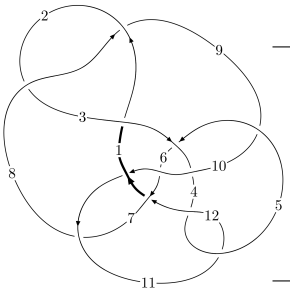
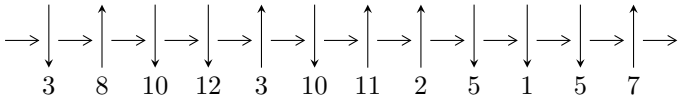
$12n_{0631}$ $(K12n_{0631})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.40561 \times 10^{133} u^{75} + 1.69044 \times 10^{133} u^{74} + \cdots + 6.99960 \times 10^{133} b - 1.41008 \times 10^{134}, \\ & - 3.83689 \times 10^{134} u^{75} + 2.93325 \times 10^{134} u^{74} + \cdots + 1.32992 \times 10^{135} a - 2.98368 \times 10^{136}, \\ & u^{76} - u^{75} + \cdots - 161u + 38 \rangle \\ I_2^u = \langle & 2320203740 u^{35} + 625690452 u^{34} + \cdots + 215633713 b - 4438611716, \\ & 18527903408 u^{35} - 1296857930 u^{34} + \cdots + 1078168565 a - 23635723173, \\ & u^{36} + 11 u^{34} + \cdots + 4u + 5 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 112 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. $\boldsymbol{I_1^u = \langle -1.41 \times 10^{133} u^{75} + 1.69 \times 10^{133} u^{74} + \cdots + 7.00 \times 10^{133} b - 1.41 \times 10^{134},\ -3.84 \times 10^{134} u^{75} + 2.93 \times 10^{134} u^{74} + \cdots + 1.33 \times 10^{135} a - 2.98 \times 10^{136},\ u^{76} - u^{75} + \cdots - 161u + 38 \rangle}$

(i) Arc colorings

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

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

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

$$a_5 = \begin{pmatrix} 0.288505u^{75} - 0.220558u^{74} + \cdots - 67.3037u + 22.4350 \\ 0.200813u^{75} - 0.241505u^{74} + \cdots + 2.79038u + 2.01452 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.343481u^{75} - 0.329454u^{74} + \cdots - 64.5370u + 21.8675 \\ 0.255942u^{75} - 0.347843u^{74} + \cdots + 13.5607u - 0.0344589 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0370385u^{75} - 0.311899u^{74} + \cdots + 197.400u - 40.7028 \\ 0.000948893u^{75} - 0.267585u^{74} + \cdots + 110.531u - 21.4633 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0506671u^{75} - 0.184581u^{74} + \cdots + 146.321u - 32.9272 \\ 0.0132693u^{75} - 0.287903u^{74} + \cdots + 120.083u - 23.6069 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0878875u^{75} - 0.0853599u^{74} + \cdots + 96.7438u - 15.3384 \\ -0.0715523u^{75} - 0.214330u^{74} + \cdots + 100.028u - 19.2572 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.813857u^{75} - 0.422378u^{74} + \cdots - 85.2711u + 45.1346 \\ -0.0140915u^{75} + 0.246118u^{74} + \cdots - 38.2220u + 11.8442 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.974728u^{75} - 1.25970u^{74} + \cdots + 96.9366u - 1.10803 \\ 0.131084u^{75} - 0.0921550u^{74} + \cdots - 48.0650u + 11.8828 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.23257u^{75} + 1.09381u^{74} + \cdots - 72.2514u - 13.9195$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{76}+31u^{75}+\cdots+56539u+1444$
c_2, c_8	$u^{76}+u^{75}+\cdots+161u+38$
c_3	$u^{76}+u^{75}+\cdots+785435u+192925$
c_4, c_{11}	$u^{76}+u^{75}+\cdots+115u+42$
c_5	$u^{76}+7u^{75}+\cdots-176881u+193903$
c_6	$u^{76}-u^{75}+\cdots-1137222277u+654834962$
c_7	$u^{76}-5u^{75}+\cdots+1855244u+7111423$
c_9	$u^{76}-2u^{75}+\cdots-34044488u+10812743$
c_{10}	$u^{76}-3u^{75}+\cdots+56u+493$
c_{12}	$u^{76}+u^{75}+\cdots+4761u+5283$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{76} + 47y^{75} + \cdots + 79202767y + 2085136$
c_2, c_8	$y^{76} + 31y^{75} + \cdots + 56539y + 1444$
c_3	$y^{76} + 115y^{75} + \cdots + 1105604974175y + 37220055625$
c_4, c_{11}	$y^{76} + 67y^{75} + \cdots - 35821y + 1764$
c_5	$y^{76} - 109y^{75} + \cdots - 932607366479y + 37598373409$
c_6	$y^{76} + 65y^{75} + \cdots - 1108270808871508769y + 428808827457541444$
c_7	$y^{76} - 29y^{75} + \cdots + 889309315939338y + 50572337084929$
c_9	$y^{76} + 102y^{75} + \cdots - 390748923918910y + 116915411184049$
c_{10}	$y^{76} + 9y^{75} + \cdots + 7601882y + 243049$
c_{12}	$y^{76} - 19y^{75} + \cdots + 69943869y + 27910089$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.662916+0.756274I$ $a=\ 1.101880+0.248200I$ $b=\ 0.229350+0.324684I$	$1.02372-2.77677I$	0
$u=-0.662916-0.756274I$ $a=\ 1.101880-0.248200I$ $b=\ 0.229350-0.324684I$	$1.02372+2.77677I$	0
$u=\ 0.285315+1.007480I$ $a=\ 0.728498+0.040863I$ $b=\ 1.107010-0.469266I$	$-3.83979-0.17827I$	0
$u=\ 0.285315-1.007480I$ $a=\ 0.728498-0.040863I$ $b=\ 1.107010+0.469266I$	$-3.83979+0.17827I$	0
$u=-0.071981+0.942071I$ $a=\ 0.052219+0.419552I$ $b=\ 1.53394+0.19750I$	$6.94756-2.68529I$	0
$u=-0.071981-0.942071I$ $a=\ 0.052219-0.419552I$ $b=\ 1.53394-0.19750I$	$6.94756+2.68529I$	0
$u=-0.801402+0.483212I$ $a=-0.345937+0.673423I$ $b=-0.798367-0.407778I$	$5.31701+1.69426I$	0
$u=-0.801402-0.483212I$ $a=-0.345937-0.673423I$ $b=-0.798367+0.407778I$	$5.31701-1.69426I$	0
$u=\ 0.454063+0.966732I$ $a=-0.395209-1.081370I$ $b=-0.834241-0.233761I$	$-4.65855+2.75852I$	0
$u=\ 0.454063-0.966732I$ $a=-0.395209+1.081370I$ $b=-0.834241+0.233761I$	$-4.65855-2.75852I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.065746+1.066650I$ $a=\ 0.553908-0.016598I$ $b=\ 0.004846+0.584532I$	$-0.0217467+0.0606793I$	0
$u=-0.065746-1.066650I$ $a=\ 0.553908+0.016598I$ $b=\ 0.004846-0.584532I$	$-0.0217467-0.0606793I$	0
$u=\ 0.817443+0.712232I$ $a=-1.65495+1.01142I$ $b=-0.80510+2.04740I$	$7.26372+0.80285I$	0
$u=\ 0.817443-0.712232I$ $a=-1.65495-1.01142I$ $b=-0.80510-2.04740I$	$7.26372-0.80285I$	0
$u=-0.567079+0.930252I$ $a=\ 0.286387+0.362192I$ $b=\ 0.304274+0.981241I$	$0.45994-2.05238I$	0
$u=-0.567079-0.930252I$ $a=\ 0.286387-0.362192I$ $b=\ 0.304274-0.981241I$	$0.45994+2.05238I$	0
$u=-0.035983+0.897156I$ $a=\ 1.98195+0.37899I$ $b=\ 1.39142+1.28975I$	$-0.86327-4.72694I$	$0.+5.69238I$
$u=-0.035983-0.897156I$ $a=\ 1.98195-0.37899I$ $b=\ 1.39142-1.28975I$	$-0.86327+4.72694I$	$0.-5.69238I$
$u=-0.776192+0.835014I$ $a=\ 2.07774+1.16141I$ $b=\ 0.77380+2.17827I$	$11.69860-4.05347I$	0
$u=-0.776192-0.835014I$ $a=\ 2.07774-1.16141I$ $b=\ 0.77380-2.17827I$	$11.69860+4.05347I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.685008 + 0.481376I$ $a = -0.671350 + 0.806633I$ $b = -0.324604 + 0.807985I$	$5.03216 - 1.01780I$	$3.86360 + 0.75310I$
$u = 0.685008 - 0.481376I$ $a = -0.671350 - 0.806633I$ $b = -0.324604 - 0.807985I$	$5.03216 + 1.01780I$	$3.86360 - 0.75310I$
$u = 0.674753 + 0.493249I$ $a = 0.892957 - 0.164512I$ $b = -0.0532868 + 0.0446471I$	$0.03629 - 1.91884I$	$-4.55374 + 4.02239I$
$u = 0.674753 - 0.493249I$ $a = 0.892957 + 0.164512I$ $b = -0.0532868 - 0.0446471I$	$0.03629 + 1.91884I$	$-4.55374 - 4.02239I$
$u = 0.125956 + 1.164950I$ $a = 0.793952 + 0.447911I$ $b = -0.331670 + 0.408432I$	$1.57754 + 1.96619I$	0
$u = 0.125956 - 1.164950I$ $a = 0.793952 - 0.447911I$ $b = -0.331670 - 0.408432I$	$1.57754 - 1.96619I$	0
$u = -0.905570 + 0.746388I$ $a = -1.56681 - 0.61842I$ $b = -0.60049 - 2.22973I$	$9.01118 + 2.11338I$	0
$u = -0.905570 - 0.746388I$ $a = -1.56681 + 0.61842I$ $b = -0.60049 + 2.22973I$	$9.01118 - 2.11338I$	0
$u = 0.857518 + 0.845288I$ $a = 1.71489 - 1.10425I$ $b = 0.03590 - 2.23093I$	$13.33450 - 0.74413I$	0
$u = 0.857518 - 0.845288I$ $a = 1.71489 + 1.10425I$ $b = 0.03590 + 2.23093I$	$13.33450 + 0.74413I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.808599 + 0.893250I$ $a = -1.48978 + 0.39296I$ $b = -0.695470 + 0.566481I$	$4.03943 + 7.86346I$	0
$u = 0.808599 - 0.893250I$ $a = -1.48978 - 0.39296I$ $b = -0.695470 - 0.566481I$	$4.03943 - 7.86346I$	0
$u = -0.755392 + 0.942068I$ $a = 1.35234 + 1.51692I$ $b = 0.40854 + 2.69108I$	$11.36750 - 1.74590I$	0
$u = -0.755392 - 0.942068I$ $a = 1.35234 - 1.51692I$ $b = 0.40854 - 2.69108I$	$11.36750 + 1.74590I$	0
$u = 0.586707 + 1.057010I$ $a = -0.847409 + 0.771102I$ $b = -0.574387 + 1.013170I$	$3.36226 + 5.96102I$	0
$u = 0.586707 - 1.057010I$ $a = -0.847409 - 0.771102I$ $b = -0.574387 - 1.013170I$	$3.36226 - 5.96102I$	0
$u = -0.891731 + 0.840665I$ $a = -0.481551 + 0.251785I$ $b = -1.12694 - 1.25772I$	$5.26607 - 5.97794I$	0
$u = -0.891731 - 0.840665I$ $a = -0.481551 - 0.251785I$ $b = -1.12694 + 1.25772I$	$5.26607 + 5.97794I$	0
$u = 0.586220 + 1.081390I$ $a = 0.133904 - 0.312139I$ $b = 0.300788 - 0.900121I$	$-1.72755 + 6.88426I$	0
$u = 0.586220 - 1.081390I$ $a = 0.133904 + 0.312139I$ $b = 0.300788 + 0.900121I$	$-1.72755 - 6.88426I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.833867 + 0.931666I$ $a = 0.011648 + 0.675666I$ $b = -0.22419 + 1.43475I$	$3.94945 - 1.73029I$	0
$u = 0.833867 - 0.931666I$ $a = 0.011648 - 0.675666I$ $b = -0.22419 - 1.43475I$	$3.94945 + 1.73029I$	0
$u = -0.620183 + 1.088800I$ $a = 0.271097 - 0.813299I$ $b = 1.066280 - 0.583822I$	$3.47667 - 7.03715I$	0
$u = -0.620183 - 1.088800I$ $a = 0.271097 + 0.813299I$ $b = 1.066280 + 0.583822I$	$3.47667 + 7.03715I$	0
$u = 0.812966 + 0.968903I$ $a = 1.47513 - 1.02155I$ $b = 0.60131 - 2.65223I$	$12.9447 + 6.9741I$	0
$u = 0.812966 - 0.968903I$ $a = 1.47513 + 1.02155I$ $b = 0.60131 + 2.65223I$	$12.9447 - 6.9741I$	0
$u = 0.417255 + 0.595574I$ $a = 0.906862 + 1.028830I$ $b = 1.44318 - 0.59225I$	$-3.48958 + 0.81926I$	$-1.10723 + 7.17810I$
$u = 0.417255 - 0.595574I$ $a = 0.906862 - 1.028830I$ $b = 1.44318 + 0.59225I$	$-3.48958 - 0.81926I$	$-1.10723 - 7.17810I$
$u = 0.755325 + 1.024620I$ $a = -1.47153 + 1.42806I$ $b = -0.57159 + 2.27179I$	$6.31700 + 5.12272I$	0
$u = 0.755325 - 1.024620I$ $a = -1.47153 - 1.42806I$ $b = -0.57159 - 2.27179I$	$6.31700 - 5.12272I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.122970 + 0.615953I$ $a = 1.43503 - 0.45100I$ $b = 0.21012 - 1.85984I$	$15.5887 - 9.4779I$	0
$u = 1.122970 - 0.615953I$ $a = 1.43503 + 0.45100I$ $b = 0.21012 + 1.85984I$	$15.5887 + 9.4779I$	0
$u = -0.097362 + 0.683736I$ $a = -2.21326 + 0.89923I$ $b = 0.083644 + 0.547260I$	$8.06044 + 1.96087I$	$-6.97401 - 6.64687I$
$u = -0.097362 - 0.683736I$ $a = -2.21326 - 0.89923I$ $b = 0.083644 - 0.547260I$	$8.06044 - 1.96087I$	$-6.97401 + 6.64687I$
$u = -0.793679 + 1.042660I$ $a = -1.39866 - 1.40506I$ $b = -0.07618 - 2.49555I$	$8.08586 - 8.41406I$	0
$u = -0.793679 - 1.042660I$ $a = -1.39866 + 1.40506I$ $b = -0.07618 + 2.49555I$	$8.08586 + 8.41406I$	0
$u = 0.143179 + 0.668479I$ $a = -2.73389 + 1.26855I$ $b = -1.91204 + 0.24981I$	$0.07264 + 5.18640I$	$-2.24311 - 3.02074I$
$u = 0.143179 - 0.668479I$ $a = -2.73389 - 1.26855I$ $b = -1.91204 - 0.24981I$	$0.07264 - 5.18640I$	$-2.24311 + 3.02074I$
$u = -0.868591 + 1.008050I$ $a = -0.612283 - 0.762405I$ $b = 0.798677 - 0.486252I$	$4.77438 - 0.52879I$	0
$u = -0.868591 - 1.008050I$ $a = -0.612283 + 0.762405I$ $b = 0.798677 + 0.486252I$	$4.77438 + 0.52879I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.281600+0.509659I$ $a=\ 1.165520+0.192564I$ $b=\ 0.15176+1.69413I$	$14.2247-0.6780I$	0
$u=-1.281600-0.509659I$ $a=\ 1.165520-0.192564I$ $b=\ 0.15176-1.69413I$	$14.2247+0.6780I$	0
$u=\ 0.80610+1.17936I$ $a=\ 1.10730-1.40702I$ $b=\ 0.16133-2.68309I$	$13.7755+16.3958I$	0
$u=\ 0.80610-1.17936I$ $a=\ 1.10730+1.40702I$ $b=\ 0.16133+2.68309I$	$13.7755-16.3958I$	0
$u=-0.211361+0.486832I$ $a=\ 0.397591-0.482624I$ $b=-0.064564+0.403505I$	$-0.073057-1.023140I$	$-1.34729+6.93509I$
$u=-0.211361-0.486832I$ $a=\ 0.397591+0.482624I$ $b=-0.064564-0.403505I$	$-0.073057+1.023140I$	$-1.34729-6.93509I$
$u=-0.071583+0.511345I$ $a=-3.10512-1.44557I$ $b=-1.297630-0.234701I$	$-1.77992+1.19696I$	$0.03557+2.38161I$
$u=-0.071583-0.511345I$ $a=-3.10512+1.44557I$ $b=-1.297630+0.234701I$	$-1.77992-1.19696I$	$0.03557-2.38161I$
$u=\ 0.01963+1.54289I$ $a=\ 0.20427-1.41812I$ $b=\ 0.06304-2.22995I$	$-6.31186-1.00322I$	0
$u=\ 0.01963-1.54289I$ $a=\ 0.20427+1.41812I$ $b=\ 0.06304+2.22995I$	$-6.31186+1.00322I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.85412+1.28528I$ $a=\ \ 0.84162+1.24436I$ $b=-0.09692+2.44856I$	$11.80170-6.84042I$	0
$u=-0.85412-1.28528I$ $a=\ \ 0.84162-1.24436I$ $b=-0.09692-2.44856I$	$11.80170+6.84042I$	0
$u=-0.17757+1.56950I$ $a=-0.345899-0.007011I$ $b=\ \ 1.013900-0.055144I$	$6.48446-6.01294I$	0
$u=-0.17757-1.56950I$ $a=-0.345899+0.007011I$ $b=\ \ 1.013900+0.055144I$	$6.48446+6.01294I$	0
$u=\ \ 0.217162+0.333065I$ $a=-0.21882+2.01262I$ $b=-1.295440+0.442525I$	$5.12456-0.63054I$	$2.98724-1.55101I$
$u=\ \ 0.217162-0.333065I$ $a=-0.21882-2.01262I$ $b=-1.295440-0.442525I$	$5.12456+0.63054I$	$2.98724+1.55101I$

II. $\boldsymbol{I_2^u = \langle 2.32\times 10^9 u^{35} + 6.26\times 10^8 u^{34} + \cdots + 2.16\times 10^8 b - 4.44\times 10^9,\ 1.85\times 10^{10} u^{35} - 1.30\times 10^9 u^{34} + \cdots + 1.08\times 10^9 a - 2.36\times 10^{10},\ u^{36} + 11u^{34} + \cdots + 4u + 5\rangle}$

(i) Arc colorings

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

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

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

$$a_5 = \begin{pmatrix} -17.1846u^{35} + 1.20283u^{34} + \cdots - 75.7116u + 21.9221 \\ -10.7599u^{35} - 2.90164u^{34} + \cdots - 25.2606u + 20.5840 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -16.6658u^{35} + 2.34552u^{34} + \cdots - 19.8606u + 36.4920 \\ -14.2879u^{35} - 3.75044u^{34} + \cdots - 18.0959u + 26.2975 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 3.12153u^{35} + 3.61119u^{34} + \cdots + 51.1214u + 40.2398 \\ -2.89850u^{35} + 1.59421u^{34} + \cdots + 4.90691u - 0.328315 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.64216u^{35} + 3.57318u^{34} + \cdots + 27.8545u + 41.5188 \\ -5.57167u^{35} - 0.0804230u^{34} + \cdots - 16.1199u - 6.11863 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.64253u^{35} - 7.92125u^{34} + \cdots - 93.3783u + 4.52924 \\ -5.74240u^{35} - 12.0937u^{34} + \cdots - 135.508u - 86.5034 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 18.3632u^{35} - 6.24544u^{34} + \cdots + 113.684u - 33.6728 \\ 5.42696u^{35} + 5.48132u^{34} + \cdots - 2.11327u + 26.8602 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -6.20362u^{35} - 12.5212u^{34} + \cdots + 8.52928u - 73.1894 \\ -7.13644u^{35} - 6.41854u^{34} + \cdots - 49.4761u + 11.3475 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{4184661271}{215633713}u^{35} - \frac{680860653}{215633713}u^{34} + \cdots + \frac{99258781362}{215633713}u + \frac{14533752217}{215633713}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{36} - 22u^{35} + \cdots - 464u + 25$
c_2	$u^{36} + 11u^{34} + \cdots + 4u + 5$
c_3	$u^{36} + 19u^{34} + \cdots - 435u + 493$
c_4	$u^{36} + 11u^{34} + \cdots + 4u + 5$
c_5	$u^{36} - 14u^{35} + \cdots - 973u + 73$
c_6	$u^{36} + 2u^{35} + \cdots + 1163u + 175$
c_7	$u^{36} + 3u^{34} + \cdots - 82u + 29$
c_8	$u^{36} + 11u^{34} + \cdots - 4u + 5$
c_9	$u^{36} + u^{35} + \cdots - 2u + 1$
c_{10}	$u^{36} - 6u^{35} + \cdots + 2u + 1$
c_{11}	$u^{36} + 11u^{34} + \cdots - 4u + 5$
c_{12}	$u^{36} + 2u^{34} + \cdots - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{36} + 2y^{35} + \cdots + 804y + 625$
c_2, c_8	$y^{36} + 22y^{35} + \cdots + 464y + 25$
c_3	$y^{36} + 38y^{35} + \cdots + 3007387y + 243049$
c_4, c_{11}	$y^{36} + 22y^{35} + \cdots + 564y + 25$
c_5	$y^{36} - 38y^{35} + \cdots - 246659y + 5329$
c_6	$y^{36} + 20y^{35} + \cdots + 89081y + 30625$
c_7	$y^{36} + 6y^{35} + \cdots + 33006y + 841$
c_9	$y^{36} + 13y^{35} + \cdots - 18y + 1$
c_{10}	$y^{36} - 8y^{35} + \cdots + 30y + 1$
c_{12}	$y^{36} + 4y^{35} + \cdots - 27y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.346186 + 0.915633I$ $a = -2.18981 + 0.04924I$ $b = -2.30967 + 0.67789I$	$-0.09061 + 6.29545I$	$-2.74141 - 9.81893I$
$u = \ 0.346186 - 0.915633I$ $a = -2.18981 - 0.04924I$ $b = -2.30967 - 0.67789I$	$-0.09061 - 6.29545I$	$-2.74141 + 9.81893I$
$u = \ 0.358539 + 0.889505I$ $a = \ 1.10628 + 1.99818I$ $b = \ 1.35666 + 1.39465I$	$-0.01798 - 3.35229I$	$-0.148269 + 0.744013I$
$u = \ 0.358539 - 0.889505I$ $a = \ 1.10628 - 1.99818I$ $b = \ 1.35666 - 1.39465I$	$-0.01798 + 3.35229I$	$-0.148269 - 0.744013I$
$u = \ 0.793225 + 0.705083I$ $a = \ 0.175649 + 0.251827I$ $b = -0.443614 + 0.878255I$	$2.93798 - 2.72322I$	$-0.38581 + 3.76403I$
$u = \ 0.793225 - 0.705083I$ $a = \ 0.175649 - 0.251827I$ $b = -0.443614 - 0.878255I$	$2.93798 + 2.72322I$	$-0.38581 - 3.76403I$
$u = -0.833697 + 0.409348I$ $a = -0.992290 - 0.210555I$ $b = -0.204707 + 0.035403I$	$1.05225 + 1.68422I$	$3.81700 - 1.49163I$
$u = -0.833697 - 0.409348I$ $a = -0.992290 + 0.210555I$ $b = -0.204707 - 0.035403I$	$1.05225 - 1.68422I$	$3.81700 + 1.49163I$
$u = \ 0.791352 + 0.733206I$ $a = -1.47082 + 1.03484I$ $b = -0.79762 + 2.14988I$	$7.23477 + 0.01514I$	$3.93034 + 2.41109I$
$u = \ 0.791352 - 0.733206I$ $a = -1.47082 - 1.03484I$ $b = -0.79762 - 2.14988I$	$7.23477 - 0.01514I$	$3.93034 - 2.41109I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.485657+0.963636I$ $a=-0.330010+1.341270I$ $b=-0.897778+0.513044I$	$-4.27615-2.65956I$	$5.82571+1.68378I$
$u=-0.485657-0.963636I$ $a=-0.330010-1.341270I$ $b=-0.897778-0.513044I$	$-4.27615+2.65956I$	$5.82571-1.68378I$
$u=-0.295770+1.046740I$ $a=-0.668520-0.246425I$ $b=-1.196780-0.522064I$	$-3.40683-0.20848I$	$-1.58036+4.45786I$
$u=-0.295770-1.046740I$ $a=-0.668520+0.246425I$ $b=-1.196780+0.522064I$	$-3.40683+0.20848I$	$-1.58036-4.45786I$
$u=-0.481168+0.730864I$ $a=0.943466-0.719816I$ $b=1.54841+0.64568I$	$-3.47907-1.30636I$	$-0.49756+8.73623I$
$u=-0.481168-0.730864I$ $a=0.943466+0.719816I$ $b=1.54841-0.64568I$	$-3.47907+1.30636I$	$-0.49756-8.73623I$
$u=0.638782+0.989341I$ $a=-0.602797+0.604049I$ $b=-0.147279+0.094498I$	$2.02425+8.10760I$	$-2.00000-8.42655I$
$u=0.638782-0.989341I$ $a=-0.602797-0.604049I$ $b=-0.147279-0.094498I$	$2.02425-8.10760I$	$-2.00000+8.42655I$
$u=0.387249+1.117620I$ $a=0.724091+0.876891I$ $b=0.040960+0.770428I$	$3.07088+1.37025I$	$3.22960-2.00825I$
$u=0.387249-1.117620I$ $a=0.724091-0.876891I$ $b=0.040960-0.770428I$	$3.07088-1.37025I$	$3.22960+2.00825I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.837390+0.871528I$ $a=\ \ 1.70691+1.15090I$ $b=\ \ 0.54310+2.35416I$	$11.77110-3.11236I$	$4.32263+1.36336I$
$u=-0.837390-0.871528I$ $a=\ \ 1.70691-1.15090I$ $b=\ \ 0.54310-2.35416I$	$11.77110+3.11236I$	$4.32263-1.36336I$
$u=-0.189157+0.766784I$ $a=\ \ 1.66961-1.22863I$ $b=\ \ 1.021840-0.208129I$	$-2.14208-1.85652I$	$-5.61597+6.31680I$
$u=-0.189157-0.766784I$ $a=\ \ 1.66961+1.22863I$ $b=\ \ 1.021840+0.208129I$	$-2.14208+1.85652I$	$-5.61597-6.31680I$
$u=-0.583336+1.122560I$ $a=-0.068672-0.608135I$ $b=-0.208023-1.033470I$	$-1.14083-6.93199I$	$3.42893+7.12793I$
$u=-0.583336-1.122560I$ $a=-0.068672+0.608135I$ $b=-0.208023+1.033470I$	$-1.14083+6.93199I$	$3.42893-7.12793I$
$u=\ \ 0.753209+1.025770I$ $a=-1.48035+1.37031I$ $b=-0.50958+2.07922I$	$6.33430+5.83706I$	$2.94405-8.41583I$
$u=\ \ 0.753209-1.025770I$ $a=-1.48035-1.37031I$ $b=-0.50958-2.07922I$	$6.33430-5.83706I$	$2.94405+8.41583I$
$u=\ \ 0.254814+0.679563I$ $a=-0.729942+0.340568I$ $b=-1.77935+0.23036I$	$4.81487+1.44558I$	$-1.16457-5.73751I$
$u=\ \ 0.254814-0.679563I$ $a=-0.729942-0.340568I$ $b=-1.77935-0.23036I$	$4.81487-1.44558I$	$-1.16457+5.73751I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.377590+1.241040I$ $a=-0.163004-0.019157I$ $b=\ \ 1.066970-0.129596I$	$5.98759-4.35262I$	$0.+3.24251I$
$u=-0.377590-1.241040I$ $a=-0.163004+0.019157I$ $b=\ \ 1.066970+0.129596I$	$5.98759+4.35262I$	$0.-3.24251I$
$u=-0.227050+0.642295I$ $a=-1.68646+0.93709I$ $b=\ \ 0.425164+0.271262I$	$8.40082+1.74571I$	$10.72780+3.90391I$
$u=-0.227050-0.642295I$ $a=-1.68646-0.93709I$ $b=\ \ 0.425164-0.271262I$	$8.40082-1.74571I$	$10.72780-3.90391I$
$u=-0.01254+1.58839I$ $a=\ \ 0.156671-1.369420I$ $b=-0.00870-2.20506I$	$-6.17659-0.87363I$	0
$u=-0.01254-1.58839I$ $a=\ \ 0.156671+1.369420I$ $b=-0.00870+2.20506I$	$-6.17659+0.87363I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{36}-22u^{35}+\cdots-464u+25)(u^{76}+31u^{75}+\cdots+56539u+1444)$
c_2	$(u^{36}+11u^{34}+\cdots+4u+5)(u^{76}+u^{75}+\cdots+161u+38)$
c_3	$(u^{36}+19u^{34}+\cdots-435u+493)$ $\cdot(u^{76}+u^{75}+\cdots+785435u+192925)$
c_4	$(u^{36}+11u^{34}+\cdots+4u+5)(u^{76}+u^{75}+\cdots+115u+42)$
c_5	$(u^{36}-14u^{35}+\cdots-973u+73)$ $\cdot(u^{76}+7u^{75}+\cdots-176881u+193903)$
c_6	$(u^{36}+2u^{35}+\cdots+1163u+175)$ $\cdot(u^{76}-u^{75}+\cdots-1137222277u+654834962)$
c_7	$(u^{36}+3u^{34}+\cdots-82u+29)$ $\cdot(u^{76}-5u^{75}+\cdots+1855244u+7111423)$
c_8	$(u^{36}+11u^{34}+\cdots-4u+5)(u^{76}+u^{75}+\cdots+161u+38)$
c_9	$(u^{36}+u^{35}+\cdots-2u+1)(u^{76}-2u^{75}+\cdots-3.40445\times10^{7}u+1.08127\times10^{7})$
c_{10}	$(u^{36}-6u^{35}+\cdots+2u+1)(u^{76}-3u^{75}+\cdots+56u+493)$
c_{11}	$(u^{36}+11u^{34}+\cdots-4u+5)(u^{76}+u^{75}+\cdots+115u+42)$
c_{12}	$(u^{36}+2u^{34}+\cdots-u+1)(u^{76}+u^{75}+\cdots+4761u+5283)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{36}+2y^{35}+\cdots+804y+625)$ $\cdot(y^{76}+47y^{75}+\cdots+79202767y+2085136)$
c_2, c_8	$(y^{36}+22y^{35}+\cdots+464y+25)(y^{76}+31y^{75}+\cdots+56539y+1444)$
c_3	$(y^{36}+38y^{35}+\cdots+3007387y+243049)$ $\cdot(y^{76}+115y^{75}+\cdots+1105604974175y+37220055625)$
c_4, c_{11}	$(y^{36}+22y^{35}+\cdots+564y+25)(y^{76}+67y^{75}+\cdots-35821y+1764)$
c_5	$(y^{36}-38y^{35}+\cdots-246659y+5329)$ $\cdot(y^{76}-109y^{75}+\cdots-932607366479y+37598373409)$
c_6	$(y^{36}+20y^{35}+\cdots+89081y+30625)$ $\cdot(y^{76}+65y^{75}+\cdots-1108270808871508769y+428808827457541444)$
c_7	$(y^{36}+6y^{35}+\cdots+33006y+841)$ $\cdot(y^{76}-29y^{75}+\cdots+889309315939338y+50572337084929)$
c_9	$(y^{36}+13y^{35}+\cdots-18y+1)$ $\cdot(y^{76}+102y^{75}+\cdots-390748923918910y+116915411184049)$
c_{10}	$(y^{36}-8y^{35}+\cdots+30y+1)(y^{76}+9y^{75}+\cdots+7601882y+243049)$
c_{12}	$(y^{36}+4y^{35}+\cdots-27y+1)$ $\cdot(y^{76}-19y^{75}+\cdots+69943869y+27910089)$