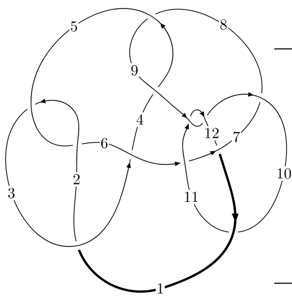
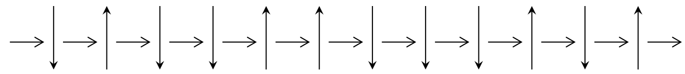
$12n_{0027}$ ($K12n_{0027}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 4.63893 \times 10^{317} u^{76} + 6.90082 \times 10^{317} u^{75} + \cdots + 1.25294 \times 10^{321} b + 1.60645 \times 10^{321}, \\ & -1.19015 \times 10^{318} u^{76} - 3.51549 \times 10^{318} u^{75} + \cdots + 2.50588 \times 10^{321} a - 2.87281 \times 10^{322}, \\ & u^{77} + 2u^{76} + \cdots + 20480u + 4096 \rangle \\ I_2^u = \langle & 2u^3 + 2u^2 + b + 5u + 1,\ -u^3 - 3u^2 + a - 3u - 6,\ u^4 + u^3 + 3u^2 + 2u + 1 \rangle \end{aligned}$$

$$\begin{aligned} I_1^v = \langle & a,\ 309980v^{11} + 790238v^{10} + \cdots + 707733b + 1249018, \\ & v^{12} + 3v^{11} + 3v^{10} + 18v^9 + 31v^8 - 29v^7 - 31v^6 - 9v^5 + 19v^4 + 5v^3 - 4v^2 + v + 1 \rangle \end{aligned}$$

* 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. $\boldsymbol{I_1^u = \langle 4.64 \times 10^{317} u^{76} + 6.90 \times 10^{317} u^{75} + \cdots + 1.25 \times 10^{321} b + 1.61 \times 10^{321},\ -1.19 \times 10^{318} u^{76} - 3.52 \times 10^{318} u^{75} + \cdots + 2.51 \times 10^{321} a - 2.87 \times 10^{322},\ u^{77} + 2u^{76} + \cdots + 20480u + 4096 \rangle}$

(i) Arc colorings

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

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

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

$$a_{12} = \begin{pmatrix} 0.000474943u^{76} + 0.00140290u^{75} + \cdots + 19.8888u + 11.4642 \\ -0.000370243u^{76} - 0.000550769u^{75} + \cdots - 12.5316u - 1.28214 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.000502182u^{76} + 0.00148228u^{75} + \cdots + 18.5669u + 11.5558 \\ -0.000400721u^{76} - 0.000628200u^{75} + \cdots - 14.2062u - 2.01128 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 0.00403445u^{76} + 0.00701135u^{75} + \cdots + 135.801u + 30.0505 \\ 0.000251477u^{76} + 0.000675536u^{75} + \cdots + 18.8283u + 6.76857 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.000316716u^{76} + 0.000548963u^{75} + \cdots + 6.03001u + 1.86087 \\ -8.61974 \times 10^{-6}u^{76} - 0.0000450420u^{75} + \cdots - 2.08710u - 0.369176 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.000443453u^{76} + 0.00138924u^{75} + \cdots + 18.5802u + 12.0376 \\ -0.000400972u^{76} - 0.000579591u^{75} + \cdots - 13.4129u - 1.48420 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.000325336u^{76} + 0.000594005u^{75} + \cdots + 8.11710u + 2.23004 \\ 0.0000255950u^{76} + 0.0000821978u^{75} + \cdots + 1.91504u + 0.601280 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0000229625u^{76} - 0.000118674u^{75} + \cdots - 2.05186u - 1.28107 \\ 0.0000158254u^{76} + 0.0000361796u^{75} + \cdots + 2.94000u + 0.422511 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0000229625u^{76} - 0.000118674u^{75} + \cdots - 2.05186u - 1.28107 \\ 0.0000353440u^{76} + 0.0000721239u^{75} + \cdots + 4.52395u + 0.720490 \end{pmatrix}$$

(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	$u^{77} - u^{76} + \cdots + 7631854u - 2351327$
c_7	$u^{77} - 7u^{76} + \cdots - 18228u - 7979$
c_9, c_{11}	$u^{77} - 7u^{76} + \cdots - 65u + 1$
c_{10}	$u^{77} + 13u^{76} + \cdots - 200u - 16$
c_{12}	$u^{77} + 4u^{76} + \cdots - 3u - 1$

(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	$y^{77} - 9y^{76} + \cdots - 135685107448604y - 5528738660929$
c_7	$y^{77} - 77y^{76} + \cdots + 2964755496y - 63664441$
c_9, c_{11}	$y^{77} - 63y^{76} + \cdots - 2399y - 1$
c_{10}	$y^{77} + 21y^{76} + \cdots + 15168y - 256$
c_{12}	$y^{77} + 2y^{76} + \cdots - 29y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.021202+0.991505I$ $a=\ \ 0.85015+1.14174I$ $b=-0.435122-0.281974I$	$-1.29984-4.81871I$	$-3.73970+8.31831I$
$u=-0.021202-0.991505I$ $a=\ \ 0.85015-1.14174I$ $b=-0.435122+0.281974I$	$-1.29984+4.81871I$	$-3.73970-8.31831I$
$u=\ \ 0.350174+0.870277I$ $a=\ \ 0.183615+1.203250I$ $b=\ \ 0.621978-0.404845I$	$-4.26262-2.29968I$	$-11.37943+4.09375I$
$u=\ \ 0.350174-0.870277I$ $a=\ \ 0.183615-1.203250I$ $b=\ \ 0.621978+0.404845I$	$-4.26262+2.29968I$	$-11.37943-4.09375I$
$u=\ \ 0.552031+0.673417I$ $a=\ \ 0.538939-0.192540I$ $b=\ \ 1.155460-0.244632I$	$-3.26120+0.96418I$	$-9.85344-3.05224I$
$u=\ \ 0.552031-0.673417I$ $a=\ \ 0.538939+0.192540I$ $b=\ \ 1.155460+0.244632I$	$-3.26120-0.96418I$	$-9.85344+3.05224I$
$u=\ \ 0.801656+0.115028I$ $a=\ \ 0.100644-1.215600I$ $b=\ \ 0.407413-0.043467I$	$0.77686-3.97780I$	$-2.71090+8.29234I$
$u=\ \ 0.801656-0.115028I$ $a=\ \ 0.100644+1.215600I$ $b=\ \ 0.407413+0.043467I$	$0.77686+3.97780I$	$-2.71090-8.29234I$
$u=-0.742333+0.323629I$ $a=\ \ 0.674206-0.258407I$ $b=-0.517206-1.155410I$	$0.963117-0.556760I$	$-4.97972-0.27994I$
$u=-0.742333-0.323629I$ $a=\ \ 0.674206+0.258407I$ $b=-0.517206+1.155410I$	$0.963117+0.556760I$	$-4.97972+0.27994I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.000355 + 0.774042I$ $a = 2.07113 - 0.25770I$ $b = -0.849623 + 0.308056I$	$-1.18097 + 1.51108I$	$-2.56147 - 1.04285I$
$u = -0.000355 - 0.774042I$ $a = 2.07113 + 0.25770I$ $b = -0.849623 - 0.308056I$	$-1.18097 - 1.51108I$	$-2.56147 + 1.04285I$
$u = -1.241430 + 0.227325I$ $a = 0.236549 - 0.474818I$ $b = 0.342053 - 1.260670I$	$-2.68140 + 1.19053I$	0
$u = -1.241430 - 0.227325I$ $a = 0.236549 + 0.474818I$ $b = 0.342053 + 1.260670I$	$-2.68140 - 1.19053I$	0
$u = 0.116220 + 0.707665I$ $a = 1.044990 - 0.550262I$ $b = -0.426152 - 0.182747I$	$1.17719 + 1.40870I$	$3.29231 - 3.00363I$
$u = 0.116220 - 0.707665I$ $a = 1.044990 + 0.550262I$ $b = -0.426152 + 0.182747I$	$1.17719 - 1.40870I$	$3.29231 + 3.00363I$
$u = -0.715312 + 0.028489I$ $a = 0.85434 + 1.29507I$ $b = 0.556271 + 0.176958I$	$0.648909 - 0.975553I$	$-3.60474 - 0.46426I$
$u = -0.715312 - 0.028489I$ $a = 0.85434 - 1.29507I$ $b = 0.556271 - 0.176958I$	$0.648909 + 0.975553I$	$-3.60474 + 0.46426I$
$u = -0.378806 + 0.592823I$ $a = -0.74970 + 4.36413I$ $b = 3.08806 - 0.53632I$	$-1.97793 + 1.35936I$	$-28.8056 - 39.0048I$
$u = -0.378806 - 0.592823I$ $a = -0.74970 - 4.36413I$ $b = 3.08806 + 0.53632I$	$-1.97793 - 1.35936I$	$-28.8056 + 39.0048I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.556381 + 0.425890I$ $a = 0.709325 - 0.442191I$ $b = -0.056823 - 0.605176I$	$1.65009 + 1.91270I$	$-1.87415 + 0.42405I$
$u = 0.556381 - 0.425890I$ $a = 0.709325 + 0.442191I$ $b = -0.056823 + 0.605176I$	$1.65009 - 1.91270I$	$-1.87415 - 0.42405I$
$u = -1.33114$ $a = -3.12813$ $b = -4.38293$	-4.62840	0
$u = 0.615724 + 0.225295I$ $a = 0.442606 + 0.279319I$ $b = -1.027400 + 0.849451I$	$-0.50082 + 7.43088I$	$-9.83588 - 3.06441I$
$u = 0.615724 - 0.225295I$ $a = 0.442606 - 0.279319I$ $b = -1.027400 - 0.849451I$	$-0.50082 - 7.43088I$	$-9.83588 + 3.06441I$
$u = -0.377234 + 0.508733I$ $a = 0.910926 + 0.090831I$ $b = -0.080814 - 0.346857I$	$-0.22325 + 1.43278I$	$-1.54695 - 5.02383I$
$u = -0.377234 - 0.508733I$ $a = 0.910926 - 0.090831I$ $b = -0.080814 + 0.346857I$	$-0.22325 - 1.43278I$	$-1.54695 + 5.02383I$
$u = -0.481913 + 0.382313I$ $a = 0.472417 + 0.298979I$ $b = -0.844793 + 0.392938I$	$-0.04977 + 4.23277I$	$-3.74018 - 11.43224I$
$u = -0.481913 - 0.382313I$ $a = 0.472417 - 0.298979I$ $b = -0.844793 - 0.392938I$	$-0.04977 - 4.23277I$	$-3.74018 + 11.43224I$
$u = 1.38453 + 0.33788I$ $a = -0.331549 - 0.202544I$ $b = -0.197769 + 0.616102I$	$-2.94680 - 5.49032I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.38453 - 0.33788I$ $a = -0.331549 + 0.202544I$ $b = -0.197769 - 0.616102I$	$-2.94680 + 5.49032I$	0
$u = -0.13459 + 1.43811I$ $a = 0.510736 + 0.169564I$ $b = -2.29528 - 0.29972I$	$-3.00179 + 4.56266I$	0
$u = -0.13459 - 1.43811I$ $a = 0.510736 - 0.169564I$ $b = -2.29528 + 0.29972I$	$-3.00179 - 4.56266I$	0
$u = 1.45101 + 0.03574I$ $a = 0.081914 - 0.620709I$ $b = 0.71394 - 1.81215I$	$-6.59261 - 2.90185I$	0
$u = 1.45101 - 0.03574I$ $a = 0.081914 + 0.620709I$ $b = 0.71394 + 1.81215I$	$-6.59261 + 2.90185I$	0
$u = 1.46452 + 0.10406I$ $a = -1.48734 + 0.15258I$ $b = -1.59100 + 0.52581I$	$-7.24514 - 2.22253I$	0
$u = 1.46452 - 0.10406I$ $a = -1.48734 - 0.15258I$ $b = -1.59100 - 0.52581I$	$-7.24514 + 2.22253I$	0
$u = 1.47132 + 0.00598I$ $a = 1.74208 - 0.11100I$ $b = 2.41570 + 0.08447I$	$-3.93524 + 7.62228I$	0
$u = 1.47132 - 0.00598I$ $a = 1.74208 + 0.11100I$ $b = 2.41570 - 0.08447I$	$-3.93524 - 7.62228I$	0
$u = 1.41409 + 0.41604I$ $a = 0.106381 + 0.389440I$ $b = -0.08739 + 1.42927I$	$-5.83012 - 5.98154I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.41409 - 0.41604I$ $a = 0.106381 - 0.389440I$ $b = -0.08739 - 1.42927I$	$-5.83012 + 5.98154I$	0
$u = -0.13878 + 1.48672I$ $a = 0.755838 + 0.008269I$ $b = -2.60237 - 0.35998I$	$5.24362 + 3.10833I$	0
$u = -0.13878 - 1.48672I$ $a = 0.755838 - 0.008269I$ $b = -2.60237 + 0.35998I$	$5.24362 - 3.10833I$	0
$u = 0.424249 + 0.248865I$ $a = -1.60490 + 7.51402I$ $b = -0.626376 + 0.383358I$	$-2.15277 + 2.70026I$	$-9.88811 + 8.45872I$
$u = 0.424249 - 0.248865I$ $a = -1.60490 - 7.51402I$ $b = -0.626376 - 0.383358I$	$-2.15277 - 2.70026I$	$-9.88811 - 8.45872I$
$u = -0.345743 + 0.345351I$ $a = 5.23140 - 9.13487I$ $b = -1.17665 - 1.19040I$	$-1.72233 + 1.49478I$	$-0.6746 - 41.0959I$
$u = -0.345743 - 0.345351I$ $a = 5.23140 + 9.13487I$ $b = -1.17665 + 1.19040I$	$-1.72233 - 1.49478I$	$-0.6746 + 41.0959I$
$u = -1.50984 + 0.22948I$ $a = 1.55997 + 0.33556I$ $b = 2.38243 - 0.51571I$	$-3.74678 - 1.39146I$	0
$u = -1.50984 - 0.22948I$ $a = 1.55997 - 0.33556I$ $b = 2.38243 + 0.51571I$	$-3.74678 + 1.39146I$	0
$u = 1.52087 + 0.23706I$ $a = -2.41757 + 0.56218I$ $b = -4.64875 - 0.40405I$	$-8.26886 - 4.60408I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.52087 - 0.23706I$ $a = -2.41757 - 0.56218I$ $b = -4.64875 + 0.40405I$	$-8.26886 + 4.60408I$	0
$u = -1.56389 + 0.08723I$ $a = -0.166301 + 0.131482I$ $b = 0.044542 - 0.990744I$	$-7.30971 + 1.30866I$	0
$u = -1.56389 - 0.08723I$ $a = -0.166301 - 0.131482I$ $b = 0.044542 + 0.990744I$	$-7.30971 - 1.30866I$	0
$u = -1.50572 + 0.51745I$ $a = -0.379639 + 0.074193I$ $b = -0.510768 - 0.673818I$	$-6.14031 + 10.62530I$	0
$u = -1.50572 - 0.51745I$ $a = -0.379639 - 0.074193I$ $b = -0.510768 + 0.673818I$	$-6.14031 - 10.62530I$	0
$u = -0.16466 + 1.59990I$ $a = 0.464159 - 0.164254I$ $b = -2.70309 - 0.17160I$	$-6.96276 - 9.17383I$	0
$u = -0.16466 - 1.59990I$ $a = 0.464159 + 0.164254I$ $b = -2.70309 + 0.17160I$	$-6.96276 + 9.17383I$	0
$u = -1.64354 + 0.14674I$ $a = -1.243040 - 0.088377I$ $b = -1.59369 + 0.94791I$	$-11.25600 + 2.45702I$	0
$u = -1.64354 - 0.14674I$ $a = -1.243040 + 0.088377I$ $b = -1.59369 - 0.94791I$	$-11.25600 - 2.45702I$	0
$u = -1.61779 + 0.33663I$ $a = -1.260540 - 0.374517I$ $b = -1.91931 - 0.36768I$	$-10.89770 + 7.17611I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.61779-0.33663I$ $a=-1.260540+0.374517I$ $b=-1.91931+0.36768I$	$-10.89770-7.17611I$	0
$u=-0.230559+0.235592I$ $a=\ \ 2.01640-0.20890I$ $b=\ \ 0.988240-0.430122I$	$-1.89908+0.79590I$	$-4.83770+0.82015I$
$u=-0.230559-0.235592I$ $a=\ \ 2.01640+0.20890I$ $b=\ \ 0.988240+0.430122I$	$-1.89908-0.79590I$	$-4.83770-0.82015I$
$u=\ \ 1.55975+0.62424I$ $a=\ \ 1.44242-0.64185I$ $b=\ \ 2.71325+0.97362I$	$-8.2935-11.7637I$	0
$u=\ \ 1.55975-0.62424I$ $a=\ \ 1.44242+0.64185I$ $b=\ \ 2.71325-0.97362I$	$-8.2935+11.7637I$	0
$u=\ \ 0.33491+1.65140I$ $a=\ \ 0.521990-0.114366I$ $b=-2.61863+0.78521I$	$-6.64004+0.42401I$	0
$u=\ \ 0.33491-1.65140I$ $a=\ \ 0.521990+0.114366I$ $b=-2.61863-0.78521I$	$-6.64004-0.42401I$	0
$u=-1.55571+0.78921I$ $a=\ \ 1.30436+0.75861I$ $b=\ \ 2.70847-1.25612I$	$-11.3053+17.4741I$	0
$u=-1.55571-0.78921I$ $a=\ \ 1.30436-0.75861I$ $b=\ \ 2.70847+1.25612I$	$-11.3053-17.4741I$	0
$u=-1.62516+0.70906I$ $a=\ \ 1.218970+0.523530I$ $b=\ \ 2.46724-1.50899I$	$-7.62809+3.43602I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.62516 - 0.70906I$ $a = 1.218970 - 0.523530I$ $b = 2.46724 + 1.50899I$	$-7.62809 - 3.43602I$	0
$u = 1.60150 + 0.85618I$ $a = 1.146330 - 0.596908I$ $b = 2.37731 + 1.76533I$	$-10.63730 - 9.31613I$	0
$u = 1.60150 - 0.85618I$ $a = 1.146330 + 0.596908I$ $b = 2.37731 - 1.76533I$	$-10.63730 + 9.31613I$	0
$u = -1.79507 + 0.49521I$ $a = 1.331820 + 0.400074I$ $b = 3.11758 - 0.72547I$	$-13.6570 + 7.5061I$	0
$u = -1.79507 - 0.49521I$ $a = 1.331820 - 0.400074I$ $b = 3.11758 + 0.72547I$	$-13.6570 - 7.5061I$	0
$u = 1.83627 + 0.59317I$ $a = 1.180040 - 0.374782I$ $b = 2.90054 + 1.35306I$	$-13.24420 + 0.87431I$	0
$u = 1.83627 - 0.59317I$ $a = 1.180040 + 0.374782I$ $b = 2.90054 - 1.35306I$	$-13.24420 - 0.87431I$	0

II.

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

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^3 + 3u^2 + 3u + 6 \\ -2u^3 - 2u^2 - 5u - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^3 + 3u^2 + 3u + 7 \\ -2u^3 - u^2 - 5u - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 11u^3 + 4u^2 + 27u + 5 \\ 3u^3 + 4u^2 + 8u + 8 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 - 1 \\ -u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^3 + 3u^2 + 3u + 7 \\ -2u^3 - u^2 - 5u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^3 + 2u \\ u^3 + u^2 + 2u + 1 \end{pmatrix}$$

(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	$(u - 1)^4$
c_{10}	u^4
c_{11}	$(u + 1)^4$
c_{12}	$u^4 + 5u^3 + 7u^2 + 2u + 1$

(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, c_{11}	$(y-1)^4$
c_{10}	y^4
c_{12}	$y^4 - 11y^3 + 31y^2 + 10y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.395123 + 0.506844I$ $a = 4.75515 + 0.42612I$ $b = 0.69151 - 1.94753I$	$-1.85594 + 1.41510I$	$-24.8178 - 33.5385I$
$u = -0.395123 - 0.506844I$ $a = 4.75515 - 0.42612I$ $b = 0.69151 + 1.94753I$	$-1.85594 - 1.41510I$	$-24.8178 + 33.5385I$
$u = -0.10488 + 1.55249I$ $a = -0.755148 - 0.010081I$ $b = 2.80849 + 0.27009I$	$5.14581 + 3.16396I$	$-31.6822 - 20.2078I$
$u = -0.10488 - 1.55249I$ $a = -0.755148 + 0.010081I$ $b = 2.80849 - 0.27009I$	$5.14581 - 3.16396I$	$-31.6822 + 20.2078I$

III. $I_1^v = \langle a,\ 3.10\times10^5v^{11}+7.90\times10^5v^{10}+\cdots+7.08\times10^5b+1.25\times10^6,\ v^{12}+3v^{11}+\cdots+v+1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -0.437990v^{11}-1.11658v^{10}+\cdots+0.432058v-1.76482 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 1.00827v^{11}+2.68986v^{10}+\cdots-1.09637v+2.28028 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1.00827v^{11}-2.68986v^{10}+\cdots+1.09637v-1.28028 \\ -1.62222v^{11}-4.40786v^{10}+\cdots+1.83221v-1.73501 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1.24751v^{11}+3.51726v^{10}+\cdots-1.51765v+2.58875 \\ 1.86146v^{11}+5.23525v^{10}+\cdots-2.25349v+3.04348 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.437990v^{11}-1.11658v^{10}+\cdots+0.432058v-1.76482 \\ -0.437990v^{11}-1.11658v^{10}+\cdots+0.432058v-1.76482 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.24751v^{11}-3.51726v^{10}+\cdots+1.51765v-2.58875 \\ -1.86146v^{11}-5.23525v^{10}+\cdots+2.25349v-3.04348 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1.05885v^{11}+2.76249v^{10}+\cdots+0.419689v+2.48147 \\ 0.861460v^{11}+2.23525v^{10}+\cdots+1.74651v+2.04348 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.667414v^{11}+1.61644v^{10}+\cdots+0.932022v+2.13235 \\ 0.861460v^{11}+2.23525v^{10}+\cdots+1.74651v+2.04348 \end{pmatrix}$$

(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_{10}, c_{11}	$(u^6 - u^5 - u^4 + 2u^3 - u + 1)^2$
c_7, c_{12}	$(u^6 - 3u^5 + 5u^4 - 4u^3 + 2u^2 - u + 1)^2$
c_9	$(u^6 + u^5 - u^4 - 2u^3 + u + 1)^2$

(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, c_{10} c_{11}	$(y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1)^2$
c_7, c_{12}	$(y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

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

	Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v=$	$0.82520+2.42341I$		
$a=$	0	$-1.89061+1.10558I$	$-11.02954+1.23660I$
$b=$	$1.002190+0.295542I$		
$v=$	$0.82520-2.42341I$		
$a=$	0	$-1.89061-1.10558I$	$-11.02954-1.23660I$
$b=$	$1.002190-0.295542I$		

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	$(u^4-2u^3+7u^2-5u+1)(u^6-u^5-u^4+2u^3-u+1)^2$ $\cdot(u^{77}-u^{76}+\cdots+7631854u-2351327)$
c_7	$(u^4-2u^3+7u^2-5u+1)(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^2$ $\cdot(u^{77}-7u^{76}+\cdots-18228u-7979)$
c_8	$u^{12}(u^4+u^3+3u^2+2u+1)(u^{77}+2u^{76}+\cdots+20480u+4096)$
c_9	$((u-1)^4)(u^6+u^5+\cdots+u+1)^2(u^{77}-7u^{76}+\cdots-65u+1)$
c_{10}	$u^4(u^6-u^5+\cdots-u+1)^2(u^{77}+13u^{76}+\cdots-200u-16)$
c_{11}	$((u+1)^4)(u^6-u^5+\cdots-u+1)^2(u^{77}-7u^{76}+\cdots-65u+1)$
c_{12}	$(u^4+5u^3+7u^2+2u+1)(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^2$ $\cdot(u^{77}+4u^{76}+\cdots-3u-1)$

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	$(y^4+10y^3+31y^2-11y+1)(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{77}-9y^{76}+\cdots-135685107448604y-5528738660929)$
c_7	$(y^4+10y^3+31y^2-11y+1)(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{77}-77y^{76}+\cdots+2964755496y-63664441)$
c_9, c_{11}	$(y-1)^4(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{77}-63y^{76}+\cdots-2399y-1)$
c_{10}	$y^4(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{77}+21y^{76}+\cdots+15168y-256)$
c_{12}	$(y^4-11y^3+31y^2+10y+1)(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{77}+2y^{76}+\cdots-29y-1)$