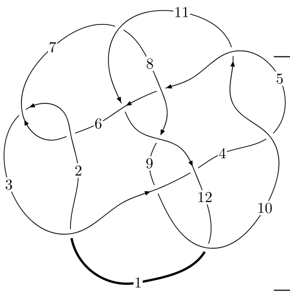
$12n_{0567}$ $(K12n_{0567})$



A knot diagram[1]

Linearized knot diagam

$$\begin{array}{ccccccccccccccccccccccccc}
\to & \downarrow & \to & \downarrow & \to & \downarrow & \to & \uparrow & \to & \uparrow & \to & \downarrow & \to & \downarrow & \to & \uparrow & \to & \uparrow & \to & \uparrow & \to & \downarrow & \to & \uparrow & \to \\
 & 3 & & 7 & & 12 & & 10 & & 8 & & 2 & & 11 & & 12 & & 3 & & 5 & & 6 & & 10 &
\end{array}$$

Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 5.56281 \times 10^{317} u^{78} - 5.02067 \times 10^{318} u^{77} + \cdots + 8.67837 \times 10^{319} b + 1.47773 \times 10^{320}, \\
& - 3.19161 \times 10^{320} u^{78} + 2.80481 \times 10^{321} u^{77} + \cdots + 1.37986 \times 10^{322} a + 2.79478 \times 10^{322}, \\
& u^{79} - 9u^{78} + \cdots + 734u + 106 \rangle \\
I_2^u = \langle & 2.46309 \times 10^{21} u^{21} - 5.34185 \times 10^{18} u^{20} + \cdots + 1.37105 \times 10^{22} b + 2.69501 \times 10^{22}, \\
& - 1.37506 \times 10^{22} u^{21} + 5.42032 \times 10^{21} u^{20} + \cdots + 5.48420 \times 10^{22} a - 2.58037 \times 10^{22}, \\
& u^{22} + 8u^{20} + \cdots + 28u + 4 \rangle \\
I_3^u = \langle & b - 1,\ a,\ u + 1 \rangle \\
I_4^u = \langle & b + 1,\ a + 1,\ u + 1 \rangle
\end{aligned}$$

$$I_1^v = \langle a,\ b + 1,\ v + 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 104 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. $\boldsymbol{I_1^u = \langle 5.56 \times 10^{317}u^{78} - 5.02 \times 10^{318}u^{77} + \cdots + 8.68 \times 10^{319}b + 1.48 \times 10^{320},\ -3.19 \times 10^{320}u^{78} + 2.80 \times 10^{321}u^{77} + \cdots + 1.38 \times 10^{322}a + 2.79 \times 10^{322},\ u^{79} - 9u^{78} + \cdots + 734u + 106\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0.0231300u^{78} - 0.203268u^{77} + \cdots - 11.9417u - 2.02541 \\ -0.00640998u^{78} + 0.0578527u^{77} + \cdots - 3.35031u - 1.70277 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0167200u^{78} - 0.145415u^{77} + \cdots - 15.2920u - 3.72818 \\ -0.00640998u^{78} + 0.0578527u^{77} + \cdots - 3.35031u - 1.70277 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0133063u^{78} - 0.111816u^{77} + \cdots + 15.5097u + 0.982850 \\ -0.00879467u^{78} + 0.0756675u^{77} + \cdots - 25.5253u - 6.64326 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0132004u^{78} - 0.125171u^{77} + \cdots - 25.7839u - 2.94270 \\ -0.00276583u^{78} + 0.0225513u^{77} + \cdots - 3.76731u - 0.106117 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0200166u^{78} - 0.171688u^{77} + \cdots + 33.7964u + 6.78443 \\ -0.00872034u^{78} + 0.0751173u^{77} + \cdots - 26.6187u - 6.69843 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.00488649u^{78} - 0.0504017u^{77} + \cdots + 3.29564u + 3.47447 \\ -0.00255916u^{78} + 0.0228690u^{77} + \cdots - 15.8414u - 4.95528 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0145289u^{78} + 0.122760u^{77} + \cdots + 14.0823u + 7.64467 \\ -0.0100602u^{78} + 0.0908254u^{77} + \cdots - 19.0287u - 7.67271 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0241505u^{78} - 0.223793u^{77} + \cdots - 42.8651u - 5.86006 \\ -0.00239155u^{78} + 0.0244554u^{77} + \cdots + 2.88597u - 0.413481 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00650299u^{78} - 0.0609618u^{77} + \cdots + 2.56028u + 1.33246 \\ -0.00536036u^{78} + 0.0455739u^{77} + \cdots - 8.77824u - 1.19157 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.353846u^{78} + 3.26964u^{77} + \cdots - 551.965u - 156.813$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{79} + 43u^{78} + \cdots + 457u + 36$
c_2, c_6	$u^{79} + u^{78} + \cdots - 19u + 6$
c_3	$u^{79} - 6u^{78} + \cdots + 3288u - 3153$
c_4, c_{10}	$u^{79} + 3u^{78} + \cdots + 39517u + 6618$
c_5	$u^{79} + 12u^{78} + \cdots + 14u + 11$
c_7	$u^{79} + 9u^{78} + \cdots + 734u - 106$
c_8	$u^{79} + 3u^{78} + \cdots + 61u - 6$
c_9	$u^{79} + u^{78} + \cdots + 18402u + 6638$
c_{11}	$u^{79} - u^{78} + \cdots - 21u - 3$
c_{12}	$u^{79} - 2u^{78} + \cdots + 124853u + 21439$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{79} - 15y^{78} + \cdots + 33889y - 1296$
c_2, c_6	$y^{79} - 43y^{78} + \cdots + 457y - 36$
c_3	$y^{79} - 92y^{78} + \cdots + 324175002y - 9941409$
c_4, c_{10}	$y^{79} - 43y^{78} + \cdots + 1161720493y - 43797924$
c_5	$y^{79} - 36y^{78} + \cdots + 2748y - 121$
c_7	$y^{79} + 27y^{78} + \cdots - 45092y - 11236$
c_8	$y^{79} + 27y^{78} + \cdots + 27889y - 36$
c_9	$y^{79} + 91y^{78} + \cdots - 1887671940y - 44063044$
c_{11}	$y^{79} - y^{78} + \cdots + 1149y - 9$
c_{12}	$y^{79} + 72y^{78} + \cdots + 5381678245y - 459630721$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.778248 + 0.684575I$ $a = 0.496147 + 0.408691I$ $b = -0.390677 - 0.867183I$	$-5.37716 + 3.78065I$	0
$u = -0.778248 - 0.684575I$ $a = 0.496147 - 0.408691I$ $b = -0.390677 + 0.867183I$	$-5.37716 - 3.78065I$	0
$u = -0.892660$ $a = -0.278912$ $b = 1.20837$	1.65892	7.72510
$u = 0.135677 + 0.874172I$ $a = 2.18391 + 1.40758I$ $b = -1.024420 - 0.534790I$	$-2.76898 - 7.84768I$	$2.12757 + 8.05813I$
$u = 0.135677 - 0.874172I$ $a = 2.18391 - 1.40758I$ $b = -1.024420 + 0.534790I$	$-2.76898 + 7.84768I$	$2.12757 - 8.05813I$
$u = -0.781273 + 0.304744I$ $a = 0.842113 - 0.298441I$ $b = 1.265120 + 0.143006I$	$-10.97290 + 0.77841I$	$-6.82766 - 0.78518I$
$u = -0.781273 - 0.304744I$ $a = 0.842113 + 0.298441I$ $b = 1.265120 - 0.143006I$	$-10.97290 - 0.77841I$	$-6.82766 + 0.78518I$
$u = -0.581646 + 1.006650I$ $a = -0.240060 - 0.661324I$ $b = 0.185387 + 0.764265I$	$4.41709 + 4.52800I$	0
$u = -0.581646 - 1.006650I$ $a = -0.240060 + 0.661324I$ $b = 0.185387 - 0.764265I$	$4.41709 - 4.52800I$	0
$u = 0.804957 + 0.173139I$ $a = -0.302876 - 0.960865I$ $b = -0.935122 + 0.560283I$	$-1.36961 + 2.12804I$	$-6.08728 - 3.56903I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.804957 - 0.173139I$ $a = -0.302876 + 0.960865I$ $b = -0.935122 - 0.560283I$	$-1.36961 - 2.12804I$	$-6.08728 + 3.56903I$
$u = -0.932036 + 0.736879I$ $a = -0.64902 - 1.47930I$ $b = -1.146240 + 0.628898I$	$-7.64208 + 9.32063I$	0
$u = -0.932036 - 0.736879I$ $a = -0.64902 + 1.47930I$ $b = -1.146240 - 0.628898I$	$-7.64208 - 9.32063I$	0
$u = -0.305349 + 0.731424I$ $a = -1.72358 - 0.55517I$ $b = 0.826923 + 0.741635I$	$3.38241 - 1.44721I$	$-0.92948 + 7.72706I$
$u = -0.305349 - 0.731424I$ $a = -1.72358 + 0.55517I$ $b = 0.826923 - 0.741635I$	$3.38241 + 1.44721I$	$-0.92948 - 7.72706I$
$u = 0.109380 + 0.784726I$ $a = 2.41586 - 0.71124I$ $b = -0.784744 + 0.443258I$	$1.92515 + 0.39107I$	$4.91566 + 0.78548I$
$u = 0.109380 - 0.784726I$ $a = 2.41586 + 0.71124I$ $b = -0.784744 - 0.443258I$	$1.92515 - 0.39107I$	$4.91566 - 0.78548I$
$u = -0.371146 + 0.688689I$ $a = 0.49761 + 2.75814I$ $b = 0.914340 - 0.739129I$	$3.12020 + 4.18419I$	$-3.46102 - 2.48442I$
$u = -0.371146 - 0.688689I$ $a = 0.49761 - 2.75814I$ $b = 0.914340 + 0.739129I$	$3.12020 - 4.18419I$	$-3.46102 + 2.48442I$
$u = -0.478501 + 1.123620I$ $a = -0.298949 + 0.824219I$ $b = 0.275465 - 0.433827I$	$5.17058 + 4.04352I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.478501 - 1.123620I$ $a = -0.298949 - 0.824219I$ $b = 0.275465 + 0.433827I$	$5.17058 - 4.04352I$	0
$u = 0.395642 + 0.656886I$ $a = 0.196734 + 0.736150I$ $b = -0.047600 - 0.467709I$	$0.165593 - 1.209730I$	$2.02916 + 5.23119I$
$u = 0.395642 - 0.656886I$ $a = 0.196734 - 0.736150I$ $b = -0.047600 + 0.467709I$	$0.165593 + 1.209730I$	$2.02916 - 5.23119I$
$u = -0.684615 + 1.041570I$ $a = 0.0285168 + 0.0826745I$ $b = 0.814198 + 0.338128I$	$1.57656 - 2.62855I$	0
$u = -0.684615 - 1.041570I$ $a = 0.0285168 - 0.0826745I$ $b = 0.814198 - 0.338128I$	$1.57656 + 2.62855I$	0
$u = 0.975838 + 0.782424I$ $a = 0.657092 - 0.713723I$ $b = 1.022580 + 0.268605I$	$-2.94747 - 3.80961I$	0
$u = 0.975838 - 0.782424I$ $a = 0.657092 + 0.713723I$ $b = 1.022580 - 0.268605I$	$-2.94747 + 3.80961I$	0
$u = -0.536219 + 1.134980I$ $a = -0.534763 - 1.106970I$ $b = -0.506060 + 0.508248I$	$-4.04856 + 1.41714I$	0
$u = -0.536219 - 1.134980I$ $a = -0.534763 + 1.106970I$ $b = -0.506060 - 0.508248I$	$-4.04856 - 1.41714I$	0
$u = -0.741180$ $a = 0.239372$ $b = 0.419805$	1.79441	4.83380

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.738304 + 1.048750I$ $a = -0.845945 - 0.269555I$ $b = 0.998142 - 0.376554I$	$-3.87655 - 1.76981I$	0
$u = 0.738304 - 1.048750I$ $a = -0.845945 + 0.269555I$ $b = 0.998142 + 0.376554I$	$-3.87655 + 1.76981I$	0
$u = 1.105070 + 0.664957I$ $a = 0.244803 + 0.115320I$ $b = -1.47554 - 0.01059I$	$-8.72804 - 7.04097I$	0
$u = 1.105070 - 0.664957I$ $a = 0.244803 - 0.115320I$ $b = -1.47554 + 0.01059I$	$-8.72804 + 7.04097I$	0
$u = 1.132430 + 0.621605I$ $a = 0.49514 - 1.51289I$ $b = -0.004512 + 0.661734I$	$-2.89071 + 3.39186I$	0
$u = 1.132430 - 0.621605I$ $a = 0.49514 + 1.51289I$ $b = -0.004512 - 0.661734I$	$-2.89071 - 3.39186I$	0
$u = -0.272017 + 0.645577I$ $a = -0.02750 - 1.78732I$ $b = -1.24922 + 0.75688I$	$-3.78506 + 8.40300I$	$1.55735 - 8.35283I$
$u = -0.272017 - 0.645577I$ $a = -0.02750 + 1.78732I$ $b = -1.24922 - 0.75688I$	$-3.78506 - 8.40300I$	$1.55735 + 8.35283I$
$u = 1.173230 + 0.678550I$ $a = 1.264070 + 0.058940I$ $b = 0.672858 + 0.087940I$	$-2.57246 - 4.30103I$	0
$u = 1.173230 - 0.678550I$ $a = 1.264070 - 0.058940I$ $b = 0.672858 - 0.087940I$	$-2.57246 + 4.30103I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.365510 + 0.529512I$ $a = 0.33616 + 1.47447I$ $b = -0.131837 - 1.340730I$	$-0.80564 + 1.18538I$	$10.43073 + 5.93489I$
$u = 0.365510 - 0.529512I$ $a = 0.33616 - 1.47447I$ $b = -0.131837 + 1.340730I$	$-0.80564 - 1.18538I$	$10.43073 - 5.93489I$
$u = -0.372397 + 0.523453I$ $a = -0.03555 + 2.76231I$ $b = 0.873019 - 0.750214I$	$2.81371 + 4.24079I$	$1.66752 - 8.05004I$
$u = -0.372397 - 0.523453I$ $a = -0.03555 - 2.76231I$ $b = 0.873019 + 0.750214I$	$2.81371 - 4.24079I$	$1.66752 + 8.05004I$
$u = 1.103790 + 0.828086I$ $a = -0.171841 - 0.938107I$ $b = 1.31594 + 0.55012I$	$-5.20033 - 4.93329I$	0
$u = 1.103790 - 0.828086I$ $a = -0.171841 + 0.938107I$ $b = 1.31594 - 0.55012I$	$-5.20033 + 4.93329I$	0
$u = -0.609086$ $a = -1.31379$ $b = -0.978193$	-1.80797	-4.57870
$u = -0.917810 + 1.056720I$ $a = 0.327013 + 1.321270I$ $b = 1.149280 - 0.560651I$	$1.73896 + 9.47414I$	0
$u = -0.917810 - 1.056720I$ $a = 0.327013 - 1.321270I$ $b = 1.149280 + 0.560651I$	$1.73896 - 9.47414I$	0
$u = 0.313708 + 0.509032I$ $a = -2.16795 + 3.20848I$ $b = -0.923339 - 0.452097I$	$1.45639 - 3.33450I$	$2.49781 + 7.16900I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.313708 - 0.509032I$ $a = -2.16795 - 3.20848I$ $b = -0.923339 + 0.452097I$	$1.45639 + 3.33450I$	$2.49781 - 7.16900I$
$u = -0.51363 + 1.33375I$ $a = 0.297777 + 0.674355I$ $b = -0.405830 - 0.317748I$	$5.04693 + 3.84525I$	0
$u = -0.51363 - 1.33375I$ $a = 0.297777 - 0.674355I$ $b = -0.405830 + 0.317748I$	$5.04693 - 3.84525I$	0
$u = 0.92366 + 1.16421I$ $a = -0.519837 + 1.155040I$ $b = 0.442033 - 1.069980I$	$-1.34186 - 10.86070I$	0
$u = 0.92366 - 1.16421I$ $a = -0.519837 - 1.155040I$ $b = 0.442033 + 1.069980I$	$-1.34186 + 10.86070I$	0
$u = 0.216721 + 0.462692I$ $a = 1.19356 - 4.87978I$ $b = -0.574841 + 0.526921I$	$-1.37094 - 3.47466I$	$5.22123 + 1.68240I$
$u = 0.216721 - 0.462692I$ $a = 1.19356 + 4.87978I$ $b = -0.574841 - 0.526921I$	$-1.37094 + 3.47466I$	$5.22123 - 1.68240I$
$u = 0.76744 + 1.37751I$ $a = 0.741867 - 1.057010I$ $b = -0.712373 + 0.831700I$	$3.89746 - 2.86937I$	0
$u = 0.76744 - 1.37751I$ $a = 0.741867 + 1.057010I$ $b = -0.712373 - 0.831700I$	$3.89746 + 2.86937I$	0
$u = -0.031530 + 0.417860I$ $a = -1.64477 - 2.92363I$ $b = 0.968462 + 0.643997I$	$2.48038 - 1.25973I$	$0.414499 - 1.210980I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.031530-0.417860I$ $a=-1.64477+2.92363I$ $b=0.968462-0.643997I$	$2.48038+1.25973I$	$0.414499+1.210980I$
$u=0.10747+1.58916I$ $a=-0.00023-1.80456I$ $b=0.692388+0.412184I$	$-4.62516-0.13995I$	0
$u=0.10747-1.58916I$ $a=-0.00023+1.80456I$ $b=0.692388-0.412184I$	$-4.62516+0.13995I$	0
$u=1.04711+1.33119I$ $a=-0.04905-1.52114I$ $b=1.204620+0.705102I$	$-3.7393-17.2276I$	0
$u=1.04711-1.33119I$ $a=-0.04905+1.52114I$ $b=1.204620-0.705102I$	$-3.7393+17.2276I$	0
$u=0.90626+1.44153I$ $a=-0.03875+1.73006I$ $b=-1.004110-0.729834I$	$2.99455-8.70932I$	0
$u=0.90626-1.44153I$ $a=-0.03875-1.73006I$ $b=-1.004110+0.729834I$	$2.99455+8.70932I$	0
$u=-0.84193+1.52097I$ $a=0.286857+0.492815I$ $b=-1.040030-0.466600I$	$-5.72787-2.55886I$	0
$u=-0.84193-1.52097I$ $a=0.286857-0.492815I$ $b=-1.040030+0.466600I$	$-5.72787+2.55886I$	0
$u=-1.00763+1.43025I$ $a=-0.079092-1.239070I$ $b=-1.089190+0.500708I$	$2.88288+7.82891I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00763-1.43025I$ $a=-0.079092+1.239070I$ $b=-1.089190-0.500708I$	$2.88288-7.82891I$	0
$u=-0.231825+0.082340I$ $a=\quad 1.050750+0.434329I$ $b=-1.97997-0.26154I$	$-0.489628+0.006055I$	$-71.0734-96.8093I$
$u=-0.231825-0.082340I$ $a=\quad 1.050750-0.434329I$ $b=-1.97997+0.26154I$	$-0.489628-0.006055I$	$-71.0734+96.8093I$
$u=-0.21428+1.94197I$ $a=-0.541939+1.278230I$ $b=\quad 1.006310-0.473935I$	$-5.75770+3.61725I$	0
$u=-0.21428-1.94197I$ $a=-0.541939-1.278230I$ $b=\quad 1.006310+0.473935I$	$-5.75770-3.61725I$	0
$u=\quad 0.99904+1.69268I$ $a=\quad 0.488431+1.102260I$ $b=-1.172360-0.431362I$	$-6.19272-0.68993I$	0
$u=\quad 0.99904-1.69268I$ $a=\quad 0.488431-1.102260I$ $b=-1.172360+0.431362I$	$-6.19272+0.68993I$	0
$u=\quad 2.15231+0.64578I$ $a=-0.203624+0.626602I$ $b=\quad 1.145960-0.468340I$	$-5.94362+7.51805I$	0
$u=\quad 2.15231-0.64578I$ $a=-0.203624-0.626602I$ $b=\quad 1.145960+0.468340I$	$-5.94362-7.51805I$	0

II. $\boldsymbol{I_2^u = \langle 2.46 \times 10^{21}u^{21} - 5.34 \times 10^{18}u^{20} + \cdots + 1.37 \times 10^{22}b + 2.70 \times 10^{22},\ -1.38 \times 10^{22}u^{21} + 5.42 \times 10^{21}u^{20} + \cdots + 5.48 \times 10^{22}a - 2.58 \times 10^{22},\ u^{22} + 8u^{20} + \cdots + 28u + 4\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0.250731u^{21} - 0.0988352u^{20} + \cdots - 10.6914u + 0.470510 \\ -0.179650u^{21} + 0.000389617u^{20} + \cdots + 0.895903u - 1.96565 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.0710809u^{21} - 0.0984456u^{20} + \cdots - 9.79546u - 1.49514 \\ -0.179650u^{21} + 0.000389617u^{20} + \cdots + 0.895903u - 1.96565 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0514362u^{21} + 0.155001u^{20} + \cdots + 9.60842u + 1.81921 \\ -0.0530987u^{21} + 0.0390748u^{20} + \cdots - 0.598343u - 5.10910 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.124929u^{21} + 0.0291947u^{20} + \cdots - 0.0790308u - 0.197796 \\ 0.00280485u^{21} - 0.00661764u^{20} + \cdots - 1.41274u - 0.702528 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.101122u^{21} + 0.0831122u^{20} + \cdots + 6.07247u + 6.30830 \\ -0.0551212u^{21} + 0.0603063u^{20} + \cdots + 0.804315u - 4.82155 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.225471u^{21} + 0.0177999u^{20} + \cdots + 0.799370u + 4.38328 \\ -0.115972u^{21} + 0.0000800783u^{20} + \cdots - 0.183112u - 4.06652 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.279252u^{21} + 0.0537237u^{20} + \cdots - 0.797291u - 10.8142 \\ 0.303972u^{21} - 0.0535289u^{20} + \cdots - 3.29404u + 8.75698 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.345499u^{21} - 0.199154u^{20} + \cdots - 2.78153u + 1.97169 \\ 0.0273764u^{21} + 0.148942u^{20} + \cdots + 6.18843u - 0.931880 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.125808u^{21} + 0.0250511u^{20} + \cdots - 0.0493171u + 0.818347 \\ 0.00109520u^{21} - 0.0353749u^{20} + \cdots - 1.45948u - 0.476329 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1272676659238850903334680}{1371049435478569007929\!3}u^{21} - \frac{2026842234225172324062\!8}{1371049435478569007929\!3}u^{20} + \cdots - \frac{8508932251434365575607\!40}{1371049435478569007929\!3}u + \frac{3955364890476921757575848}{1371049435478569007929\!3}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22} - 17u^{21} + \cdots - 13u + 1$
c_2	$u^{22} - u^{21} + \cdots + u - 1$
c_3	$u^{22} + 5u^{21} + \cdots - 6u + 1$
c_4	$u^{22} - u^{21} + \cdots - 18u + 13$
c_5	$u^{22} - 5u^{21} + \cdots + 2u + 1$
c_6	$u^{22} + u^{21} + \cdots - u - 1$
c_7	$u^{22} + 8u^{20} + \cdots + 28u + 4$
c_8	$u^{22} - 5u^{21} + \cdots + 43u - 13$
c_9	$u^{22} + 2u^{21} + \cdots - 12u - 4$
c_{10}	$u^{22} + u^{21} + \cdots + 18u + 13$
c_{11}	$u^{22} + u^{20} + \cdots + 11u - 1$
c_{12}	$u^{22} - 5u^{21} + \cdots - 5u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} - 25y^{21} + \cdots + 11y + 1$
c_2, c_6	$y^{22} - 17y^{21} + \cdots - 13y + 1$
c_3	$y^{22} - 17y^{21} + \cdots - 104y + 1$
c_4, c_{10}	$y^{22} - 17y^{21} + \cdots - 1546y + 169$
c_5	$y^{22} - 33y^{21} + \cdots - 14y + 1$
c_7	$y^{22} + 16y^{21} + \cdots - 736y + 16$
c_8	$y^{22} + 17y^{21} + \cdots - 7543y + 169$
c_9	$y^{22} + 8y^{21} + \cdots - 224y + 16$
c_{11}	$y^{22} + 2y^{21} + \cdots - 163y + 1$
c_{12}	$y^{22} + 3y^{21} + \cdots - 15y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.868438 + 0.594278I$ $a = -1.37249 + 0.76619I$ $b = -0.508292 + 0.207982I$	$-2.36147 - 3.64249I$	$-0.927282 + 0.923820I$
$u = 0.868438 - 0.594278I$ $a = -1.37249 - 0.76619I$ $b = -0.508292 - 0.207982I$	$-2.36147 + 3.64249I$	$-0.927282 - 0.923820I$
$u = -0.450765 + 0.719635I$ $a = -0.004566 - 0.975016I$ $b = -0.802503 - 0.300039I$	$1.20238 - 2.12854I$	$-1.92738 - 0.50157I$
$u = -0.450765 - 0.719635I$ $a = -0.004566 + 0.975016I$ $b = -0.802503 + 0.300039I$	$1.20238 + 2.12854I$	$-1.92738 + 0.50157I$
$u = -0.339304 + 1.103900I$ $a = -0.472119 + 0.708930I$ $b = 0.487202 - 0.541584I$	$5.32946 + 4.52303I$	$7.8508 - 12.4062I$
$u = -0.339304 - 1.103900I$ $a = -0.472119 - 0.708930I$ $b = 0.487202 + 0.541584I$	$5.32946 - 4.52303I$	$7.8508 + 12.4062I$
$u = 0.207309 + 0.757040I$ $a = -2.32124 + 0.86023I$ $b = 0.857226 - 0.701147I$	$3.69847 + 1.13168I$	$12.69939 + 4.46196I$
$u = 0.207309 - 0.757040I$ $a = -2.32124 - 0.86023I$ $b = 0.857226 + 0.701147I$	$3.69847 - 1.13168I$	$12.69939 - 4.46196I$
$u = 0.275777 + 0.631762I$ $a = 0.71336 - 3.50085I$ $b = 0.895803 + 0.700990I$	$3.57593 - 4.25665I$	$14.6360 + 6.2434I$
$u = 0.275777 - 0.631762I$ $a = 0.71336 + 3.50085I$ $b = 0.895803 - 0.700990I$	$3.57593 + 4.25665I$	$14.6360 - 6.2434I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.682459$ $a=-0.629458$ $b=1.60199$	1.37157	-24.7530
$u=1.44377+0.06593I$ $a=0.196282-0.456604I$ $b=-1.193570+0.485737I$	$-5.37558+6.98207I$	$0.36022-4.86270I$
$u=1.44377-0.06593I$ $a=0.196282+0.456604I$ $b=-1.193570-0.485737I$	$-5.37558-6.98207I$	$0.36022+4.86270I$
$u=-0.65206+1.38390I$ $a=0.646197+0.837522I$ $b=-0.633171-0.632803I$	$5.77602+3.37066I$	$6.81116+0.28145I$
$u=-0.65206-1.38390I$ $a=0.646197-0.837522I$ $b=-0.633171+0.632803I$	$5.77602-3.37066I$	$6.81116-0.28145I$
$u=-0.38474+1.54379I$ $a=0.43414+1.55487I$ $b=0.685386-0.269781I$	$-5.07638+1.44838I$	$-7.70492-3.87687I$
$u=-0.38474-1.54379I$ $a=0.43414-1.55487I$ $b=0.685386+0.269781I$	$-5.07638-1.44838I$	$-7.70492+3.87687I$
$u=-0.92599+1.40618I$ $a=-0.09974-1.54439I$ $b=-1.044280+0.642940I$	$4.47722+8.44438I$	$4.75673-6.97687I$
$u=-0.92599-1.40618I$ $a=-0.09974+1.54439I$ $b=-1.044280-0.642940I$	$4.47722-8.44438I$	$4.75673+6.97687I$
$u=-0.138208$ $a=2.10215$ $b=-2.28799$	-0.467985	313.180

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.36790 + 1.93453I$ $a = -0.456168 - 1.012410I$ $b = 1.099200 + 0.373608I$	$-6.76305 - 1.34428I$	$-7.76685 + 2.36036I$
$u = 0.36790 - 1.93453I$ $a = -0.456168 + 1.012410I$ $b = 1.099200 - 0.373608I$	$-6.76305 + 1.34428I$	$-7.76685 - 2.36036I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 0$ $b = 1.00000$	1.64493	6.00000

IV. $\boldsymbol{I_4^u = \langle b+1,\ a+1,\ u+1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = -1.00000$	-1.64493	-6.00000

V. $I_1^v = \langle a,\ b+1,\ v+1 \rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

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

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

$$a_{12} = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = -1.00000$	0	0

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)(u+1)^2(u^{22}-17u^{21}+\cdots-13u+1)$ $\cdot(u^{79}+43u^{78}+\cdots+457u+36)$
c_2	$((u-1)^2)(u+1)(u^{22}-u^{21}+\cdots+u-1)(u^{79}+u^{78}+\cdots-19u+6)$
c_3	$u(u+1)^2(u^{22}+5u^{21}+\cdots-6u+1)(u^{79}-6u^{78}+\cdots+3288u-3153)$
c_4	$(u-1)(u+1)^2(u^{22}-u^{21}+\cdots-18u+13)$ $\cdot(u^{79}+3u^{78}+\cdots+39517u+6618)$
c_5	$u(u-1)(u+1)(u^{22}-5u^{21}+\cdots+2u+1)(u^{79}+12u^{78}+\cdots+14u+11)$
c_6	$(u-1)(u+1)^2(u^{22}+u^{21}+\cdots-u-1)(u^{79}+u^{78}+\cdots-19u+6)$
c_7	$u(u-1)^2(u^{22}+8u^{20}+\cdots+28u+4)(u^{79}+9u^{78}+\cdots+734u-106)$
c_8	$((u-1)^2)(u+1)(u^{22}-5u^{21}+\cdots+43u-13)(u^{79}+3u^{78}+\cdots+61u-6)$
c_9	$u(u-1)(u+1)(u^{22}+2u^{21}+\cdots-12u-4)$ $\cdot(u^{79}+u^{78}+\cdots+18402u+6638)$
c_{10}	$((u-1)^2)(u+1)(u^{22}+u^{21}+\cdots+18u+13)$ $\cdot(u^{79}+3u^{78}+\cdots+39517u+6618)$
c_{11}	$u(u-1)(u+1)(u^{22}+u^{20}+\cdots+11u-1)(u^{79}-u^{78}+\cdots-21u-3)$
c_{12}	$u(u-1)^2(u^{22}-5u^{21}+\cdots-5u-1)$ $\cdot(u^{79}-2u^{78}+\cdots+124853u+21439)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^3)(y^{22}-25y^{21}+\cdots+11y+1)$ $\cdot(y^{79}-15y^{78}+\cdots+33889y-1296)$
c_2, c_6	$((y-1)^3)(y^{22}-17y^{21}+\cdots-13y+1)(y^{79}-43y^{78}+\cdots+457y-36)$
c_3	$y(y-1)^2(y^{22}-17y^{21}+\cdots-104y+1)$ $\cdot(y^{79}-92y^{78}+\cdots+324175002y-9941409)$
c_4, c_{10}	$((y-1)^3)(y^{22}-17y^{21}+\cdots-1546y+169)$ $\cdot(y^{79}-43y^{78}+\cdots+1161720493y-43797924)$
c_5	$y(y-1)^2(y^{22}-33y^{21}+\cdots-14y+1)$ $\cdot(y^{79}-36y^{78}+\cdots+2748y-121)$
c_7	$y(y-1)^2(y^{22}+16y^{21}+\cdots-736y+16)$ $\cdot(y^{79}+27y^{78}+\cdots-45092y-11236)$
c_8	$((y-1)^3)(y^{22}+17y^{21}+\cdots-7543y+169)$ $\cdot(y^{79}+27y^{78}+\cdots+27889y-36)$
c_9	$y(y-1)^2(y^{22}+8y^{21}+\cdots-224y+16)$ $\cdot(y^{79}+91y^{78}+\cdots-1887671940y-44063044)$
c_{11}	$y(y-1)^2(y^{22}+2y^{21}+\cdots-163y+1)(y^{79}-y^{78}+\cdots+1149y-9)$
c_{12}	$y(y-1)^2(y^{22}+3y^{21}+\cdots-15y+1)$ $\cdot(y^{79}+72y^{78}+\cdots+5381678245y-459630721)$