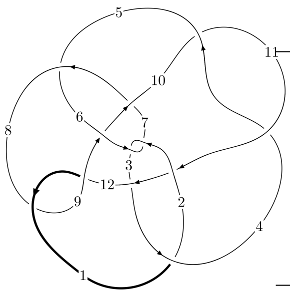
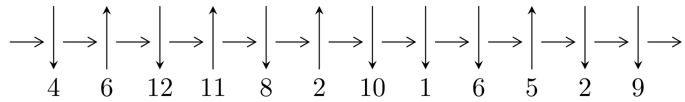
$12n_{0869}$ ($K12n_{0869}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-3.67975 \times 10^{46} u^{38} - 3.90240 \times 10^{46} u^{37} + \cdots + 3.59901 \times 10^{48} b + 1.25329 \times 10^{48}, \\
&2.81649 \times 10^{48} u^{38} + 3.45577 \times 10^{48} u^{37} + \cdots + 4.40879 \times 10^{49} a - 4.18324 \times 10^{48},\ u^{39} + u^{38} + \cdots + 30u - 1 \\
I_2^u = \langle &-3.36074 \times 10^{194} u^{63} - 8.92084 \times 10^{194} u^{62} + \cdots + 3.64648 \times 10^{194} b - 7.25439 \times 10^{195}, \\
&- 6.74789 \times 10^{193} u^{63} - 1.33622 \times 10^{194} u^{62} + \cdots + 7.29297 \times 10^{194} a - 8.82411 \times 10^{193}, \\
&u^{64} + 3u^{63} + \cdots - 4u + 8 \rangle \\
I_3^u = \langle &-3.66786 \times 10^{26} u^{23} + 2.73754 \times 10^{27} u^{22} + \cdots + 1.22821 \times 10^{25} b + 4.47903 \times 10^{27}, \\
&- 4.10017 \times 10^{27} u^{23} + 3.02216 \times 10^{28} u^{22} + \cdots + 8.59744 \times 10^{25} a + 4.48658 \times 10^{28}, \\
&u^{24} - 8u^{23} + \cdots - 70u + 7 \rangle \\
I_4^u = \langle &-u^5 + u^4 - u^2 + b + 1,\ u^5 - u^4 + u^2 + a,\ u^6 - u^5 + 2u^3 - u + 1 \rangle \\
I_5^u = \langle &-u^4 + 4u^3 - 4u^2 + b + 1,\ -u^5 + 6u^4 - 11u^3 + 6u^2 + 2a - u,\ u^6 - 6u^5 + 11u^4 - 4u^3 - 5u^2 + 2u + 2 \rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 139 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. $\boldsymbol{I_1^u = \langle -3.68\times10^{46}u^{38} - 3.90\times10^{46}u^{37} + \cdots + 3.60\times10^{48}b + 1.25\times10^{48},\ 2.82\times10^{48}u^{38} + 3.46\times10^{48}u^{37} + \cdots + 4.41\times10^{49}a - 4.18\times10^{48},\ u^{39} + u^{38} + \cdots + 30u - 14\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-0.0638836u^{38} - 0.0783836u^{37} + \cdots + 6.35623u + 0.0948842\\ 0.0102244u^{38} + 0.0108430u^{37} + \cdots - 1.45245u - 0.348231\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-0.0536593u^{38} - 0.0675406u^{37} + \cdots + 4.90378u - 0.253347\\ 0.0102244u^{38} + 0.0108430u^{37} + \cdots - 1.45245u - 0.348231\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-0.0313510u^{38} - 0.00602783u^{37} + \cdots + 4.96444u - 1.10367\\ 0.00245578u^{38} - 0.00214837u^{37} + \cdots - 1.62023u + 0.291758\end{pmatrix}$$
$$a_3 = \begin{pmatrix}0.00526533u^{38} - 0.0380235u^{37} + \cdots - 0.721536u + 3.89543\\ -0.00646705u^{38} + 0.00362817u^{37} + \cdots + 1.41883u - 1.00701\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.0408173u^{38} - 0.0178341u^{37} + \cdots + 4.54283u - 1.16643\\ -0.0000418849u^{38} - 0.000707613u^{37} + \cdots - 1.68255u + 0.258997\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.0191976u^{38} - 0.00946661u^{37} + \cdots - 2.44735u + 3.14453\\ -0.0138813u^{38} - 0.00112472u^{37} + \cdots + 1.35643u - 0.751230\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.0330789u^{38} - 0.00834188u^{37} + \cdots - 3.80378u + 3.89576\\ -0.0144999u^{38} + 0.00138800u^{37} + \cdots + 2.01139u - 0.894371\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0.0412254u^{38} + 0.00641291u^{37} + \cdots - 3.49811u + 3.58128\\ -0.0161200u^{38} + 0.000315430u^{37} + \cdots + 1.92720u - 0.801856\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.0421366u^{38} + 0.120763u^{37} + \cdots - 0.319502u - 4.70818\\ 0.00470461u^{38} - 0.0208136u^{37} + \cdots - 1.77613u + 1.38625\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.201895u^{38} - 0.184513u^{37} + \cdots + 13.2872u - 8.60911$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{39} - u^{38} + \cdots + 30u + 14$
c_2, c_6	$u^{39} - 4u^{38} + \cdots + 338u + 250$
c_3, c_9	$7(7u^{39} - 23u^{38} + \cdots + 3790u + 397)$
c_4, c_{10}	$7(7u^{39} - 9u^{38} + \cdots + 704u + 128)$
c_7, c_{11}	$u^{39} - 2u^{38} + \cdots - 256u + 112$
c_8, c_{12}	$u^{39} + 3u^{38} + \cdots + 144u + 26$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{39} - 5y^{38} + \cdots + 508y - 196$
c_2, c_6	$y^{39} - 26y^{38} + \cdots + 1469244y - 62500$
c_3, c_9	$49(49y^{39} + 1473y^{38} + \cdots + 1541000y - 157609)$
c_4, c_{10}	$49(49y^{39} + 885y^{38} + \cdots + 167936y - 16384)$
c_7, c_{11}	$y^{39} + 18y^{38} + \cdots - 65280y - 12544$
c_8, c_{12}	$y^{39} + 23y^{38} + \cdots + 1392y - 676$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.381563 + 0.926690I$ $a = -0.14741 - 1.42857I$ $b = 0.47478 + 1.47845I$	$9.75422 - 0.22436I$	$4.24092 - 0.06868I$
$u = -0.381563 - 0.926690I$ $a = -0.14741 + 1.42857I$ $b = 0.47478 - 1.47845I$	$9.75422 + 0.22436I$	$4.24092 + 0.06868I$
$u = 0.215256 + 0.903029I$ $a = 0.317687 + 0.450207I$ $b = 1.333880 - 0.292850I$	$-3.37895 - 1.11916I$	$-6.71537 + 6.25818I$
$u = 0.215256 - 0.903029I$ $a = 0.317687 - 0.450207I$ $b = 1.333880 + 0.292850I$	$-3.37895 + 1.11916I$	$-6.71537 - 6.25818I$
$u = 0.917716 + 0.575117I$ $a = -0.152269 - 0.405561I$ $b = -0.719237 + 0.977922I$	$-3.37369 - 0.44904I$	$-6.52041 + 1.93090I$
$u = 0.917716 - 0.575117I$ $a = -0.152269 + 0.405561I$ $b = -0.719237 - 0.977922I$	$-3.37369 + 0.44904I$	$-6.52041 - 1.93090I$
$u = 0.699403 + 0.556885I$ $a = 0.518684 + 0.096121I$ $b = 0.472369 - 0.181298I$	$-0.91086 - 1.79017I$	$-2.80280 + 6.23617I$
$u = 0.699403 - 0.556885I$ $a = 0.518684 - 0.096121I$ $b = 0.472369 + 0.181298I$	$-0.91086 + 1.79017I$	$-2.80280 - 6.23617I$
$u = -0.779933 + 0.820657I$ $a = -0.118076 + 0.420776I$ $b = 1.099400 + 0.118017I$	$4.74644 + 5.48396I$	$-1.77561 - 5.39681I$
$u = -0.779933 - 0.820657I$ $a = -0.118076 - 0.420776I$ $b = 1.099400 - 0.118017I$	$4.74644 - 5.48396I$	$-1.77561 + 5.39681I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.204110 + 0.288939I$ $a = -1.18779 - 0.84508I$ $b = 0.155560 + 1.078100I$	$7.44242 - 0.75014I$	$-6.49122 - 1.47517I$
$u = -1.204110 - 0.288939I$ $a = -1.18779 + 0.84508I$ $b = 0.155560 - 1.078100I$	$7.44242 + 0.75014I$	$-6.49122 + 1.47517I$
$u = -0.688870 + 0.136185I$ $a = -1.224570 - 0.143786I$ $b = -0.736776 + 0.868265I$	$-1.58257 + 2.78797I$	$-3.07729 - 3.24624I$
$u = -0.688870 - 0.136185I$ $a = -1.224570 + 0.143786I$ $b = -0.736776 - 0.868265I$	$-1.58257 - 2.78797I$	$-3.07729 + 3.24624I$
$u = 1.142330 + 0.620428I$ $a = -0.730432 + 0.151211I$ $b = -0.501259 - 0.114342I$	$-4.62069 - 5.39762I$	$-8.35878 + 5.66526I$
$u = 1.142330 - 0.620428I$ $a = -0.730432 - 0.151211I$ $b = -0.501259 + 0.114342I$	$-4.62069 + 5.39762I$	$-8.35878 - 5.66526I$
$u = 1.142510 + 0.628521I$ $a = -0.864650 + 0.458202I$ $b = -0.482270 - 0.570367I$	$-4.57295 - 5.51103I$	$-8.91990 + 5.09219I$
$u = 1.142510 - 0.628521I$ $a = -0.864650 - 0.458202I$ $b = -0.482270 + 0.570367I$	$-4.57295 + 5.51103I$	$-8.91990 - 5.09219I$
$u = -0.543197 + 1.207720I$ $a = 0.184124 + 0.980020I$ $b = -0.34670 - 1.76350I$	$6.72679 + 4.10592I$	$0. - 4.04035I$
$u = -0.543197 - 1.207720I$ $a = 0.184124 - 0.980020I$ $b = -0.34670 + 1.76350I$	$6.72679 - 4.10592I$	$0. + 4.04035I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.958594 + 0.924625I$ $a = 0.98980 + 1.44113I$ $b = 0.60517 - 1.32684I$	$8.4720 + 11.5395I$	$-0.99707 - 7.84282I$
$u = -0.958594 - 0.924625I$ $a = 0.98980 - 1.44113I$ $b = 0.60517 + 1.32684I$	$8.4720 - 11.5395I$	$-0.99707 + 7.84282I$
$u = -1.004680 + 0.940267I$ $a = -0.082278 - 0.283040I$ $b = -1.41652 - 0.13516I$	$0.20771 + 11.31300I$	$-4.80272 - 7.49455I$
$u = -1.004680 - 0.940267I$ $a = -0.082278 + 0.283040I$ $b = -1.41652 + 0.13516I$	$0.20771 - 11.31300I$	$-4.80272 + 7.49455I$
$u = -0.985001 + 0.972060I$ $a = 0.767766 + 1.016360I$ $b = -0.102004 - 1.296790I$	$6.36005 - 2.77187I$	$-3.05581 + 2.62484I$
$u = -0.985001 - 0.972060I$ $a = 0.767766 - 1.016360I$ $b = -0.102004 + 1.296790I$	$6.36005 + 2.77187I$	$-3.05581 - 2.62484I$
$u = -0.200200 + 0.572516I$ $a = 1.70301 - 0.18917I$ $b = -0.220388 - 0.392976I$	$1.45570 - 1.51861I$	$4.04545 + 0.43743I$
$u = -0.200200 - 0.572516I$ $a = 1.70301 + 0.18917I$ $b = -0.220388 + 0.392976I$	$1.45570 + 1.51861I$	$4.04545 - 0.43743I$
$u = 0.66362 + 1.25439I$ $a = 0.192642 - 1.214670I$ $b = 0.354197 + 1.305910I$	$0.92156 - 6.68525I$	$-7.23472 + 7.95810I$
$u = 0.66362 - 1.25439I$ $a = 0.192642 + 1.214670I$ $b = 0.354197 - 1.305910I$	$0.92156 + 6.68525I$	$-7.23472 - 7.95810I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.08738 + 1.00044I$ $a = 0.786836 - 1.127920I$ $b = 0.299996 + 1.227280I$	$2.31687 - 4.92337I$	$1.27355 + 1.21908I$
$u = 1.08738 - 1.00044I$ $a = 0.786836 + 1.127920I$ $b = 0.299996 - 1.227280I$	$2.31687 + 4.92337I$	$1.27355 - 1.21908I$
$u = 0.138711 + 0.396343I$ $a = 0.59039 + 5.18828I$ $b = -0.372749 - 0.989227I$	$1.78029 - 1.83280I$	$-12.0868 + 10.8163I$
$u = 0.138711 - 0.396343I$ $a = 0.59039 - 5.18828I$ $b = -0.372749 + 0.989227I$	$1.78029 + 1.83280I$	$-12.0868 - 10.8163I$
$u = 1.38806 + 0.78702I$ $a = -0.871934 + 1.031450I$ $b = -0.354934 - 1.319140I$	$-0.20142 - 9.10069I$	$0. + 6.60524I$
$u = 1.38806 - 0.78702I$ $a = -0.871934 - 1.031450I$ $b = -0.354934 + 1.319140I$	$-0.20142 + 9.10069I$	$0. - 6.60524I$
$u = -1.29140 + 0.99260I$ $a = -0.808947 - 1.125780I$ $b = -0.66663 + 1.44205I$	$4.4225 + 18.5144I$	0
$u = -1.29140 - 0.99260I$ $a = -0.808947 + 1.125780I$ $b = -0.66663 - 1.44205I$	$4.4225 - 18.5144I$	0
$u = 0.285108$ $a = 1.07076$ $b = -0.751755$	-1.19853	-5.08320

II. $\boldsymbol{I_2^u = \langle -3.36 \times 10^{194} u^{63} - 8.92 \times 10^{194} u^{62} + \cdots + 3.65 \times 10^{194} b - 7.25 \times 10^{195},\ -6.75 \times 10^{193} u^{63} - 1.34 \times 10^{194} u^{62} + \cdots + 7.29 \times 10^{194} a - 8.82 \times 10^{193},\ u^{64} + 3u^{63} + \cdots - 4u + 8 \rangle}$

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix} 0.0925260u^{63} + 0.183221u^{62} + \cdots + 18.9131u + 0.120995 \\ 0.921637u^{63} + 2.44642u^{62} + \cdots - 64.8386u + 19.8942 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.01416u^{63} + 2.62964u^{62} + \cdots - 45.9255u + 20.0152 \\ 0.921637u^{63} + 2.44642u^{62} + \cdots - 64.8386u + 19.8942 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.397732u^{63} - 1.12402u^{62} + \cdots + 58.4066u - 10.9114 \\ -1.83192u^{63} - 4.71054u^{62} + \cdots + 88.6071u - 34.2118 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0634086u^{63} + 0.178584u^{62} + \cdots - 6.51378u + 3.34814 \\ -0.551562u^{63} - 1.42402u^{62} + \cdots + 15.6615u - 8.04679 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.20658u^{63} - 5.78972u^{62} + \cdots + 143.555u - 44.5698 \\ -2.13061u^{63} - 5.49360u^{62} + \cdots + 106.121u - 40.2985 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.311343u^{63} - 0.637742u^{62} + \cdots - 34.6103u + 4.87894 \\ 0.0177322u^{63} + 0.195921u^{62} + \cdots - 38.6360u + 7.30043 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.614335u^{63} + 1.75383u^{62} + \cdots - 69.6491u + 19.7599 \\ -0.488015u^{63} - 1.30063u^{62} + \cdots + 26.8103u - 9.30122 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.134912u^{63} + 0.474640u^{62} + \cdots - 37.5674u + 9.74525 \\ -0.536387u^{63} - 1.43131u^{62} + \cdots + 31.2820u - 10.5739 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.42624u^{63} + 3.50879u^{62} + \cdots - 18.5106u + 18.6991 \\ 0.774717u^{63} + 2.02597u^{62} + \cdots - 37.7653u + 13.6468 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 9.79898u^{63} + 24.5723u^{62} + \cdots - 364.680u + 147.102$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{64} - 3u^{63} + \cdots + 4u + 8$
c_2, c_6	$(u^{32} + 3u^{31} + \cdots - 197u - 17)^2$
c_3, c_9	$u^{64} - 5u^{62} + \cdots - 151551u + 109156$
c_4, c_{10}	$(u^{32} + 9u^{30} + \cdots - 159u - 39)^2$
c_7, c_{11}	$u^{64} - 13u^{63} + \cdots - 14192u + 1088$
c_8, c_{12}	$(u^{32} - u^{31} + \cdots + 15u - 43)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{64} - 35y^{63} + \cdots - 6000y + 64$
c_2, c_6	$(y^{32} - 23y^{31} + \cdots - 11065y + 289)^2$
c_3, c_9	$y^{64} - 10y^{63} + \cdots - 162341142769y + 11915032336$
c_4, c_{10}	$(y^{32} + 18y^{31} + \cdots - 1335y + 1521)^2$
c_7, c_{11}	$y^{64} - 19y^{63} + \cdots - 30831872y + 1183744$
c_8, c_{12}	$(y^{32} + 29y^{31} + \cdots + 37013y + 1849)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.962163 + 0.307932I$ $a = 1.023170 + 0.750197I$ $b = -0.159347 + 1.088400I$	$2.79274 + 0.13431I$	0
$u = 0.962163 - 0.307932I$ $a = 1.023170 - 0.750197I$ $b = -0.159347 - 1.088400I$	$2.79274 - 0.13431I$	0
$u = 0.567766 + 0.841359I$ $a = -0.190788 + 1.398060I$ $b = -0.51244 - 1.54462I$	$4.76515 - 4.52869I$	0
$u = 0.567766 - 0.841359I$ $a = -0.190788 - 1.398060I$ $b = -0.51244 + 1.54462I$	$4.76515 + 4.52869I$	0
$u = -0.835940 + 0.661381I$ $a = 1.33252 + 1.70530I$ $b = 0.431770 - 1.307820I$	$8.30164 + 4.57817I$	0
$u = -0.835940 - 0.661381I$ $a = 1.33252 - 1.70530I$ $b = 0.431770 + 1.307820I$	$8.30164 - 4.57817I$	0
$u = -0.852457 + 0.644467I$ $a = 0.121717 + 0.824750I$ $b = 0.837919$	4.27386	0
$u = -0.852457 - 0.644467I$ $a = 0.121717 - 0.824750I$ $b = 0.837919$	4.27386	0
$u = 0.304243 + 0.870445I$ $a = 0.10646 - 1.95520I$ $b = -0.092714 + 1.263860I$	$3.20379 + 2.62478I$	0
$u = 0.304243 - 0.870445I$ $a = 0.10646 + 1.95520I$ $b = -0.092714 - 1.263860I$	$3.20379 - 2.62478I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.057070 + 0.257547I$ $a = 0.723741 - 0.991040I$ $b = 0.085775 - 0.685758I$	$-7.23053 + 1.36356I$	0
$u = -1.057070 - 0.257547I$ $a = 0.723741 + 0.991040I$ $b = 0.085775 + 0.685758I$	$-7.23053 - 1.36356I$	0
$u = -0.830673 + 0.245387I$ $a = 0.942042 - 0.010162I$ $b = 0.773851 - 0.896847I$	$-4.87430 + 7.62655I$	$4.31752 - 8.08508I$
$u = -0.830673 - 0.245387I$ $a = 0.942042 + 0.010162I$ $b = 0.773851 + 0.896847I$	$-4.87430 - 7.62655I$	$4.31752 + 8.08508I$
$u = 1.138500 + 0.231412I$ $a = 0.635480 + 0.873812I$ $b = 0.159878 + 1.184480I$	$0.75589 - 7.24896I$	0
$u = 1.138500 - 0.231412I$ $a = 0.635480 - 0.873812I$ $b = 0.159878 - 1.184480I$	$0.75589 + 7.24896I$	0
$u = -0.717888 + 0.402459I$ $a = -0.002746 - 0.413003I$ $b = -1.255360 + 0.575196I$	$-0.07972 + 4.30514I$	$-8.18803 - 7.69807I$
$u = -0.717888 - 0.402459I$ $a = -0.002746 + 0.413003I$ $b = -1.255360 - 0.575196I$	$-0.07972 - 4.30514I$	$-8.18803 + 7.69807I$
$u = 0.613650 + 0.497367I$ $a = -0.74700 - 1.34855I$ $b = -0.137426 + 0.889581I$	$-3.31895 + 0.38088I$	$-5.16361 - 0.66528I$
$u = 0.613650 - 0.497367I$ $a = -0.74700 + 1.34855I$ $b = -0.137426 - 0.889581I$	$-3.31895 - 0.38088I$	$-5.16361 + 0.66528I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.553469+1.089310I$ $a=-0.39672-1.79627I$ $b=-0.159347+1.088400I$	$2.79274+0.13431I$	0
$u=-0.553469-1.089310I$ $a=-0.39672+1.79627I$ $b=-0.159347-1.088400I$	$2.79274-0.13431I$	0
$u=0.078535+0.684285I$ $a=1.50952+2.16696I$ $b=-0.247516-0.737755I$	$1.63215-1.59930I$	$8.69923+5.57276I$
$u=0.078535-0.684285I$ $a=1.50952-2.16696I$ $b=-0.247516+0.737755I$	$1.63215+1.59930I$	$8.69923-5.57276I$
$u=0.781902+1.082280I$ $a=-0.237406+1.366770I$ $b=-0.092714-1.263860I$	$3.20379-2.62478I$	0
$u=0.781902-1.082280I$ $a=-0.237406-1.366770I$ $b=-0.092714+1.263860I$	$3.20379+2.62478I$	0
$u=-1.227480+0.548653I$ $a=0.017111-0.166181I$ $b=0.067014+0.530835I$	$-1.69750+6.00434I$	0
$u=-1.227480-0.548653I$ $a=0.017111+0.166181I$ $b=0.067014-0.530835I$	$-1.69750-6.00434I$	0
$u=-0.984891+0.940001I$ $a=-0.59554-1.37878I$ $b=-0.41680+1.48230I$	$6.29446+9.80876I$	0
$u=-0.984891-0.940001I$ $a=-0.59554+1.37878I$ $b=-0.41680-1.48230I$	$6.29446-9.80876I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.358390 + 0.208893I$ $a = -0.156424 + 0.051080I$ $b = -0.137426 - 0.889581I$	$-3.31895 - 0.38088I$	0
$u = 1.358390 - 0.208893I$ $a = -0.156424 - 0.051080I$ $b = -0.137426 + 0.889581I$	$-3.31895 + 0.38088I$	0
$u = -1.06126 + 0.95614I$ $a = -0.316580 - 0.936481I$ $b = 0.431770 + 1.307820I$	$8.30164 - 4.57817I$	0
$u = -1.06126 - 0.95614I$ $a = -0.316580 + 0.936481I$ $b = 0.431770 - 1.307820I$	$8.30164 + 4.57817I$	0
$u = 0.379181 + 0.402833I$ $a = 4.91958 + 1.55487I$ $b = 0.067014 - 0.530835I$	$-1.69750 - 6.00434I$	$-0.30980 - 1.55337I$
$u = 0.379181 - 0.402833I$ $a = 4.91958 - 1.55487I$ $b = 0.067014 + 0.530835I$	$-1.69750 + 6.00434I$	$-0.30980 + 1.55337I$
$u = -1.22729 + 0.77360I$ $a = -0.644581 - 0.481013I$ $b = -1.255360 - 0.575196I$	$-0.07972 - 4.30514I$	0
$u = -1.22729 - 0.77360I$ $a = -0.644581 + 0.481013I$ $b = -1.255360 + 0.575196I$	$-0.07972 + 4.30514I$	0
$u = -0.427674 + 0.203192I$ $a = 1.40918 - 1.88213I$ $b = 0.140828 + 1.344780I$	$-4.86785 + 0.69304I$	$-7.98362 - 8.67364I$
$u = -0.427674 - 0.203192I$ $a = 1.40918 + 1.88213I$ $b = 0.140828 - 1.344780I$	$-4.86785 - 0.69304I$	$-7.98362 + 8.67364I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.24246 + 0.93806I$ $a = 0.56665 + 1.30040I$ $b = 0.159878 - 1.184480I$	$0.75589 + 7.24896I$	0
$u = -1.24246 - 0.93806I$ $a = 0.56665 - 1.30040I$ $b = 0.159878 + 1.184480I$	$0.75589 - 7.24896I$	0
$u = -0.437498 + 0.041928I$ $a = 1.138190 - 0.255230I$ $b = 0.93620 + 1.06098I$	$-4.77928 + 1.38633I$	$-2.68608 + 9.80464I$
$u = -0.437498 - 0.041928I$ $a = 1.138190 + 0.255230I$ $b = 0.93620 - 1.06098I$	$-4.77928 - 1.38633I$	$-2.68608 - 9.80464I$
$u = 0.421812$ $a = 0.674343$ $b = -0.730697$	-1.19702	-5.68960
$u = 0.391711 + 0.125725I$ $a = 1.11338 - 1.90605I$ $b = 0.67267 + 1.66748I$	$4.14362 - 6.62538I$	$-11.58727 + 8.02056I$
$u = 0.391711 - 0.125725I$ $a = 1.11338 + 1.90605I$ $b = 0.67267 - 1.66748I$	$4.14362 + 6.62538I$	$-11.58727 - 8.02056I$
$u = -0.327963 + 0.245285I$ $a = 2.32590 - 2.13065I$ $b = -0.247516 - 0.737755I$	$1.63215 - 1.59930I$	$8.69923 + 5.57276I$
$u = -0.327963 - 0.245285I$ $a = 2.32590 + 2.13065I$ $b = -0.247516 + 0.737755I$	$1.63215 + 1.59930I$	$8.69923 - 5.57276I$
$u = 1.18216 + 1.12588I$ $a = 0.74131 - 1.29069I$ $b = 0.773851 + 0.896847I$	$-4.87430 - 7.62655I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.18216 - 1.12588I$ $a = 0.74131 + 1.29069I$ $b = 0.773851 - 0.896847I$	$-4.87430 + 7.62655I$	0
$u = -1.12922 + 1.18467I$ $a = -0.715216 - 0.916920I$ $b = -0.51244 + 1.54462I$	$4.76515 + 4.52869I$	0
$u = -1.12922 - 1.18467I$ $a = -0.715216 + 0.916920I$ $b = -0.51244 - 1.54462I$	$4.76515 - 4.52869I$	0
$u = -0.76984 + 1.57512I$ $a = 0.211433 + 0.967103I$ $b = -0.41680 - 1.48230I$	$6.29446 - 9.80876I$	0
$u = -0.76984 - 1.57512I$ $a = 0.211433 - 0.967103I$ $b = -0.41680 + 1.48230I$	$6.29446 + 9.80876I$	0
$u = 0.135489$ $a = 2.38464$ $b = -0.730697$	-1.19702	-5.68960
$u = 1.51575 + 1.17913I$ $a = 0.042233 + 0.244506I$ $b = 0.93620 - 1.06098I$	$-4.77928 - 1.38633I$	0
$u = 1.51575 - 1.17913I$ $a = 0.042233 - 0.244506I$ $b = 0.93620 + 1.06098I$	$-4.77928 + 1.38633I$	0
$u = 2.00508 + 0.27337I$ $a = 0.274454 + 1.030460I$ $b = 0.085775 - 0.685758I$	$-7.23053 + 1.36356I$	0
$u = 2.00508 - 0.27337I$ $a = 0.274454 - 1.030460I$ $b = 0.085775 + 0.685758I$	$-7.23053 - 1.36356I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.71775 + 1.10513I$ $a = 0.679279 + 0.675093I$ $b = 0.67267 - 1.66748I$	$4.14362 + 6.62538I$	0
$u = -1.71775 - 1.10513I$ $a = 0.679279 - 0.675093I$ $b = 0.67267 + 1.66748I$	$4.14362 - 6.62538I$	0
$u = 2.34314 + 0.12518I$ $a = 0.140145 + 0.427493I$ $b = 0.140828 - 1.344780I$	$-4.86785 - 0.69304I$	0
$u = 2.34314 - 0.12518I$ $a = 0.140145 - 0.427493I$ $b = 0.140828 + 1.344780I$	$-4.86785 + 0.69304I$	0

III. $I_3^u = \langle -3.67\times 10^{26}u^{23} + 2.74\times 10^{27}u^{22} + \cdots + 1.23\times 10^{25}b + 4.48\times 10^{27},\ -4.10\times 10^{27}u^{23} + 3.02\times 10^{28}u^{22} + \cdots + 8.60\times 10^{25}a + 4.49\times 10^{28},\ u^{24} - 8u^{23} + \cdots - 70u + 7\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}47.6906u^{23} - 351.519u^{22} + \cdots + 4424.76u - 521.851\\29.8636u^{23} - 222.890u^{22} + \cdots + 3056.38u - 364.681\end{pmatrix}$$
$$a_8 = \begin{pmatrix}77.5542u^{23} - 574.408u^{22} + \cdots + 7481.14u - 886.532\\29.8636u^{23} - 222.890u^{22} + \cdots + 3056.38u - 364.681\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-12.8106u^{23} + 100.818u^{22} + \cdots - 2044.21u + 269.129\\-9.95501u^{23} + 73.3208u^{22} + \cdots - 763.480u + 77.2798\end{pmatrix}$$
$$a_3 = \begin{pmatrix}0.138784u^{23} + 11.3623u^{22} + \cdots - 1638.59u + 246.874\\11.4161u^{23} - 83.1833u^{22} + \cdots + 940.881u - 107.944\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-25.1908u^{23} + 190.223u^{22} + \cdots - 2780.72u + 334.744\\-16.0870u^{23} + 118.943u^{22} + \cdots - 1351.40u + 144.738\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-20.9624u^{23} + 168.401u^{22} + \cdots - 3767.42u + 499.102\\-9.94567u^{23} + 81.2009u^{22} + \cdots - 1999.72u + 267.949\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-32.1987u^{23} + 250.704u^{22} + \cdots - 4728.32u + 612.544\\13.1750u^{23} - 94.7433u^{22} + \cdots + 874.407u - 89.4725\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-22.3595u^{23} + 176.188u^{22} + \cdots - 3597.32u + 474.872\\14.4092u^{23} - 104.761u^{22} + \cdots + 1099.33u - 118.852\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}27.2400u^{23} - 184.739u^{22} + \cdots + 294.311u + 43.5055\\30.5534u^{23} - 223.504u^{22} + \cdots + 2557.59u - 289.562\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{2413990051504396952568557713}{1228205275657778876659188 1}u^{23} + \frac{17843697385323316380752630998}{12282052756577788766591881}u^{22} + \cdots - \frac{21768026327721217941413752104 6}{12282052756577788766591881}u + \frac{24555062877957345779880593656}{12282052756577788766591881}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{24} - 8u^{23} + \cdots - 70u + 7$
c_2	$(u^{12} - 5u^{11} + \cdots - u + 1)^2$
c_3, c_9	$7(7u^{24} - 7u^{23} + \cdots + 75u + 5)$
c_4, c_{10}	$7(7u^{24} + 60u^{22} + \cdots + 22427u^2 + 4717)$
c_6	$(u^{12} + 5u^{11} + \cdots + u + 1)^2$
c_7, c_{11}	$u^{24} - 3u^{22} + \cdots - 112u + 28$
c_8	$(u^{12} + 3u^{11} + \cdots - u + 1)^2$
c_{12}	$(u^{12} - 3u^{11} + \cdots + u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{24} - 16y^{23} + \cdots - 476y + 49$
c_2, c_6	$(y^{12} - 3y^{11} + \cdots + 5y + 1)^2$
c_3, c_9	$49(49y^{24} - 1071y^{23} + \cdots - 1875y + 25)$
c_4, c_{10}	$49(7y^{12} + 60y^{11} + \cdots + 22427y + 4717)^2$
c_7, c_{11}	$y^{24} - 6y^{23} + \cdots - 2240y + 784$
c_8, c_{12}	$(y^{12} + 9y^{11} + \cdots + 11y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.990360 + 0.229959I$ $a = 0.772033 - 0.008329I$ $b = 0.696956 + 0.905272I$	$-5.24399 - 7.57487I$	$-16.9266 + 5.7019I$
$u = 0.990360 - 0.229959I$ $a = 0.772033 + 0.008329I$ $b = 0.696956 - 0.905272I$	$-5.24399 + 7.57487I$	$-16.9266 - 5.7019I$
$u = -1.052190 + 0.204446I$ $a = -0.671428 + 1.062710I$ $b = -0.194327 + 0.818955I$	$-7.05899 + 1.71829I$	$-5.19858 - 10.93231I$
$u = -1.052190 - 0.204446I$ $a = -0.671428 - 1.062710I$ $b = -0.194327 - 0.818955I$	$-7.05899 - 1.71829I$	$-5.19858 + 10.93231I$
$u = -0.005493 + 0.852422I$ $a = 1.09872 + 1.76399I$ $b = -0.272473 - 0.732142I$	$1.24358 - 1.53174I$	$-12.33823 + 2.51319I$
$u = -0.005493 - 0.852422I$ $a = 1.09872 - 1.76399I$ $b = -0.272473 + 0.732142I$	$1.24358 + 1.53174I$	$-12.33823 - 2.51319I$
$u = 0.670567 + 0.451392I$ $a = -3.10489 - 1.25043I$ $b = -0.220204 - 0.443899I$	$-1.92697 - 6.43714I$	$-7.7705 + 12.2950I$
$u = 0.670567 - 0.451392I$ $a = -3.10489 + 1.25043I$ $b = -0.220204 + 0.443899I$	$-1.92697 + 6.43714I$	$-7.7705 - 12.2950I$
$u = -1.176230 + 0.572580I$ $a = -0.287366 - 0.389151I$ $b = -0.220204 + 0.443899I$	$-1.92697 + 6.43714I$	$-7.7705 - 12.2950I$
$u = -1.176230 - 0.572580I$ $a = -0.287366 + 0.389151I$ $b = -0.220204 - 0.443899I$	$-1.92697 - 6.43714I$	$-7.7705 + 12.2950I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.107516 + 0.630369I$ $a = -0.54125 - 1.37593I$ $b = 0.48403 + 1.67729I$	$4.71142 - 6.53437I$	$1.95402 + 5.88343I$
$u = 0.107516 - 0.630369I$ $a = -0.54125 + 1.37593I$ $b = 0.48403 - 1.67729I$	$4.71142 + 6.53437I$	$1.95402 - 5.88343I$
$u = 0.577516 + 0.093224I$ $a = 0.70516 + 2.89509I$ $b = -0.272473 + 0.732142I$	$1.24358 + 1.53174I$	$-12.33823 - 2.51319I$
$u = 0.577516 - 0.093224I$ $a = 0.70516 - 2.89509I$ $b = -0.272473 - 0.732142I$	$1.24358 - 1.53174I$	$-12.33823 + 2.51319I$
$u = 0.497811 + 0.172649I$ $a = 0.228512 + 0.377817I$ $b = 1.00602 - 1.16447I$	$-4.88453 - 1.63304I$	$-15.7201 + 17.9154I$
$u = 0.497811 - 0.172649I$ $a = 0.228512 - 0.377817I$ $b = 1.00602 + 1.16447I$	$-4.88453 + 1.63304I$	$-15.7201 - 17.9154I$
$u = 1.21458 + 1.13879I$ $a = 0.73104 - 1.29369I$ $b = 0.696956 + 0.905272I$	$-5.24399 - 7.57487I$	0
$u = 1.21458 - 1.13879I$ $a = 0.73104 + 1.29369I$ $b = 0.696956 - 0.905272I$	$-5.24399 + 7.57487I$	0
$u = -1.43744 + 1.24436I$ $a = 0.580978 + 0.823510I$ $b = 0.48403 - 1.67729I$	$4.71142 + 6.53437I$	0
$u = -1.43744 - 1.24436I$ $a = 0.580978 - 0.823510I$ $b = 0.48403 + 1.67729I$	$4.71142 - 6.53437I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 2.01097 + 0.27938I$ $a = -0.149660 - 1.076590I$ $b = -0.194327 + 0.818955I$	$-7.05899 + 1.71829I$	0
$u = 2.01097 - 0.27938I$ $a = -0.149660 + 1.076590I$ $b = -0.194327 - 0.818955I$	$-7.05899 - 1.71829I$	0
$u = 1.60204 + 1.39782I$ $a = 0.066724 + 0.280616I$ $b = 1.00602 - 1.16447I$	$-4.88453 - 1.63304I$	0
$u = 1.60204 - 1.39782I$ $a = 0.066724 - 0.280616I$ $b = 1.00602 + 1.16447I$	$-4.88453 + 1.63304I$	0

IV. $\boldsymbol{I_4^u = \langle -u^5 + u^4 - u^2 + b + 1,\ u^5 - u^4 + u^2 + a,\ u^6 - u^5 + 2u^3 - u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^6 - y^5 + 4y^4 - 4y^3 + 4y^2 - y + 1$
c_2, c_6	$y^6 - 5y^5 + 2y^4 + 20y^3 + 17y^2 + 8y + 4$
c_3, c_9	$y^6 + 5y^5 + 13y^4 + 11y^3 + 3y^2 - 2y + 1$
c_4, c_{10}	y^6
c_7, c_{11}	$(y^3 + 2y^2 - 2y + 1)^2$
c_8, c_{12}	$y^6 + 4y^5 + 6y^4 + 3y^3 + y^2 + 4y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.915589 + 0.402116I$ $a = -1.23898 - 1.13846I$ $b = 0.238984 + 1.138460I$	$8.28528 - 1.18132I$	$1.33896 + 1.96041I$
$u = -0.915589 - 0.402116I$ $a = -1.23898 + 1.13846I$ $b = 0.238984 - 1.138460I$	$8.28528 + 1.18132I$	$1.33896 - 1.96041I$
$u = 0.510869 + 0.551075I$ $a = -0.137977 - 0.412869I$ $b = -0.862023 + 0.412869I$	$-1.44750 - 0.78507I$	$-4.75532 + 4.67080I$
$u = 0.510869 - 0.551075I$ $a = -0.137977 + 0.412869I$ $b = -0.862023 - 0.412869I$	$-1.44750 + 0.78507I$	$-4.75532 - 4.67080I$
$u = 0.904720 + 0.975923I$ $a = -0.623039 + 1.214800I$ $b = -0.376961 - 1.214800I$	$1.38689 - 5.20040I$	$-7.08364 + 4.17423I$
$u = 0.904720 - 0.975923I$ $a = -0.623039 - 1.214800I$ $b = -0.376961 + 1.214800I$	$1.38689 + 5.20040I$	$-7.08364 - 4.17423I$

V. $I^u_5 = \langle -u^4+4u^3-4u^2+b+1,\ -u^5+6u^4-11u^3+6u^2+2a-u,\ u^6-6u^5+11u^4-4u^3-5u^2+2u+2\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^6 - 14y^5 + 63y^4 - 98y^3 + 85y^2 - 24y + 4$
c_2, c_6, c_8 c_{12}	$(y^3 + 4y^2 + 4y - 1)^2$
c_3, c_9	$(y - 1)^6$
c_4, c_{10}	$(y + 1)^6$
c_7, c_{11}	$y^6 - 14y^5 + 85y^4 - 160y^3 + 140y^2 + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.000000 + 0.453398I$ $a = 0.376086 + 0.829484I$ $b = 0.453398$	-4.93480	-12.0000
$u = 1.000000 - 0.453398I$ $a = 0.376086 - 0.829484I$ $b = 0.453398$	-4.93480	-12.0000
$u = -0.467712 + 0.226699I$ $a = -0.83917 + 1.73133I$ $b = -0.22670 - 1.46771I$	-4.93480	-12.0000
$u = -0.467712 - 0.226699I$ $a = -0.83917 - 1.73133I$ $b = -0.22670 + 1.46771I$	-4.93480	-12.0000
$u = 2.46771 + 0.22670I$ $a = -0.036916 - 0.401842I$ $b = -0.22670 + 1.46771I$	-4.93480	-12.0000
$u = 2.46771 - 0.22670I$ $a = -0.036916 + 0.401842I$ $b = -0.22670 - 1.46771I$	-4.93480	-12.0000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^6-6u^5+11u^4-4u^3-5u^2+2u+2)(u^6-u^5+2u^3-u+1)$ $\cdot(u^{24}-8u^{23}+\cdots-70u+7)(u^{39}-u^{38}+\cdots+30u+14)$ $\cdot(u^{64}-3u^{63}+\cdots+4u+8)$
c_2	$(u^3+2u-1)^2(u^6+5u^5+10u^4+12u^3+11u^2+6u+2)$ $\cdot((u^{12}-5u^{11}+\cdots-u+1)^2)(u^{32}+3u^{31}+\cdots-197u-17)^2$ $\cdot(u^{39}-4u^{38}+\cdots+338u+250)$
c_3, c_9	$49(u+1)^6(u^6-u^5+3u^4+u^3+u^2+2u+1)$ $\cdot(7u^{24}-7u^{23}+\cdots+75u+5)(7u^{39}-23u^{38}+\cdots+3790u+397)$ $\cdot(u^{64}-5u^{62}+\cdots-151551u+109156)$
c_4, c_{10}	$49u^6(u^2+1)^3(7u^{24}+60u^{22}+\cdots+22427u^2+4717)$ $\cdot((u^{32}+9u^{30}+\cdots-159u-39)^2)(7u^{39}-9u^{38}+\cdots+704u+128)$
c_6	$(u^3+2u+1)^2(u^6-5u^5+10u^4-12u^3+11u^2-6u+2)$ $\cdot((u^{12}+5u^{11}+\cdots+u+1)^2)(u^{32}+3u^{31}+\cdots-197u-17)^2$ $\cdot(u^{39}-4u^{38}+\cdots+338u+250)$
c_7, c_{11}	$(u^6+2u^4-2u^2+1)(u^6+2u^5-5u^4-6u^3+18u^2-12u+4)$ $\cdot(u^{24}-3u^{22}+\cdots-112u+28)(u^{39}-2u^{38}+\cdots-256u+112)$ $\cdot(u^{64}-13u^{63}+\cdots-14192u+1088)$
c_8	$(u^3+2u+1)^2(u^6-2u^5+4u^4-5u^3+5u^2-4u+2)$ $\cdot((u^{12}+3u^{11}+\cdots-u+1)^2)(u^{32}-u^{31}+\cdots+15u-43)^2$ $\cdot(u^{39}+3u^{38}+\cdots+144u+26)$
c_{12}	$(u^3+2u-1)^2(u^6+2u^5+4u^4+5u^3+5u^2+4u+2)$ $\cdot((u^{12}-3u^{11}+\cdots+u+1)^2)(u^{32}-u^{31}+\cdots+15u-43)^2$ $\cdot(u^{39}+3u^{38}+\cdots+144u+26)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^6 - 14y^5 + 63y^4 - 98y^3 + 85y^2 - 24y + 4)$ $\cdot (y^6 - y^5 + 4y^4 - 4y^3 + 4y^2 - y + 1)(y^{24} - 16y^{23} + \cdots - 476y + 49)$ $\cdot (y^{39} - 5y^{38} + \cdots + 508y - 196)(y^{64} - 35y^{63} + \cdots - 6000y + 64)$
c_2, c_6	$(y^3 + 4y^2 + 4y - 1)^2(y^6 - 5y^5 + 2y^4 + 20y^3 + 17y^2 + 8y + 4)$ $\cdot ((y^{12} - 3y^{11} + \cdots + 5y + 1)^2)(y^{32} - 23y^{31} + \cdots - 11065y + 289)^2$ $\cdot (y^{39} - 26y^{38} + \cdots + 1469244y - 62500)$
c_3, c_9	$2401(y - 1)^6(y^6 + 5y^5 + 13y^4 + 11y^3 + 3y^2 - 2y + 1)$ $\cdot (49y^{24} - 1071y^{23} + \cdots - 1875y + 25)$ $\cdot (49y^{39} + 1473y^{38} + \cdots + 1541000y - 157609)$ $\cdot (y^{64} - 10y^{63} + \cdots - 162341142769y + 11915032336)$
c_4, c_{10}	$2401y^6(y + 1)^6(7y^{12} + 60y^{11} + \cdots + 22427y + 4717)^2$ $\cdot (y^{32} + 18y^{31} + \cdots - 1335y + 1521)^2$ $\cdot (49y^{39} + 885y^{38} + \cdots + 167936y - 16384)$
c_7, c_{11}	$(y^3 + 2y^2 - 2y + 1)^2(y^6 - 14y^5 + 85y^4 - 160y^3 + 140y^2 + 16)$ $\cdot (y^{24} - 6y^{23} + \cdots - 2240y + 784)$ $\cdot (y^{39} + 18y^{38} + \cdots - 65280y - 12544)$ $\cdot (y^{64} - 19y^{63} + \cdots - 30831872y + 1183744)$
c_8, c_{12}	$(y^3 + 4y^2 + 4y - 1)^2(y^6 + 4y^5 + 6y^4 + 3y^3 + y^2 + 4y + 4)$ $\cdot (y^{12} + 9y^{11} + \cdots + 11y + 1)^2$ $\cdot (y^{32} + 29y^{31} + \cdots + 37013y + 1849)^2$ $\cdot (y^{39} + 23y^{38} + \cdots + 1392y - 676)$