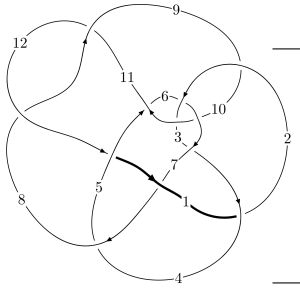
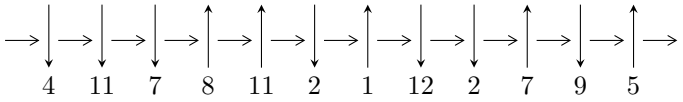
$12n_{0705}$ $(K12n_{0705})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 2.19181 \times 10^{382} u^{75} + 6.42258 \times 10^{381} u^{74} + \cdots + 4.60404 \times 10^{387} b + 1.33471 \times 10^{388}, \\ & - 2.21394 \times 10^{388} u^{75} + 1.64912 \times 10^{388} u^{74} + \cdots + 7.19321 \times 10^{392} a - 4.98498 \times 10^{393}, \\ & u^{76} - u^{75} + \cdots - 23760u + 74007 \rangle \\ I_2^u = \langle & -149224377175319 u^{21} + 98709240274610 u^{20} + \cdots + 967031784086 89 b - 82488765402898, \\ & 360716486705467 u^{21} - 113938156490740 u^{20} + \cdots + 96703178408689 a + 729010725759272, \\ & u^{22} + 6u^{20} + \cdots + 3u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 98 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. $\boldsymbol{I_1^u = \langle 2.19 \times 10^{382} u^{75} + 6.42 \times 10^{381} u^{74} + \cdots + 4.60 \times 10^{387} b + 1.33 \times 10^{388},\ -2.21 \times 10^{388} u^{75} + 1.65 \times 10^{388} u^{74} + \cdots + 7.19 \times 10^{392} a - 4.98 \times 10^{393},\ u^{76} - u^{75} + \cdots - 23760u + 74007 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_7 = \begin{pmatrix} 0.0000307782u^{75} - 0.0000229260u^{74} + \cdots + 20.3789u + 6.93012 \\ -4.76062 \times 10^{-6} u^{75} - 1.39499 \times 10^{-6} u^{74} + \cdots - 0.757161u - 2.89899 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -7.78630 \times 10^{-6} u^{75} - 1.40375 \times 10^{-6} u^{74} + \cdots + 0.0566661u - 7.56840 \\ -9.12142 \times 10^{-6} u^{75} + 8.62552 \times 10^{-6} u^{74} + \cdots - 5.37177u + 1.51302 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0000221139u^{75} + 0.0000317720u^{74} + \cdots - 22.3602u + 6.91672 \\ 6.38702 \times 10^{-6} u^{75} - 3.29061 \times 10^{-6} u^{74} + \cdots + 6.79986u + 0.825307 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0000260176u^{75} - 0.0000243210u^{74} + \cdots + 19.6217u + 4.03113 \\ -4.76062 \times 10^{-6} u^{75} - 1.39499 \times 10^{-6} u^{74} + \cdots - 0.757161u - 2.89899 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0000260176u^{75} - 0.0000243210u^{74} + \cdots + 19.6217u + 4.03113 \\ -6.93011 \times 10^{-6} u^{75} + 1.21906 \times 10^{-6} u^{74} + \cdots - 2.64233u - 3.02455 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -6.72650 \times 10^{-6} u^{75} + 0.0000218094u^{74} + \cdots - 13.5272u + 11.5689 \\ 8.76516 \times 10^{-6} u^{75} - 0.0000117617u^{74} + \cdots + 10.6096u - 1.69248 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.03866 \times 10^{-6} u^{75} + 0.0000100477u^{74} + \cdots - 2.91766u + 9.87645 \\ 8.76516 \times 10^{-6} u^{75} - 0.0000117617u^{74} + \cdots + 10.6096u - 1.69248 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0000523639u^{75} + 0.0000528643u^{74} + \cdots - 39.9625u - 1.49577 \\ 8.63617 \times 10^{-6} u^{75} - 3.40978 \times 10^{-6} u^{74} + \cdots + 3.57479u + 4.99056 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0000265357u^{75} - 0.0000320384u^{74} + \cdots + 27.2940u - 5.37665 \\ -0.0000162618u^{75} + 0.0000181990u^{74} + \cdots - 12.7453u + 0.0118103 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0000191588u^{75} - 0.0000387698u^{74} + \cdots - 0.636809u - 2.73074$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{76} - 10u^{75} + \cdots - 221u + 17$
c_2	$u^{76} - u^{75} + \cdots - 23760u + 74007$
c_3	$u^{76} + 2u^{75} + \cdots - 19464u + 3677$
c_4	$u^{76} - 2u^{75} + \cdots + 549u + 207$
c_5	$u^{76} - u^{75} + \cdots + 34842166u + 3425393$
c_6	$u^{76} + 53u^{74} + \cdots + 7437u + 763$
c_7	$u^{76} - 7u^{75} + \cdots + 27u + 1$
c_8, c_{11}	$u^{76} - 9u^{75} + \cdots - 362u + 19$
c_9	$u^{76} - 8u^{75} + \cdots + 57253563u + 3204791$
c_{10}	$u^{76} - 9u^{75} + \cdots - 530u + 1279$
c_{12}	$u^{76} - 6u^{75} + \cdots + 78u + 35$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{76} + 18y^{75} + \cdots - 2227y + 289$
c_2	$y^{76} + 93y^{75} + \cdots + 236846070036y + 5477036049$
c_3	$y^{76} + 20y^{75} + \cdots + 475032998y + 13520329$
c_4	$y^{76} - 14y^{75} + \cdots - 1120293y + 42849$
c_5	$y^{76} - 57y^{75} + \cdots - 439239317966814y + 11733317204449$
c_6	$y^{76} + 106y^{75} + \cdots + 5285439y + 582169$
c_7	$y^{76} + 15y^{75} + \cdots - 7y + 1$
c_8, c_{11}	$y^{76} + 63y^{75} + \cdots + 208y + 361$
c_9	$y^{76} + 128y^{75} + \cdots + 7840289593898607y + 10270685353681$
c_{10}	$y^{76} - 105y^{75} + \cdots - 4524622y + 1635841$
c_{12}	$y^{76} - 8y^{75} + \cdots - 58374y + 1225$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.009200 + 0.019949I$ $a = -0.755402 + 0.769566I$ $b = -0.141359 - 0.446045I$	$0.24108 - 3.09498I$	$-7.87234 + 7.34515I$
$u = 1.009200 - 0.019949I$ $a = -0.755402 - 0.769566I$ $b = -0.141359 + 0.446045I$	$0.24108 + 3.09498I$	$-7.87234 - 7.34515I$
$u = -0.165558 + 0.962769I$ $a = -0.682721 + 0.385052I$ $b = -0.846371 - 0.090077I$	$-1.18877 + 0.93128I$	$-6.34635 - 7.99915I$
$u = -0.165558 - 0.962769I$ $a = -0.682721 - 0.385052I$ $b = -0.846371 + 0.090077I$	$-1.18877 - 0.93128I$	$-6.34635 + 7.99915I$
$u = -0.895115 + 0.388201I$ $a = -0.560008 + 0.114830I$ $b = -0.259160 + 0.201495I$	$-1.46389 + 0.73897I$	$-3.77155 + 0.I$
$u = -0.895115 - 0.388201I$ $a = -0.560008 - 0.114830I$ $b = -0.259160 - 0.201495I$	$-1.46389 - 0.73897I$	$-3.77155 + 0.I$
$u = 0.810100 + 0.696527I$ $a = -0.338242 + 0.436580I$ $b = 0.218121 + 0.101852I$	$4.06725 - 2.79115I$	0
$u = 0.810100 - 0.696527I$ $a = -0.338242 - 0.436580I$ $b = 0.218121 - 0.101852I$	$4.06725 + 2.79115I$	0
$u = 0.564725 + 0.948830I$ $a = -0.645295 - 0.262477I$ $b = 0.150567 - 0.619486I$	$3.85710 - 3.89576I$	0
$u = 0.564725 - 0.948830I$ $a = -0.645295 + 0.262477I$ $b = 0.150567 + 0.619486I$	$3.85710 + 3.89576I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.046617 + 1.142370I$ $a = -0.63482 + 2.26238I$ $b = 0.79960 - 2.66733I$	$4.62267 + 0.14372I$	0
$u = 0.046617 - 1.142370I$ $a = -0.63482 - 2.26238I$ $b = 0.79960 + 2.66733I$	$4.62267 - 0.14372I$	0
$u = 1.150780 + 0.219130I$ $a = 0.522685 + 0.399011I$ $b = -0.094055 - 0.540195I$	$-0.65964 - 4.41450I$	0
$u = 1.150780 - 0.219130I$ $a = 0.522685 - 0.399011I$ $b = -0.094055 + 0.540195I$	$-0.65964 + 4.41450I$	0
$u = -0.592031 + 0.568502I$ $a = 1.33340 - 0.84287I$ $b = -0.193442 + 0.277813I$	$-1.42596 - 3.59118I$	$-1.75527 + 3.21770I$
$u = -0.592031 - 0.568502I$ $a = 1.33340 + 0.84287I$ $b = -0.193442 - 0.277813I$	$-1.42596 + 3.59118I$	$-1.75527 - 3.21770I$
$u = 1.164960 + 0.183393I$ $a = -0.472076 + 0.327161I$ $b = -1.356770 + 0.193388I$	$0.967603 - 0.985142I$	0
$u = 1.164960 - 0.183393I$ $a = -0.472076 - 0.327161I$ $b = -1.356770 - 0.193388I$	$0.967603 + 0.985142I$	0
$u = -0.520526 + 0.633146I$ $a = -0.375631 + 0.423504I$ $b = 1.47986 + 0.80086I$	$2.52872 - 8.60121I$	$1.83866 + 3.84455I$
$u = -0.520526 - 0.633146I$ $a = -0.375631 - 0.423504I$ $b = 1.47986 - 0.80086I$	$2.52872 + 8.60121I$	$1.83866 - 3.84455I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.294916 + 0.746389I$ $a = 1.98912 - 0.26808I$ $b = -0.433848 - 0.020928I$	$3.01635 + 9.32304I$	$3.19894 - 5.62741I$
$u = 0.294916 - 0.746389I$ $a = 1.98912 + 0.26808I$ $b = -0.433848 + 0.020928I$	$3.01635 - 9.32304I$	$3.19894 + 5.62741I$
$u = -0.771153 + 0.130660I$ $a = -1.040020 - 0.437054I$ $b = -0.083499 - 0.951857I$	$4.69688 - 2.57649I$	$1.57467 + 2.30402I$
$u = -0.771153 - 0.130660I$ $a = -1.040020 + 0.437054I$ $b = -0.083499 + 0.951857I$	$4.69688 + 2.57649I$	$1.57467 - 2.30402I$
$u = 0.131578 + 0.739838I$ $a = -1.68627 - 0.52919I$ $b = 1.321970 - 0.419785I$	$4.44676 + 0.47633I$	$7.82049 - 1.23300I$
$u = 0.131578 - 0.739838I$ $a = -1.68627 + 0.52919I$ $b = 1.321970 + 0.419785I$	$4.44676 - 0.47633I$	$7.82049 + 1.23300I$
$u = -0.365970 + 0.650492I$ $a = -0.923300 + 0.352826I$ $b = -0.405458 + 0.239034I$	$-1.30459 + 1.15321I$	$-3.91266 - 5.89962I$
$u = -0.365970 - 0.650492I$ $a = -0.923300 - 0.352826I$ $b = -0.405458 - 0.239034I$	$-1.30459 - 1.15321I$	$-3.91266 + 5.89962I$
$u = 0.027626 + 1.265550I$ $a = -0.18747 + 1.64404I$ $b = 0.41367 - 2.13372I$	$4.64117 + 0.14396I$	0
$u = 0.027626 - 1.265550I$ $a = -0.18747 - 1.64404I$ $b = 0.41367 + 2.13372I$	$4.64117 - 0.14396I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.050630+0.743716I$ $a=-0.260234-0.008456I$ $b=-1.151120-0.614051I$	$-0.025364-0.694709I$	0
$u=-1.050630-0.743716I$ $a=-0.260234+0.008456I$ $b=-1.151120+0.614051I$	$-0.025364+0.694709I$	0
$u=0.966250+0.854364I$ $a=0.030557+0.171811I$ $b=0.284472-0.438444I$	$4.18587-3.26120I$	0
$u=0.966250-0.854364I$ $a=0.030557-0.171811I$ $b=0.284472+0.438444I$	$4.18587+3.26120I$	0
$u=-0.030321+0.608824I$ $a=-0.377141-0.458763I$ $b=1.236080-0.334684I$	$-1.19917+5.41165I$	$1.34156-7.26392I$
$u=-0.030321-0.608824I$ $a=-0.377141+0.458763I$ $b=1.236080+0.334684I$	$-1.19917-5.41165I$	$1.34156+7.26392I$
$u=0.356043+0.423213I$ $a=-2.08467-0.32556I$ $b=-0.069706+0.303853I$	$0.24691+2.62762I$	$0.32414-5.86582I$
$u=0.356043-0.423213I$ $a=-2.08467+0.32556I$ $b=-0.069706-0.303853I$	$0.24691-2.62762I$	$0.32414+5.86582I$
$u=-0.24387+1.47515I$ $a=0.017377-1.220120I$ $b=0.44822+1.78089I$	$11.22230+0.28649I$	0
$u=-0.24387-1.47515I$ $a=0.017377+1.220120I$ $b=0.44822-1.78089I$	$11.22230-0.28649I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.327271+0.358349I$ $a=-0.886714-0.274566I$ $b=-1.045100+0.416367I$	$-1.90605+1.11051I$	$2.44459+0.53234I$
$u=-0.327271-0.358349I$ $a=-0.886714+0.274566I$ $b=-1.045100-0.416367I$	$-1.90605-1.11051I$	$2.44459-0.53234I$
$u=-1.42583+0.57546I$ $a=\ \ 0.498504+0.022033I$ $b=\ \ 0.479276+0.563280I$	$4.46008+9.11025I$	0
$u=-1.42583-0.57546I$ $a=\ \ 0.498504-0.022033I$ $b=\ \ 0.479276-0.563280I$	$4.46008-9.11025I$	0
$u=\ \ 0.250236+0.342228I$ $a=-1.226160+0.462405I$ $b=\ \ 0.309303+0.470318I$	$1.39381+0.89309I$	$4.09738-0.87482I$
$u=\ \ 0.250236-0.342228I$ $a=-1.226160-0.462405I$ $b=\ \ 0.309303-0.470318I$	$1.39381-0.89309I$	$4.09738+0.87482I$
$u=-0.30462+1.58289I$ $a=-0.159862-0.920028I$ $b=-0.20723+1.71520I$	$3.23935+3.92724I$	0
$u=-0.30462-1.58289I$ $a=-0.159862+0.920028I$ $b=-0.20723-1.71520I$	$3.23935-3.92724I$	0
$u=\ \ 0.44818+1.58154I$ $a=\ \ 0.414772-0.918491I$ $b=\ \ 0.52106+1.85961I$	$11.27930-1.44429I$	0
$u=\ \ 0.44818-1.58154I$ $a=\ \ 0.414772+0.918491I$ $b=\ \ 0.52106-1.85961I$	$11.27930+1.44429I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.017872+0.303347I$ $a=\ \ 3.82605+1.87714I$ $b=-1.132580+0.363636I$	$3.42718-1.06387I$	$2.11989-0.34485I$
$u=-0.017872-0.303347I$ $a=\ \ 3.82605-1.87714I$ $b=-1.132580-0.363636I$	$3.42718+1.06387I$	$2.11989+0.34485I$
$u=\ \ 0.25994+1.72565I$ $a=\ \ 0.109906+1.123310I$ $b=-0.39160-2.11059I$	$12.4056-6.9129I$	0
$u=\ \ 0.25994-1.72565I$ $a=\ \ 0.109906-1.123310I$ $b=-0.39160+2.11059I$	$12.4056+6.9129I$	0
$u=\ \ 0.27832+1.76522I$ $a=\ \ 0.022137-1.136350I$ $b=\ \ 0.43502+1.99701I$	$13.3454-7.9741I$	0
$u=\ \ 0.27832-1.76522I$ $a=\ \ 0.022137+1.136350I$ $b=\ \ 0.43502-1.99701I$	$13.3454+7.9741I$	0
$u=\ \ 0.54424+1.73484I$ $a=-0.126901+1.035400I$ $b=-0.05331-1.76815I$	$6.10244-3.92680I$	0
$u=\ \ 0.54424-1.73484I$ $a=-0.126901-1.035400I$ $b=-0.05331+1.76815I$	$6.10244+3.92680I$	0
$u=-0.08745+1.81957I$ $a=\ \ 0.183051-0.960988I$ $b=-0.02671+1.86706I$	$8.17378+5.03717I$	0
$u=-0.08745-1.81957I$ $a=\ \ 0.183051+0.960988I$ $b=-0.02671-1.86706I$	$8.17378-5.03717I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.44832 + 1.79678I$ $a = 0.011918 - 1.072770I$ $b = 0.23871 + 1.75816I$	$6.36319 - 10.94220I$	0
$u = 0.44832 - 1.79678I$ $a = 0.011918 + 1.072770I$ $b = 0.23871 - 1.75816I$	$6.36319 + 10.94220I$	0
$u = 0.33240 + 1.86146I$ $a = -0.052763 + 0.804686I$ $b = -0.52702 - 2.08999I$	$8.73089 - 7.50113I$	0
$u = 0.33240 - 1.86146I$ $a = -0.052763 - 0.804686I$ $b = -0.52702 + 2.08999I$	$8.73089 + 7.50113I$	0
$u = -0.48571 + 1.83508I$ $a = -0.079389 + 1.054680I$ $b = -0.17441 - 1.45972I$	$8.82884 + 2.54421I$	0
$u = -0.48571 - 1.83508I$ $a = -0.079389 - 1.054680I$ $b = -0.17441 + 1.45972I$	$8.82884 - 2.54421I$	0
$u = -0.12198 + 1.91973I$ $a = -0.088250 + 1.035080I$ $b = 0.07581 - 1.61679I$	$8.04212 + 1.07975I$	0
$u = -0.12198 - 1.91973I$ $a = -0.088250 - 1.035080I$ $b = 0.07581 + 1.61679I$	$8.04212 - 1.07975I$	0
$u = -0.53576 + 1.86215I$ $a = 0.079592 + 1.028730I$ $b = 0.39767 - 2.06815I$	$12.2627 + 16.8504I$	0
$u = -0.53576 - 1.86215I$ $a = 0.079592 - 1.028730I$ $b = 0.39767 + 2.06815I$	$12.2627 - 16.8504I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.12813 + 2.03521I$ $a = -0.082429 - 0.921487I$ $b = -0.36312 + 1.77545I$	$13.2288 + 5.7083I$	0
$u = \quad 0.12813 - 2.03521I$ $a = -0.082429 + 0.921487I$ $b = -0.36312 - 1.77545I$	$13.2288 - 5.7083I$	0
$u = -0.17018 + 2.10478I$ $a = \quad 0.177794 + 0.752992I$ $b = \quad 0.49529 - 1.96195I$	$12.29870 - 3.68520I$	0
$u = -0.17018 - 2.10478I$ $a = \quad 0.177794 - 0.752992I$ $b = \quad 0.49529 + 1.96195I$	$12.29870 + 3.68520I$	0
$u = -0.60072 + 2.06916I$ $a = -0.125600 - 0.868073I$ $b = -0.34884 + 2.04283I$	$9.43831 + 8.00299I$	0
$u = -0.60072 - 2.06916I$ $a = -0.125600 + 0.868073I$ $b = -0.34884 - 2.04283I$	$9.43831 - 8.00299I$	0

II.

$\boldsymbol{I_2^u = \langle -1.49\times10^{14}u^{21}+9.87\times10^{13}u^{20}+\cdots+9.67\times10^{13}b-8.25\times10^{13},\ 3.61\times10^{14}u^{21}-1.14\times10^{14}u^{20}+\cdots+9.67\times10^{13}a+7.29\times10^{14},\ u^{22}+6u^{20}+\cdots+3u+1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

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

$$a_7 = \begin{pmatrix}-3.73014u^{21}+1.17823u^{20}+\cdots-5.77790u-7.53864\\1.54312u^{21}-1.02074u^{20}+\cdots+3.61870u+0.853010\end{pmatrix}$$

$$a_4 = \begin{pmatrix}2.80559u^{21}-0.613746u^{20}+\cdots+3.94605u+7.99627\\-1.59401u^{21}+0.617282u^{20}+\cdots-2.45622u-2.03309\end{pmatrix}$$

$$a_1 = \begin{pmatrix}2.43638u^{21}-1.64663u^{20}+\cdots+4.38963u+0.101156\\2.86235u^{21}-1.16568u^{20}+\cdots+4.78482u+5.72462\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-2.18702u^{21}+0.157481u^{20}+\cdots-2.15920u-6.68563\\1.54312u^{21}-1.02074u^{20}+\cdots+3.61870u+0.853010\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-2.18702u^{21}+0.157481u^{20}+\cdots-2.15920u-6.68563\\1.66941u^{21}-1.23031u^{20}+\cdots+5.33328u+0.695529\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}2.78514u^{21}-1.62442u^{20}+\cdots+9.90008u+3.76942\\1.36682u^{21}-0.449827u^{20}+\cdots+4.50861u+4.43001\end{pmatrix}$$

$$a_9 = \begin{pmatrix}4.15196u^{21}-2.07424u^{20}+\cdots+14.4087u+8.19943\\1.36682u^{21}-0.449827u^{20}+\cdots+4.50861u+4.43001\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}-4.30959u^{21}+1.04490u^{20}+\cdots-9.47528u-13.1314\\0.804486u^{21}-0.868380u^{20}+\cdots+3.26438u-1.10562\end{pmatrix}$$

$$a_8 = \begin{pmatrix}-0.963368u^{21}+1.38410u^{20}+\cdots-2.10831u+3.97684\\-3.61664u^{21}+1.69124u^{20}+\cdots-7.01111u-5.08948\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{1686035164509931}{96703178408689}u^{21}+\frac{901461064070090}{96703178408689}u^{20}+\cdots-\frac{76450416088126}{2358614107529}u-\frac{3061925079195016}{96703178408689}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22} - 9u^{21} + \cdots - 10u + 1$
c_2	$u^{22} + 6u^{20} + \cdots + 3u + 1$
c_3	$u^{22} + u^{21} + \cdots - 41u + 5$
c_4	$u^{22} - 5u^{21} + \cdots - 2u + 3$
c_5	$u^{22} - 7u^{20} + \cdots - 17u + 5$
c_6	$u^{22} + 9u^{21} + \cdots - 2u + 1$
c_7	$u^{22} + 4u^{21} + \cdots + 4u + 1$
c_8	$u^{22} - 4u^{21} + \cdots - 59u + 7$
c_9	$u^{22} + 31u^{21} + \cdots - 6u + 1$
c_{10}	$u^{22} - 8u^{21} + \cdots - 13u + 3$
c_{11}	$u^{22} + 4u^{21} + \cdots + 59u + 7$
c_{12}	$u^{22} - 7u^{21} + \cdots + 9u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} - 3y^{21} + \cdots + 26y + 1$
c_2	$y^{22} + 12y^{21} + \cdots - 15y + 1$
c_3	$y^{22} - 5y^{21} + \cdots + 119y + 25$
c_4	$y^{22} + y^{21} + \cdots + 8y + 9$
c_5	$y^{22} - 14y^{21} + \cdots - 449y + 25$
c_6	$y^{22} + 13y^{21} + \cdots + 224y + 1$
c_7	$y^{22} + 14y^{21} + \cdots + 14y + 1$
c_8, c_{11}	$y^{22} + 18y^{21} + \cdots - 51y + 49$
c_9	$y^{22} - 421y^{21} + \cdots - 16y + 1$
c_{10}	$y^{22} - 18y^{21} + \cdots + 35y + 9$
c_{12}	$y^{22} - y^{21} + \cdots - 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.951034+0.134444I$ $a=\ 0.605350+1.006750I$ $b=-0.107028-0.680421I$	$0.79970+2.99966I$	$6.51980-4.32864I$
$u=-0.951034-0.134444I$ $a=\ 0.605350-1.006750I$ $b=-0.107028+0.680421I$	$0.79970-2.99966I$	$6.51980+4.32864I$
$u=\ 0.054801+1.050180I$ $a=-2.33429+2.96337I$ $b=\ 2.37282-3.26912I$	$4.72694+0.15173I$	$81.0248+14.3588I$
$u=\ 0.054801-1.050180I$ $a=-2.33429-2.96337I$ $b=\ 2.37282+3.26912I$	$4.72694-0.15173I$	$81.0248-14.3588I$
$u=\ 0.394378+1.036170I$ $a=\ 0.529717+0.484241I$ $b=\ 0.891472-0.443374I$	$-1.121450-0.412393I$	$-3.86761-5.50321I$
$u=\ 0.394378-1.036170I$ $a=\ 0.529717-0.484241I$ $b=\ 0.891472+0.443374I$	$-1.121450+0.412393I$	$-3.86761+5.50321I$
$u=-0.705719+0.514320I$ $a=\ 1.141760-0.226080I$ $b=\ 0.820094-0.039020I$	$-0.58337-2.20721I$	$-7.14382+5.39648I$
$u=-0.705719-0.514320I$ $a=\ 1.141760+0.226080I$ $b=\ 0.820094+0.039020I$	$-0.58337+2.20721I$	$-7.14382-5.39648I$
$u=\ 1.150040+0.122620I$ $a=\ 0.501064-0.269186I$ $b=\ 1.38047-0.53268I$	$1.142400-0.428165I$	$-0.33704-3.69823I$
$u=\ 1.150040-0.122620I$ $a=\ 0.501064+0.269186I$ $b=\ 1.38047+0.53268I$	$1.142400+0.428165I$	$-0.33704+3.69823I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.769922 + 0.872233I$ $a = 0.393736 + 0.406091I$ $b = -0.0213916 + 0.0853977I$	$3.60622 - 3.26427I$	$-6.14063 + 0.76896I$
$u = 0.769922 - 0.872233I$ $a = 0.393736 - 0.406091I$ $b = -0.0213916 - 0.0853977I$	$3.60622 + 3.26427I$	$-6.14063 - 0.76896I$
$u = -0.706428 + 0.363074I$ $a = 0.393152 - 0.102422I$ $b = 0.929325 - 0.401157I$	$-2.32161 + 1.24252I$	$-16.7069 - 5.8630I$
$u = -0.706428 - 0.363074I$ $a = 0.393152 + 0.102422I$ $b = 0.929325 + 0.401157I$	$-2.32161 - 1.24252I$	$-16.7069 + 5.8630I$
$u = 0.530753 + 0.117442I$ $a = 0.11104 - 1.74126I$ $b = -0.779379 + 0.428668I$	$-2.25567 + 4.82318I$	$-6.03196 - 5.94405I$
$u = 0.530753 - 0.117442I$ $a = 0.11104 + 1.74126I$ $b = -0.779379 - 0.428668I$	$-2.25567 - 4.82318I$	$-6.03196 + 5.94405I$
$u = -0.449674 + 0.157084I$ $a = -0.20238 - 2.18846I$ $b = -1.157300 + 0.217672I$	$1.54910 + 9.74946I$	$-3.15022 - 8.05150I$
$u = -0.449674 - 0.157084I$ $a = -0.20238 + 2.18846I$ $b = -1.157300 - 0.217672I$	$1.54910 - 9.74946I$	$-3.15022 + 8.05150I$
$u = -0.34131 + 1.81217I$ $a = -0.115503 + 1.041120I$ $b = -0.18866 - 1.53705I$	$8.66862 + 2.29552I$	$-0.26375 + 5.19421I$
$u = -0.34131 - 1.81217I$ $a = -0.115503 - 1.041120I$ $b = -0.18866 + 1.53705I$	$8.66862 - 2.29552I$	$-0.26375 - 5.19421I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.25428 + 1.98779I$ $a = -0.023650 - 0.890837I$ $b = 0.35958 + 2.02401I$	$10.46310 - 7.23363I$	$3.59733 + 5.30923I$
$u = 0.25428 - 1.98779I$ $a = -0.023650 + 0.890837I$ $b = 0.35958 - 2.02401I$	$10.46310 + 7.23363I$	$3.59733 - 5.30923I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{22}-9u^{21}+\cdots-10u+1)(u^{76}-10u^{75}+\cdots-221u+17)$
c_2	$(u^{22}+6u^{20}+\cdots+3u+1)(u^{76}-u^{75}+\cdots-23760u+74007)$
c_3	$(u^{22}+u^{21}+\cdots-41u+5)(u^{76}+2u^{75}+\cdots-19464u+3677)$
c_4	$(u^{22}-5u^{21}+\cdots-2u+3)(u^{76}-2u^{75}+\cdots+549u+207)$
c_5	$(u^{22}-7u^{20}+\cdots-17u+5)(u^{76}-u^{75}+\cdots+3.48422\times10^{7}u+3425393)$
c_6	$(u^{22}+9u^{21}+\cdots-2u+1)(u^{76}+53u^{74}+\cdots+7437u+763)$
c_7	$(u^{22}+4u^{21}+\cdots+4u+1)(u^{76}-7u^{75}+\cdots+27u+1)$
c_8	$(u^{22}-4u^{21}+\cdots-59u+7)(u^{76}-9u^{75}+\cdots-362u+19)$
c_9	$(u^{22}+31u^{21}+\cdots-6u+1)$ $\cdot(u^{76}-8u^{75}+\cdots+57253563u+3204791)$
c_{10}	$(u^{22}-8u^{21}+\cdots-13u+3)(u^{76}-9u^{75}+\cdots-530u+1279)$
c_{11}	$(u^{22}+4u^{21}+\cdots+59u+7)(u^{76}-9u^{75}+\cdots-362u+19)$
c_{12}	$(u^{22}-7u^{21}+\cdots+9u+1)(u^{76}-6u^{75}+\cdots+78u+35)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{22}-3y^{21}+\cdots+26y+1)(y^{76}+18y^{75}+\cdots-2227y+289)$
c_2	$(y^{22}+12y^{21}+\cdots-15y+1)$ $\cdot(y^{76}+93y^{75}+\cdots+236846070036y+5477036049)$
c_3	$(y^{22}-5y^{21}+\cdots+119y+25)$ $\cdot(y^{76}+20y^{75}+\cdots+475032998y+13520329)$
c_4	$(y^{22}+y^{21}+\cdots+8y+9)(y^{76}-14y^{75}+\cdots-1120293y+42849)$
c_5	$(y^{22}-14y^{21}+\cdots-449y+25)$ $\cdot(y^{76}-57y^{75}+\cdots-439239317966814y+11733317204449)$
c_6	$(y^{22}+13y^{21}+\cdots+224y+1)$ $\cdot(y^{76}+106y^{75}+\cdots+5285439y+582169)$
c_7	$(y^{22}+14y^{21}+\cdots+14y+1)(y^{76}+15y^{75}+\cdots-7y+1)$
c_8, c_{11}	$(y^{22}+18y^{21}+\cdots-51y+49)(y^{76}+63y^{75}+\cdots+208y+361)$
c_9	$(y^{22}-421y^{21}+\cdots-16y+1)$ $\cdot(y^{76}+128y^{75}+\cdots+7840289593898607y+10270685353681)$
c_{10}	$(y^{22}-18y^{21}+\cdots+35y+9)$ $\cdot(y^{76}-105y^{75}+\cdots-4524622y+1635841)$
c_{12}	$(y^{22}-y^{21}+\cdots-5y+1)(y^{76}-8y^{75}+\cdots-58374y+1225)$