$	$1.37919 + 2.82812I$	$-5.16553 - 1.85489I$
$u = -0.215080 - 1.307140I$ $a = 0$ $b = -0.877439 - 0.744862I$	$1.37919 - 2.82812I$	$-5.16553 + 1.85489I$
$u = -0.569840$ $a = 0$ $b = 0.754878$	-2.75839	-15.6690

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2	$((u-1)^3)(u+1)^6(u^{72}+4u^{71}+\cdots+51u-7)$
c_3, c_4, c_9	$u^3(u^2-2)^3(u^{72}-u^{71}+\cdots+8u-8)$
c_5	$((u-1)^6)(u+1)^3(u^{72}+4u^{71}+\cdots+51u-7)$
c_6, c_8	$((u^3-u^2+1)^2)(u^3+u^2-1)(u^{72}-2u^{71}+\cdots+5260u-481)$
c_7	$(u^3-u^2+2u-1)(u^3+u^2+2u+1)^2(u^{72}+2u^{71}+\cdots+8u-1)$
c_{10}	$u^3(u^2-2)^3(u^{72}+3u^{71}+\cdots-2888u-5768)$
c_{11}, c_{12}	$((u^3-u^2+2u-1)^2)(u^3+u^2+2u+1)(u^{72}+2u^{71}+\cdots+8u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$((y-1)^9)(y^{72} - 70y^{71} + \cdots + 423y + 49)$
c_3, c_4, c_9	$y^3(y-2)^6(y^{72} - 65y^{71} + \cdots - 448y + 64)$
c_6, c_8	$((y^3 - y^2 + 2y - 1)^3)(y^{72} - 52y^{71} + \cdots - 1.27595 \times 10^7 y + 231361)$
c_7, c_{11}, c_{12}	$((y^3 + 3y^2 + 2y - 1)^3)(y^{72} + 60y^{71} + \cdots - 62y + 1)$
c_{10}	$y^3(y-2)^6(y^{72} + 19y^{71} + \cdots - 3.12337 \times 10^8 y + 3.32698 \times 10^7)$