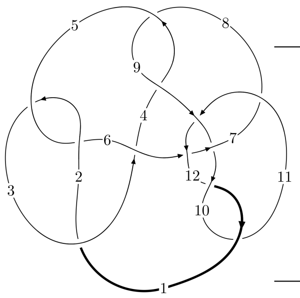
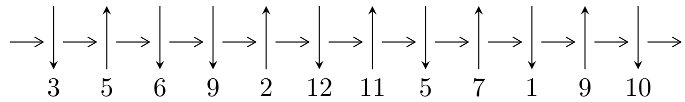
$12n_{0033}$ ($K12n_{0033}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 9.05330 \times 10^{317} u^{76} + 1.41320 \times 10^{318} u^{75} + \cdots + 2.50588 \times 10^{321} b + 5.09891 \times 10^{321}, \\
& - 5.10110 \times 10^{318} u^{76} - 1.08271 \times 10^{319} u^{75} + \cdots + 5.01177 \times 10^{321} a - 7.58939 \times 10^{322}, \\
& u^{77} + 2u^{76} + \cdots + 20480u + 4096 \rangle \\
I_2^u = \langle & -2u^3 - u^2 + b - 5u - 1,\ 3u^3 + 4u^2 + a + 8u + 8,\ u^4 + u^3 + 3u^2 + 2u + 1 \rangle
\end{aligned}$$

$$\begin{aligned}
I_1^v = \langle & a,\ 164522v^{11} + 355934v^{10} + \cdots + 707733b - 176501, \\
& v^{12} + 3v^{11} + 3v^{10} + 18v^9 + 31v^8 - 29v^7 - 31v^6 - 9v^5 + 19v^4 + 5v^3 - 4v^2 + v + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 93 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. $\boldsymbol{I_1^u = \langle 9.05 \times 10^{317} u^{76} + 1.41 \times 10^{318} u^{75} + \cdots + 2.51 \times 10^{321} b + 5.10 \times 10^{321},\ -5.10 \times 10^{318} u^{76} - 1.08 \times 10^{319} u^{75} + \cdots + 5.01 \times 10^{321} a - 7.59 \times 10^{322},\ u^{77} + 2u^{76} + \cdots + 20480u + 4096 \rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.00101783u^{76} + 0.00216033u^{75} + \cdots + 36.5435u + 15.1431 \\ -0.000361282u^{76} - 0.000563952u^{75} + \cdots - 12.2323u - 2.03477 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.000855818u^{76} + 0.00185986u^{75} + \cdots + 31.0338u + 13.6191 \\ -0.000362414u^{76} - 0.000562641u^{75} + \cdots - 12.0509u - 2.13122 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.00303743u^{76} - 0.00486392u^{75} + \cdots - 99.2882u - 15.0764 \\ -0.000239922u^{76} - 0.000649688u^{75} + \cdots - 15.1615u - 6.17114 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.000822714u^{76} + 0.00175824u^{75} + \cdots + 32.3423u + 13.8923 \\ -0.000210387u^{76} - 0.000333021u^{75} + \cdots - 8.20005u - 1.17725 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.000316716u^{76} + 0.000548963u^{75} + \cdots + 6.03001u + 1.86087 \\ -8.61974 \times 10^{-6}u^{76} - 0.0000450420u^{75} + \cdots - 2.08710u - 0.369176 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.000325336u^{76} + 0.000594005u^{75} + \cdots + 8.11710u + 2.23004 \\ 0.0000255950u^{76} + 0.0000821978u^{75} + \cdots + 1.91504u + 0.601280 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.0000229625u^{76} - 0.000118674u^{75} + \cdots - 2.05186u - 1.28107 \\ 0.0000158254u^{76} + 0.0000361796u^{75} + \cdots + 2.94000u + 0.422511 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.0000229625u^{76} - 0.000118674u^{75} + \cdots - 2.05186u - 1.28107 \\ 0.0000353440u^{76} + 0.0000721239u^{75} + \cdots + 4.52395u + 0.720490 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.000265127u^{76} + 0.00273732u^{75} + \cdots + 71.8347u + 33.0070$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{77} + 42u^{76} + \cdots - 173u - 1$
c_2, c_5	$u^{77} + 8u^{76} + \cdots + 3u + 1$
c_3	$u^{77} - 8u^{76} + \cdots + 2520u + 1732$
c_4, c_8	$u^{77} + 2u^{76} + \cdots + 20480u + 4096$
c_6	$u^{77} - 7u^{76} + \cdots - 18228u - 7979$
c_7	$u^{77} - u^{76} + \cdots + 7631854u - 2351327$
c_9	$u^{77} + 4u^{76} + \cdots - 3u - 1$
c_{10}, c_{12}	$u^{77} - 7u^{76} + \cdots - 65u + 1$
c_{11}	$u^{77} + 13u^{76} + \cdots - 200u - 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{77} - 6y^{76} + \cdots + 13671y - 1$
c_2, c_5	$y^{77} + 42y^{76} + \cdots - 173y - 1$
c_3	$y^{77} - 54y^{76} + \cdots - 552548680y - 2999824$
c_4, c_8	$y^{77} - 60y^{76} + \cdots + 234881024y - 16777216$
c_6	$y^{77} - 77y^{76} + \cdots + 2964755496y - 63664441$
c_7	$y^{77} - 9y^{76} + \cdots - 135685107448604y - 5528738660929$
c_9	$y^{77} + 2y^{76} + \cdots - 29y - 1$
c_{10}, c_{12}	$y^{77} - 63y^{76} + \cdots - 2399y - 1$
c_{11}	$y^{77} + 21y^{76} + \cdots + 15168y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.021202 + 0.991505I$ $a = -0.103805 + 0.681267I$ $b = -0.387707 + 0.512895I$	$-1.29984 - 4.81871I$	$-3.73970 + 8.31831I$
$u = -0.021202 - 0.991505I$ $a = -0.103805 - 0.681267I$ $b = -0.387707 - 0.512895I$	$-1.29984 + 4.81871I$	$-3.73970 - 8.31831I$
$u = 0.350174 + 0.870277I$ $a = 1.63705 + 0.66516I$ $b = -0.136420 + 1.089040I$	$-4.26262 - 2.29968I$	$-11.37943 + 4.09375I$
$u = 0.350174 - 0.870277I$ $a = 1.63705 - 0.66516I$ $b = -0.136420 - 1.089040I$	$-4.26262 + 2.29968I$	$-11.37943 - 4.09375I$
$u = 0.552031 + 0.673417I$ $a = 1.42607 + 0.68039I$ $b = -0.151263 - 0.305259I$	$-3.26120 + 0.96418I$	$-9.85344 - 3.05224I$
$u = 0.552031 - 0.673417I$ $a = 1.42607 - 0.68039I$ $b = -0.151263 + 0.305259I$	$-3.26120 - 0.96418I$	$-9.85344 + 3.05224I$
$u = 0.801656 + 0.115028I$ $a = 1.26895 - 2.37999I$ $b = 0.618575 - 0.439872I$	$0.77686 - 3.97780I$	$-2.71090 + 8.29234I$
$u = 0.801656 - 0.115028I$ $a = 1.26895 + 2.37999I$ $b = 0.618575 + 0.439872I$	$0.77686 + 3.97780I$	$-2.71090 - 8.29234I$
$u = -0.742333 + 0.323629I$ $a = 0.107625 - 0.186343I$ $b = -1.236430 - 0.155289I$	$0.963117 - 0.556760I$	$-4.97972 - 0.27994I$
$u = -0.742333 - 0.323629I$ $a = 0.107625 + 0.186343I$ $b = -1.236430 + 0.155289I$	$0.963117 + 0.556760I$	$-4.97972 + 0.27994I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.000355 + 0.774042I$ $a = 1.102990 + 0.498400I$ $b = -0.732884 + 0.304781I$	$-1.18097 + 1.51108I$	$-2.56147 - 1.04285I$
$u = -0.000355 - 0.774042I$ $a = 1.102990 - 0.498400I$ $b = -0.732884 - 0.304781I$	$-1.18097 - 1.51108I$	$-2.56147 + 1.04285I$
$u = -1.241430 + 0.227325I$ $a = 0.549344 - 1.064480I$ $b = 0.517613 - 1.212150I$	$-2.68140 + 1.19053I$	0
$u = -1.241430 - 0.227325I$ $a = 0.549344 + 1.064480I$ $b = 0.517613 + 1.212150I$	$-2.68140 - 1.19053I$	0
$u = 0.116220 + 0.707665I$ $a = 0.233959 - 0.456579I$ $b = -0.702410 - 0.390271I$	$1.17719 + 1.40870I$	$3.29231 - 3.00363I$
$u = 0.116220 - 0.707665I$ $a = 0.233959 + 0.456579I$ $b = -0.702410 + 0.390271I$	$1.17719 - 1.40870I$	$3.29231 + 3.00363I$
$u = -0.715312 + 0.028489I$ $a = 2.04561 + 1.88867I$ $b = 0.654008 + 0.310120I$	$0.648909 - 0.975553I$	$-3.60474 - 0.46426I$
$u = -0.715312 - 0.028489I$ $a = 2.04561 - 1.88867I$ $b = 0.654008 - 0.310120I$	$0.648909 + 0.975553I$	$-3.60474 + 0.46426I$
$u = -0.378806 + 0.592823I$ $a = -1.58189 + 5.75660I$ $b = 2.79582 - 0.75309I$	$-1.97793 + 1.35936I$	$-28.8056 - 39.0048I$
$u = -0.378806 - 0.592823I$ $a = -1.58189 - 5.75660I$ $b = 2.79582 + 0.75309I$	$-1.97793 - 1.35936I$	$-28.8056 + 39.0048I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.556381 + 0.425890I$ $a = 0.086610 - 0.285749I$ $b = -1.045290 - 0.515035I$	$1.65009 + 1.91270I$	$-1.87415 + 0.42405I$
$u = 0.556381 - 0.425890I$ $a = 0.086610 + 0.285749I$ $b = -1.045290 + 0.515035I$	$1.65009 - 1.91270I$	$-1.87415 - 0.42405I$
$u = -1.33114$ $a = -1.70526$ $b = -3.65459$	-4.62840	0
$u = 0.615724 + 0.225295I$ $a = 0.124878 - 0.091560I$ $b = 1.267570 + 0.584855I$	$-0.50082 + 7.43088I$	$-9.83588 - 3.06441I$
$u = 0.615724 - 0.225295I$ $a = 0.124878 + 0.091560I$ $b = 1.267570 - 0.584855I$	$-0.50082 - 7.43088I$	$-9.83588 + 3.06441I$
$u = -0.377234 + 0.508733I$ $a = 0.828760 - 0.255710I$ $b = -0.080733 - 0.346910I$	$-0.22325 + 1.43278I$	$-1.54695 - 5.02383I$
$u = -0.377234 - 0.508733I$ $a = 0.828760 + 0.255710I$ $b = -0.080733 + 0.346910I$	$-0.22325 - 1.43278I$	$-1.54695 + 5.02383I$
$u = -0.481913 + 0.382313I$ $a = 0.130464 - 0.111167I$ $b = 1.007620 + 0.380876I$	$-0.04977 + 4.23277I$	$-3.74018 - 11.43224I$
$u = -0.481913 - 0.382313I$ $a = 0.130464 + 0.111167I$ $b = 1.007620 - 0.380876I$	$-0.04977 - 4.23277I$	$-3.74018 + 11.43224I$
$u = 1.38453 + 0.33788I$ $a = 0.05988 - 1.46102I$ $b = 0.413828 - 1.035170I$	$-2.94680 - 5.49032I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.38453 - 0.33788I$ $a = 0.05988 + 1.46102I$ $b = 0.413828 + 1.035170I$	$-2.94680 + 5.49032I$	0
$u = -0.13459 + 1.43811I$ $a = 0.0790412 - 0.0963284I$ $b = 0.312084 + 1.155850I$	$-3.00179 + 4.56266I$	0
$u = -0.13459 - 1.43811I$ $a = 0.0790412 + 0.0963284I$ $b = 0.312084 - 1.155850I$	$-3.00179 - 4.56266I$	0
$u = 1.45101 + 0.03574I$ $a = 0.326600 - 1.171110I$ $b = 0.97849 - 1.54914I$	$-6.59261 - 2.90185I$	0
$u = 1.45101 - 0.03574I$ $a = 0.326600 + 1.171110I$ $b = 0.97849 + 1.54914I$	$-6.59261 + 2.90185I$	0
$u = 1.46452 + 0.10406I$ $a = -0.560170 - 0.996722I$ $b = 0.677729 - 0.936305I$	$-7.24514 - 2.22253I$	0
$u = 1.46452 - 0.10406I$ $a = -0.560170 + 0.996722I$ $b = 0.677729 + 0.936305I$	$-7.24514 + 2.22253I$	0
$u = 1.47132 + 0.00598I$ $a = -0.486518 - 1.083090I$ $b = -0.427573 - 1.276420I$	$-3.93524 + 7.62228I$	0
$u = 1.47132 - 0.00598I$ $a = -0.486518 + 1.083090I$ $b = -0.427573 + 1.276420I$	$-3.93524 - 7.62228I$	0
$u = 1.41409 + 0.41604I$ $a = 0.465625 + 0.947491I$ $b = 0.22019 + 1.50917I$	$-5.83012 - 5.98154I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.41409 - 0.41604I$ $a = 0.465625 - 0.947491I$ $b = 0.22019 - 1.50917I$	$-5.83012 + 5.98154I$	0
$u = -0.13878 + 1.48672I$ $a = 0.0825775 - 0.0176285I$ $b = -0.507722 + 0.084479I$	$5.24362 + 3.10833I$	0
$u = -0.13878 - 1.48672I$ $a = 0.0825775 + 0.0176285I$ $b = -0.507722 - 0.084479I$	$5.24362 - 3.10833I$	0
$u = 0.424249 + 0.248865I$ $a = 3.45186 + 6.12062I$ $b = -0.239118 + 1.076500I$	$-2.15277 + 2.70026I$	$-9.88811 + 8.45872I$
$u = 0.424249 - 0.248865I$ $a = 3.45186 - 6.12062I$ $b = -0.239118 - 1.076500I$	$-2.15277 - 2.70026I$	$-9.88811 - 8.45872I$
$u = -0.345743 + 0.345351I$ $a = 7.58843 - 5.09506I$ $b = -0.97044 - 1.56022I$	$-1.72233 + 1.49478I$	$-0.6746 - 41.0959I$
$u = -0.345743 - 0.345351I$ $a = 7.58843 + 5.09506I$ $b = -0.97044 + 1.56022I$	$-1.72233 - 1.49478I$	$-0.6746 + 41.0959I$
$u = -1.50984 + 0.22948I$ $a = -0.494387 + 0.821666I$ $b = -0.149288 + 1.166430I$	$-3.74678 - 1.39146I$	0
$u = -1.50984 - 0.22948I$ $a = -0.494387 - 0.821666I$ $b = -0.149288 - 1.166430I$	$-3.74678 + 1.39146I$	0
$u = 1.52087 + 0.23706I$ $a = -1.228330 + 0.361231I$ $b = -3.79275 - 0.22832I$	$-8.26886 - 4.60408I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.52087 - 0.23706I$ $a = -1.228330 - 0.361231I$ $b = -3.79275 + 0.22832I$	$-8.26886 + 4.60408I$	0
$u = -1.56389 + 0.08723I$ $a = 0.259742 + 1.214440I$ $b = 0.104963 + 1.054650I$	$-7.30971 + 1.30866I$	0
$u = -1.56389 - 0.08723I$ $a = 0.259742 - 1.214440I$ $b = 0.104963 - 1.054650I$	$-7.30971 - 1.30866I$	0
$u = -1.50572 + 0.51745I$ $a = -0.130706 + 1.317800I$ $b = 0.499801 + 1.227290I$	$-6.14031 + 10.62530I$	0
$u = -1.50572 - 0.51745I$ $a = -0.130706 - 1.317800I$ $b = 0.499801 - 1.227290I$	$-6.14031 - 10.62530I$	0
$u = -0.16466 + 1.59990I$ $a = 0.0829607 + 0.0868689I$ $b = 0.54188 - 1.50526I$	$-6.96276 - 9.17383I$	0
$u = -0.16466 - 1.59990I$ $a = 0.0829607 - 0.0868689I$ $b = 0.54188 + 1.50526I$	$-6.96276 + 9.17383I$	0
$u = -1.64354 + 0.14674I$ $a = -0.270112 - 0.961040I$ $b = 0.712679 - 1.188220I$	$-11.25600 + 2.45702I$	0
$u = -1.64354 - 0.14674I$ $a = -0.270112 + 0.961040I$ $b = 0.712679 + 1.188220I$	$-11.25600 - 2.45702I$	0
$u = -1.61779 + 0.33663I$ $a = -0.587986 + 0.737457I$ $b = 0.885746 + 0.815817I$	$-10.89770 + 7.17611I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.61779 - 0.33663I$ $a = -0.587986 - 0.737457I$ $b = 0.885746 - 0.815817I$	$-10.89770 - 7.17611I$	0
$u = -0.230559 + 0.235592I$ $a = 3.02477 + 1.23710I$ $b = 0.540667 - 0.856079I$	$-1.89908 + 0.79590I$	$-4.83770 + 0.82015I$
$u = -0.230559 - 0.235592I$ $a = 3.02477 - 1.23710I$ $b = 0.540667 + 0.856079I$	$-1.89908 - 0.79590I$	$-4.83770 - 0.82015I$
$u = 1.55975 + 0.62424I$ $a = 0.180055 + 1.270440I$ $b = -1.03678 + 1.64077I$	$-8.2935 - 11.7637I$	0
$u = 1.55975 - 0.62424I$ $a = 0.180055 - 1.270440I$ $b = -1.03678 - 1.64077I$	$-8.2935 + 11.7637I$	0
$u = 0.33491 + 1.65140I$ $a = 0.0714856 + 0.0919876I$ $b = -0.096733 - 1.280030I$	$-6.64004 + 0.42401I$	0
$u = 0.33491 - 1.65140I$ $a = 0.0714856 - 0.0919876I$ $b = -0.096733 + 1.280030I$	$-6.64004 - 0.42401I$	0
$u = -1.55571 + 0.78921I$ $a = 0.332435 - 1.219240I$ $b = -1.20704 - 1.68387I$	$-11.3053 + 17.4741I$	0
$u = -1.55571 - 0.78921I$ $a = 0.332435 + 1.219240I$ $b = -1.20704 + 1.68387I$	$-11.3053 - 17.4741I$	0
$u = -1.62516 + 0.70906I$ $a = -0.256645 + 0.724429I$ $b = 0.741895 + 1.089960I$	$-7.62809 + 3.43602I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.62516 - 0.70906I$ $a = -0.256645 - 0.724429I$ $b = 0.741895 - 1.089960I$	$-7.62809 - 3.43602I$	0
$u = 1.60150 + 0.85618I$ $a = -0.277862 - 0.757459I$ $b = 0.97993 - 1.06878I$	$-10.63730 - 9.31613I$	0
$u = 1.60150 - 0.85618I$ $a = -0.277862 + 0.757459I$ $b = 0.97993 + 1.06878I$	$-10.63730 + 9.31613I$	0
$u = -1.79507 + 0.49521I$ $a = 0.054400 - 1.080970I$ $b = -0.82388 - 1.84808I$	$-13.6570 + 7.5061I$	0
$u = -1.79507 - 0.49521I$ $a = 0.054400 + 1.080970I$ $b = -0.82388 + 1.84808I$	$-13.6570 - 7.5061I$	0
$u = 1.83627 + 0.59317I$ $a = -0.271123 - 0.724908I$ $b = 0.58068 - 1.45335I$	$-13.24420 + 0.87431I$	0
$u = 1.83627 - 0.59317I$ $a = -0.271123 + 0.724908I$ $b = 0.58068 + 1.45335I$	$-13.24420 - 0.87431I$	0

II.

$$\boldsymbol{I^u_2 = \langle -2u^3 - u^2 + b - 5u - 1,\ 3u^3 + 4u^2 + a + 8u + 8,\ u^4 + u^3 + 3u^2 + 2u + 1\rangle}$$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -3u^3 - 4u^2 - 8u - 8 \\ 2u^3 + u^2 + 5u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -3u^3 - 4u^2 - 8u - 8 \\ 2u^3 + u^2 + 5u + 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -8u^3 - 19u + 5 \\ -3u^3 - 4u^2 - 8u - 8 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -3u^3 - 3u^2 - 8u - 7 \\ 2u^3 + 2u^2 + 5u + 1 \end{pmatrix}$$

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

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

$$a_3 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^3 + 2u \\ u^3 + u^2 + 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -23u^3 - 11u^2 - 70u - 48$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^4 - u^3 + 3u^2 - 2u + 1$
c_2	$u^4 - u^3 + u^2 + 1$
c_3	$u^4 + u^3 + 5u^2 - u + 2$
c_5	$u^4 + u^3 + u^2 + 1$
c_6, c_7	$u^4 + 2u^3 + 7u^2 + 5u + 1$
c_8	$u^4 + u^3 + 3u^2 + 2u + 1$
c_9	$u^4 - 5u^3 + 7u^2 - 2u + 1$
c_{10}	$(u-1)^4$
c_{11}	u^4
c_{12}	$(u+1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8	$y^4 + 5y^3 + 7y^2 + 2y + 1$
c_2, c_5	$y^4 + y^3 + 3y^2 + 2y + 1$
c_3	$y^4 + 9y^3 + 31y^2 + 19y + 4$
c_6, c_7	$y^4 + 10y^3 + 31y^2 - 11y + 1$
c_9	$y^4 - 11y^3 + 31y^2 + 10y + 1$
c_{10}, c_{12}	$(y-1)^4$
c_{11}	y^4

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.395123 + 0.506844I$ $a = -5.16441 - 2.77418I$ $b = -0.59074 + 2.34806I$	$-1.85594 + 1.41510I$	$-24.8178 - 33.5385I$
$u = -0.395123 - 0.506844I$ $a = -5.16441 + 2.77418I$ $b = -0.59074 - 2.34806I$	$-1.85594 - 1.41510I$	$-24.8178 + 33.5385I$
$u = -0.10488 + 1.55249I$ $a = 0.164409 - 0.045467I$ $b = -0.409261 + 0.055548I$	$5.14581 + 3.16396I$	$-31.6822 - 20.2078I$
$u = -0.10488 - 1.55249I$ $a = 0.164409 + 0.045467I$ $b = -0.409261 - 0.055548I$	$5.14581 - 3.16396I$	$-31.6822 + 20.2078I$

III. $\boldsymbol{I_1^v = \langle a,\ 1.65 \times 10^5 v^{11} + 3.56 \times 10^5 v^{10} + \cdots + 7.08 \times 10^5 b - 1.77 \times 10^5,\ v^{12} + 3v^{11} + \cdots + v + 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ -0.232463v^{11} - 0.502921v^{10} + \cdots + 0.152902v + 0.249389 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.232463v^{11} - 0.502921v^{10} + \cdots + 0.152902v + 0.249389 \\ -0.232463v^{11} - 0.502921v^{10} + \cdots + 0.152902v + 0.249389 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -1.04198v^{11} - 2.90360v^{10} + \cdots + 1.23849v - 0.574544 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1.04198v^{11} + 2.90360v^{10} + \cdots - 1.23849v + 1.57454 \\ 1.86146v^{11} + 5.23525v^{10} + \cdots - 2.25349v + 3.04348 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.819476v^{11} + 2.33165v^{10} + \cdots - 1.01499v + 1.46894 \\ 1.86146v^{11} + 5.23525v^{10} + \cdots - 2.25349v + 3.04348 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.819476v^{11} - 2.33165v^{10} + \cdots + 1.01499v - 1.46894 \\ -1.86146v^{11} - 5.23525v^{10} + \cdots + 2.25349v - 3.04348 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.529427v^{11} + 1.38124v^{10} + \cdots + 1.20984v + 1.24074 \\ 0.861460v^{11} + 2.23525v^{10} + \cdots + 1.74651v + 2.04348 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.137987v^{11} + 0.235197v^{10} + \cdots + 1.72218v + 0.891609 \\ 0.861460v^{11} + 2.23525v^{10} + \cdots + 1.74651v + 2.04348 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1558019}{235911}v^{11} + \frac{3765626}{235911}v^{10} + \cdots - \frac{4340683}{235911}v + \frac{3615109}{235911}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 0.834826 + 0.083652I$ $a = 0$ $b = -1.002190 + 0.295542I$	$1.89061 + 1.10558I$	$3.79900 - 2.81207I$
$v = 0.834826 - 0.083652I$ $a = 0$ $b = -1.002190 - 0.295542I$	$1.89061 - 1.10558I$	$3.79900 + 2.81207I$
$v = -0.489858 + 0.681154I$ $a = 0$ $b = -1.002190 + 0.295542I$	$1.89061 - 2.95419I$	$1.04064 + 4.93773I$
$v = -0.489858 - 0.681154I$ $a = 0$ $b = -1.002190 - 0.295542I$	$1.89061 + 2.95419I$	$1.04064 - 4.93773I$
$v = -0.458424 + 0.081263I$ $a = 0$ $b = 1.073950 - 0.558752I$	$-7.72290I$	$2.53591 + 10.48596I$
$v = -0.458424 - 0.081263I$ $a = 0$ $b = 1.073950 + 0.558752I$	$7.72290I$	$2.53591 - 10.48596I$
$v = 0.299588 + 0.356375I$ $a = 0$ $b = 1.073950 - 0.558752I$	$-3.66314I$	$-2.83009 - 2.28483I$
$v = 0.299588 - 0.356375I$ $a = 0$ $b = 1.073950 + 0.558752I$	$3.66314I$	$-2.83009 + 2.28483I$
$v = -2.51133 + 0.49706I$ $a = 0$ $b = 0.428243 - 0.664531I$	$-1.89061 + 2.95419I$	$0.48408 - 6.69677I$
$v = -2.51133 - 0.49706I$ $a = 0$ $b = 0.428243 + 0.664531I$	$-1.89061 - 2.95419I$	$0.48408 + 6.69677I$

	Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v =$	$0.82520 + 2.42341I$		
$a =$	0	$-1.89061 + 1.10558I$	$-11.02954 + 1.23660I$
$b =$	$0.428243 + 0.664531I$		
$v =$	$0.82520 - 2.42341I$		
$a =$	0	$-1.89061 - 1.10558I$	$-11.02954 - 1.23660I$
$b =$	$0.428243 - 0.664531I$		

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^6)(u^4-u^3+3u^2-2u+1)(u^{77}+42u^{76}+\cdots-173u-1)$
c_2	$((u^2+u+1)^6)(u^4-u^3+u^2+1)(u^{77}+8u^{76}+\cdots+3u+1)$
c_3	$((u^2-u+1)^6)(u^4+u^3+5u^2-u+2)(u^{77}-8u^{76}+\cdots+2520u+1732)$
c_4	$u^{12}(u^4-u^3+3u^2-2u+1)(u^{77}+2u^{76}+\cdots+20480u+4096)$
c_5	$((u^2-u+1)^6)(u^4+u^3+u^2+1)(u^{77}+8u^{76}+\cdots+3u+1)$
c_6	$(u^4+2u^3+7u^2+5u+1)(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^2$ $\cdot(u^{77}-7u^{76}+\cdots-18228u-7979)$
c_7	$(u^4+2u^3+7u^2+5u+1)(u^6-u^5-u^4+2u^3-u+1)^2$ $\cdot(u^{77}-u^{76}+\cdots+7631854u-2351327)$
c_8	$u^{12}(u^4+u^3+3u^2+2u+1)(u^{77}+2u^{76}+\cdots+20480u+4096)$
c_9	$(u^4-5u^3+7u^2-2u+1)(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^2$ $\cdot(u^{77}+4u^{76}+\cdots-3u-1)$
c_{10}	$((u-1)^4)(u^6+u^5+\cdots+u+1)^2(u^{77}-7u^{76}+\cdots-65u+1)$
c_{11}	$u^4(u^6+u^5+\cdots+u+1)^2(u^{77}+13u^{76}+\cdots-200u-16)$
c_{12}	$((u+1)^4)(u^6-u^5+\cdots-u+1)^2(u^{77}-7u^{76}+\cdots-65u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^6)(y^4+5y^3+\cdots+2y+1)(y^{77}-6y^{76}+\cdots+13671y-1)$
c_2, c_5	$((y^2+y+1)^6)(y^4+y^3+3y^2+2y+1)(y^{77}+42y^{76}+\cdots-173y-1)$
c_3	$(y^2+y+1)^6(y^4+9y^3+31y^2+19y+4)$ $\cdot(y^{77}-54y^{76}+\cdots-552548680y-2999824)$
c_4, c_8	$y^{12}(y^4+5y^3+7y^2+2y+1)$ $\cdot(y^{77}-60y^{76}+\cdots+234881024y-16777216)$
c_6	$(y^4+10y^3+31y^2-11y+1)(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{77}-77y^{76}+\cdots+2964755496y-63664441)$
c_7	$(y^4+10y^3+31y^2-11y+1)(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{77}-9y^{76}+\cdots-135685107448604y-5528738660929)$
c_9	$(y^4-11y^3+31y^2+10y+1)(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{77}+2y^{76}+\cdots-29y-1)$
c_{10}, c_{12}	$(y-1)^4(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{77}-63y^{76}+\cdots-2399y-1)$
c_{11}	$y^4(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{77}+21y^{76}+\cdots+15168y-256)$