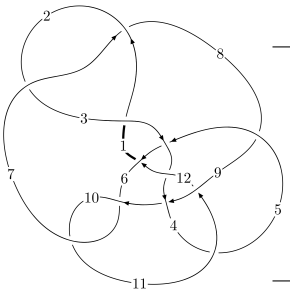
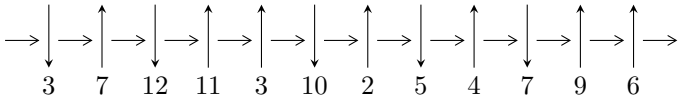
$12n_{0616}$ $(K12n_{0616})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 3.55805 \times 10^{172} u^{61} - 2.66340 \times 10^{172} u^{60} + \cdots + 2.49043 \times 10^{174} b - 1.12400 \times 10^{175}, \\ & 1.21069 \times 10^{173} u^{61} - 1.41526 \times 10^{173} u^{60} + \cdots + 2.24139 \times 10^{175} a - 1.66162 \times 10^{174}, \\ & u^{62} - u^{61} + \cdots - 540u + 108 \rangle \\ I_2^u = \langle & -4.69238 \times 10^{16} u^{29} - 2.59707 \times 10^{16} u^{28} + \cdots + 3.59633 \times 10^{16} b + 1.14239 \times 10^{17}, \\ & 2.84054 \times 10^{17} u^{29} + 2.41111 \times 10^{17} u^{28} + \cdots + 3.59633 \times 10^{16} a - 3.99453 \times 10^{17}, \ u^{30} - 8u^{28} + \cdots + 2u + 1 \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 92 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. $\boldsymbol{I_1^u = \langle 3.56 \times 10^{172} u^{61} - 2.66 \times 10^{172} u^{60} + \cdots + 2.49 \times 10^{174} b - 1.12 \times 10^{175},\ 1.21 \times 10^{173} u^{61} - 1.42 \times 10^{173} u^{60} + \cdots + 2.24 \times 10^{175} a - 1.66 \times 10^{174},\ u^{62} - u^{61} + \cdots - 540u + 108 \rangle}$

(i) Arc colorings

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

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00540152u^{61} + 0.00631420u^{60} + \cdots - 10.9070u + 0.0741336 \\ -0.0142869u^{61} + 0.0106945u^{60} + \cdots - 11.8991u + 4.51328 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00910760u^{61} - 0.00500287u^{60} + \cdots + 2.06831u - 4.53772 \\ -0.0135155u^{61} + 0.00963239u^{60} + \cdots - 11.7423u + 4.16854 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0102705u^{61} + 0.00570181u^{60} + \cdots - 15.8947u + 5.04760 \\ -0.00342408u^{61} + 0.00410364u^{60} + \cdots - 0.919576u + 2.86804 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.00882729u^{61} - 0.00418130u^{60} + \cdots + 15.3641u - 4.48965 \\ 0.0182728u^{61} - 0.0118352u^{60} + \cdots + 11.4934u - 4.66813 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0126898u^{61} - 0.00781485u^{60} + \cdots + 8.40923u - 4.07704 \\ 0.00409918u^{61} - 0.00575768u^{60} + \cdots + 1.40699u - 3.26558 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0125680u^{61} - 0.00647401u^{60} + \cdots + 8.23390u - 3.71099 \\ 0.00486562u^{61} - 0.00734645u^{60} + \cdots + 2.25375u - 3.76329 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00661784u^{61} + 0.00354350u^{60} + \cdots - 6.75785u + 4.98454 \\ 0.0172764u^{61} - 0.00999165u^{60} + \cdots + 14.4560u - 4.08059 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.00944546u^{61} + 0.00765391u^{60} + \cdots + 3.87066u + 0.178480 \\ 0.0182728u^{61} - 0.0118352u^{60} + \cdots + 11.4934u - 4.66813 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0529669u^{61} - 0.0452256u^{60} + \cdots + 42.2033u - 18.0098$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{62}+93u^{61}+\cdots+2327471u+1442401$
c_2, c_7	$u^{62}-u^{61}+\cdots-7479u+1201$
c_3	$u^{62}-5u^{61}+\cdots-351u+81$
c_4	$u^{62}+u^{61}+\cdots-29453u+24019$
c_5	$u^{62}+45u^{60}+\cdots-7939816u+1967081$
c_6, c_{10}	$u^{62}+u^{61}+\cdots+540u+108$
c_8	$u^{62}+4u^{61}+\cdots-17319366u+37837071$
c_9	$u^{62}+2u^{61}+\cdots+1506u+313$
c_{11}	$u^{62}+3u^{61}+\cdots+9u+1$
c_{12}	$u^{62}+u^{61}+\cdots+40816u+5087$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{62} - 227y^{61} + \cdots + 374501199567555y + 2080520644801$
c_2, c_7	$y^{62} + 93y^{61} + \cdots + 2327471y + 1442401$
c_3	$y^{62} + 25y^{61} + \cdots + 101331y + 6561$
c_4	$y^{62} + 27y^{61} + \cdots + 214913007y + 576912361$
c_5	$y^{62} + 90y^{61} + \cdots - 46218775789508y + 3869407660561$
c_6, c_{10}	$y^{62} - 51y^{61} + \cdots - 56376y + 11664$
c_8	$y^{62} - 60y^{61} + \cdots + 40273910932902534y + 1431643941859041$
c_9	$y^{62} + 4y^{61} + \cdots + 269768y + 97969$
c_{11}	$y^{62} - 5y^{61} + \cdots - 19y + 1$
c_{12}	$y^{62} + 101y^{61} + \cdots - 990656780y + 25877569$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.928426+0.274577I$ $a=-0.141263-0.866305I$ $b=-0.918957-0.595441I$	$0.81276+2.95644I$	$8.56413-5.92863I$
$u=-0.928426-0.274577I$ $a=-0.141263+0.866305I$ $b=-0.918957+0.595441I$	$0.81276-2.95644I$	$8.56413+5.92863I$
$u=-0.883961+0.394719I$ $a=\ \ 0.59269-1.64149I$ $b=-0.500699-0.932554I$	$-0.87581+4.78527I$	$0.6309-14.5936I$
$u=-0.883961-0.394719I$ $a=\ \ 0.59269+1.64149I$ $b=-0.500699+0.932554I$	$-0.87581-4.78527I$	$0.6309+14.5936I$
$u=\ \ 0.798892+0.328131I$ $a=-1.46380-0.42820I$ $b=-0.640242-0.054068I$	$-0.95457-1.51938I$	$1.17952+4.85265I$
$u=\ \ 0.798892-0.328131I$ $a=-1.46380+0.42820I$ $b=-0.640242+0.054068I$	$-0.95457+1.51938I$	$1.17952-4.85265I$
$u=\ \ 1.064810+0.545706I$ $a=-0.0830119+0.0387708I$ $b=\ \ 0.386898+0.525528I$	$-1.79842-1.83762I$	0
$u=\ \ 1.064810-0.545706I$ $a=-0.0830119-0.0387708I$ $b=\ \ 0.386898-0.525528I$	$-1.79842+1.83762I$	0
$u=\ \ 1.232990+0.083982I$ $a=\ \ 0.103400-0.171742I$ $b=-0.704160+0.181168I$	$-0.911910+0.560071I$	0
$u=\ \ 1.232990-0.083982I$ $a=\ \ 0.103400+0.171742I$ $b=-0.704160-0.181168I$	$-0.911910-0.560071I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.162130 + 0.432774I$ $a = 0.781400 + 0.862594I$ $b = -0.656170 + 0.829181I$	$-2.56521 - 5.62136I$	0
$u = 1.162130 - 0.432774I$ $a = 0.781400 - 0.862594I$ $b = -0.656170 - 0.829181I$	$-2.56521 + 5.62136I$	0
$u = -0.053502 + 1.258700I$ $a = -0.993543 + 0.161721I$ $b = 1.224160 + 0.468794I$	$3.01979 - 1.86961I$	0
$u = -0.053502 - 1.258700I$ $a = -0.993543 - 0.161721I$ $b = 1.224160 - 0.468794I$	$3.01979 + 1.86961I$	0
$u = 0.555763 + 0.420314I$ $a = -0.688240 + 0.980201I$ $b = -0.413944 - 0.903869I$	$-0.49204 + 1.99531I$	$-0.82675 - 4.20883I$
$u = 0.555763 - 0.420314I$ $a = -0.688240 - 0.980201I$ $b = -0.413944 + 0.903869I$	$-0.49204 - 1.99531I$	$-0.82675 + 4.20883I$
$u = 0.211720 + 1.290750I$ $a = 1.223300 - 0.047119I$ $b = -1.211470 - 0.325634I$	$4.32311 - 2.81936I$	0
$u = 0.211720 - 1.290750I$ $a = 1.223300 + 0.047119I$ $b = -1.211470 + 0.325634I$	$4.32311 + 2.81936I$	0
$u = -0.342685 + 1.277490I$ $a = -0.204814 + 0.198955I$ $b = 0.50743 - 1.99401I$	$-10.60230 + 1.13329I$	0
$u = -0.342685 - 1.277490I$ $a = -0.204814 - 0.198955I$ $b = 0.50743 + 1.99401I$	$-10.60230 - 1.13329I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.614267+0.283569I$ $a=-1.021740-0.249635I$ $b=-0.711770+0.261415I$	$1.381510-0.110117I$	$9.95847-1.16431I$
$u=-0.614267-0.283569I$ $a=-1.021740+0.249635I$ $b=-0.711770-0.261415I$	$1.381510+0.110117I$	$9.95847+1.16431I$
$u=1.188520+0.601200I$ $a=-0.477089-0.246417I$ $b=0.493192+0.235501I$	$-2.66613-1.84132I$	0
$u=1.188520-0.601200I$ $a=-0.477089+0.246417I$ $b=0.493192-0.235501I$	$-2.66613+1.84132I$	0
$u=-0.568370+0.290816I$ $a=-1.077140+0.714898I$ $b=0.031563-1.189600I$	$-9.40415+0.96502I$	$-3.47084-7.40489I$
$u=-0.568370-0.290816I$ $a=-1.077140-0.714898I$ $b=0.031563+1.189600I$	$-9.40415-0.96502I$	$-3.47084+7.40489I$
$u=0.173116+0.612853I$ $a=-1.97761+1.41609I$ $b=0.761201-0.088010I$	$3.33244-2.13366I$	$9.28813+3.63241I$
$u=0.173116-0.612853I$ $a=-1.97761-1.41609I$ $b=0.761201+0.088010I$	$3.33244+2.13366I$	$9.28813-3.63241I$
$u=-1.237450+0.584054I$ $a=0.412477+0.156333I$ $b=0.857350-0.607671I$	$-0.60518+7.63571I$	0
$u=-1.237450-0.584054I$ $a=0.412477-0.156333I$ $b=0.857350+0.607671I$	$-0.60518-7.63571I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.337770 + 0.289922I$ $a = -0.616546 - 1.234550I$ $b = -0.84829 - 1.37346I$	$-2.91445 - 1.23024I$	0
$u = 1.337770 - 0.289922I$ $a = -0.616546 + 1.234550I$ $b = -0.84829 + 1.37346I$	$-2.91445 + 1.23024I$	0
$u = 0.528204 + 0.322278I$ $a = -1.136860 + 0.092169I$ $b = -0.300012 + 0.378008I$	$-0.80326 - 1.53767I$	$-1.79348 + 5.24850I$
$u = 0.528204 - 0.322278I$ $a = -1.136860 - 0.092169I$ $b = -0.300012 - 0.378008I$	$-0.80326 + 1.53767I$	$-1.79348 - 5.24850I$
$u = 1.397880 + 0.097398I$ $a = 0.10957 + 2.12503I$ $b = -0.41120 + 2.32836I$	$-9.86019 - 4.97411I$	0
$u = 1.397880 - 0.097398I$ $a = 0.10957 - 2.12503I$ $b = -0.41120 - 2.32836I$	$-9.86019 + 4.97411I$	0
$u = -1.41670 + 0.03978I$ $a = 0.056166 + 1.051810I$ $b = 0.96710 + 1.03620I$	$-6.57035 - 1.95796I$	0
$u = -1.41670 - 0.03978I$ $a = 0.056166 - 1.051810I$ $b = 0.96710 - 1.03620I$	$-6.57035 + 1.95796I$	0
$u = -1.42483 + 0.05605I$ $a = -0.14962 + 1.95097I$ $b = -0.32405 + 1.90177I$	$-13.12830 + 0.25112I$	0
$u = -1.42483 - 0.05605I$ $a = -0.14962 - 1.95097I$ $b = -0.32405 - 1.90177I$	$-13.12830 - 0.25112I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.138714+0.382151I$ $a=-1.028670-0.003428I$ $b=-0.405698+0.592213I$	$0.56906-1.80805I$	$2.62914+3.42135I$
$u=-0.138714-0.382151I$ $a=-1.028670+0.003428I$ $b=-0.405698-0.592213I$	$0.56906+1.80805I$	$2.62914-3.42135I$
$u=-1.59777+0.24654I$ $a=-0.140434+0.972924I$ $b=-0.81650+1.30662I$	$-3.14029+8.05378I$	0
$u=-1.59777-0.24654I$ $a=-0.140434-0.972924I$ $b=-0.81650-1.30662I$	$-3.14029-8.05378I$	0
$u=1.53281+0.53294I$ $a=0.81860+1.41695I$ $b=-0.23778+2.39126I$	$-16.3568-7.4045I$	0
$u=1.53281-0.53294I$ $a=0.81860-1.41695I$ $b=-0.23778-2.39126I$	$-16.3568+7.4045I$	0
$u=0.330694+0.108076I$ $a=-1.128190-0.118541I$ $b=-0.21404-1.58285I$	$-5.82473+4.09311I$	$-7.36144+5.13793I$
$u=0.330694-0.108076I$ $a=-1.128190+0.118541I$ $b=-0.21404+1.58285I$	$-5.82473-4.09311I$	$-7.36144-5.13793I$
$u=-0.053813+0.324295I$ $a=-3.15267-5.18917I$ $b=0.633235-0.211555I$	$3.29821-6.08310I$	$10.9240+9.4569I$
$u=-0.053813-0.324295I$ $a=-3.15267+5.18917I$ $b=0.633235+0.211555I$	$3.29821+6.08310I$	$10.9240-9.4569I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.06429 + 1.70451I$ $a = -0.034729 - 0.171847I$ $b = 0.17523 + 2.51987I$	$-8.83971 + 7.11017I$	0
$u = 0.06429 - 1.70451I$ $a = -0.034729 + 0.171847I$ $b = 0.17523 - 2.51987I$	$-8.83971 - 7.11017I$	0
$u = -1.51413 + 0.82312I$ $a = -0.89512 + 1.12015I$ $b = 1.05248 + 2.06010I$	$-14.0247 + 6.7818I$	0
$u = -1.51413 - 0.82312I$ $a = -0.89512 - 1.12015I$ $b = 1.05248 - 2.06010I$	$-14.0247 - 6.7818I$	0
$u = 1.74221 + 0.14569I$ $a = 0.225196 - 0.756516I$ $b = 1.81283 - 1.03004I$	$-4.56049 - 4.34139I$	0
$u = 1.74221 - 0.14569I$ $a = 0.225196 + 0.756516I$ $b = 1.81283 + 1.03004I$	$-4.56049 + 4.34139I$	0
$u = 1.58884 + 0.74366I$ $a = -0.81842 - 1.19718I$ $b = 0.81340 - 2.28442I$	$-13.7046 - 15.4840I$	0
$u = 1.58884 - 0.74366I$ $a = -0.81842 + 1.19718I$ $b = 0.81340 + 2.28442I$	$-13.7046 + 15.4840I$	0
$u = -1.75665 + 0.11101I$ $a = 0.12382 - 1.45778I$ $b = 0.12632 - 2.39437I$	$-14.1931 + 4.3228I$	0
$u = -1.75665 - 0.11101I$ $a = 0.12382 + 1.45778I$ $b = 0.12632 + 2.39437I$	$-14.1931 - 4.3228I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.87938+0.62453I$ $a=\quad 0.532884-1.112330I$ $b=-0.52742-2.72829I$	$-15.0495+1.7796I$	0
$u=-1.87938-0.62453I$ $a=\quad 0.532884+1.112330I$ $b=-0.52742+2.72829I$	$-15.0495-1.7796I$	0

II.

$\boldsymbol{I_2^u = \langle -4.69\times 10^{16}u^{29} - 2.60\times 10^{16}u^{28} + \cdots + 3.60\times 10^{16}b + 1.14\times 10^{17},\ 2.84\times 10^{17}u^{29} + 2.41\times 10^{17}u^{28} + \cdots + 3.60\times 10^{16}a - 3.99\times 10^{17},\ u^{30} - 8u^{28} + \cdots + 2u + 1\rangle}$

(i) Arc colorings

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

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -7.89844u^{29} - 6.70438u^{28} + \cdots + 46.1262u + 11.1073 \\ 1.30477u^{29} + 0.722144u^{28} + \cdots - 12.6546u - 3.17653 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -11.9788u^{29} - 10.9744u^{28} + \cdots + 80.0880u + 20.9882 \\ 0.00854127u^{29} - 0.937725u^{28} + \cdots - 0.0341923u + 1.09346 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 19.2699u^{29} + 21.0285u^{28} + \cdots - 171.610u - 55.6470 \\ 0.986098u^{29} + 3.09570u^{28} + \cdots - 23.0758u - 8.58984 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -19.6132u^{29} - 21.5167u^{28} + \cdots + 176.130u + 56.8875 \\ -3.35827u^{29} - 3.80005u^{28} + \cdots + 28.1757u + 8.57614 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -4.33768u^{29} - 1.92583u^{28} + \cdots + 27.6131u + 8.41369 \\ -1.40261u^{29} - 1.92358u^{28} + \cdots + 17.1060u + 5.96332 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2.40167u^{29} - 1.05482u^{28} + \cdots + 17.1659u + 5.23135 \\ -2.77770u^{29} - 2.46020u^{28} + \cdots + 23.8751u + 8.27464 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 4.79433u^{29} + 4.95182u^{28} + \cdots - 45.5614u - 11.8368 \\ 4.33349u^{29} + 4.31110u^{28} + \cdots - 35.8661u - 9.73763 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -16.2549u^{29} - 17.7167u^{28} + \cdots + 147.955u + 48.3114 \\ -3.35827u^{29} - 3.80005u^{28} + \cdots + 28.1757u + 8.57614 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{5213218321058946}{35963279984144951}u^{29} - \frac{204199795425121514}{35963279984144951}u^{28} + \cdots + \frac{553381217539182497}{35963279984144951}u + \frac{8083989187387400}{35963279984144951}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 32u^{29} + \cdots - 27u + 1$
c_2	$u^{30} + 16u^{28} + \cdots - 3u + 1$
c_3	$u^{30} + 8u^{29} + \cdots + 23u + 11$
c_4	$u^{30} + 4u^{29} + \cdots + 3u + 1$
c_5	$u^{30} - 5u^{29} + \cdots - 6u^2 + 1$
c_6	$u^{30} - 8u^{28} + \cdots + 2u + 1$
c_7	$u^{30} + 16u^{28} + \cdots + 3u + 1$
c_8	$u^{30} + u^{29} + \cdots + 12u + 1$
c_9	$u^{30} + u^{29} + \cdots + 6u^2 + 1$
c_{10}	$u^{30} - 8u^{28} + \cdots - 2u + 1$
c_{11}	$u^{30} - 6u^{29} + \cdots - 3u + 1$
c_{12}	$u^{30} + 16u^{28} + \cdots + 148u + 73$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} - 48y^{29} + \cdots + 267y + 1$
c_2, c_7	$y^{30} + 32y^{29} + \cdots + 27y + 1$
c_3	$y^{30} + 16y^{29} + \cdots + 2199y + 121$
c_4	$y^{30} - 2y^{29} + \cdots + 15y + 1$
c_5	$y^{30} + 9y^{29} + \cdots - 12y + 1$
c_6, c_{10}	$y^{30} - 16y^{29} + \cdots - 18y + 1$
c_8	$y^{30} - 9y^{29} + \cdots + 154y + 1$
c_9	$y^{30} - 5y^{29} + \cdots + 12y + 1$
c_{11}	$y^{30} - 6y^{29} + \cdots - 11y + 1$
c_{12}	$y^{30} + 32y^{29} + \cdots - 588y + 5329$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.875224+0.412321I$ $a=\ 1.69841-0.60554I$ $b=\ 0.760440-0.576623I$	$-0.932767+0.879726I$	$3.02133+5.92289I$
$u=-0.875224-0.412321I$ $a=\ 1.69841+0.60554I$ $b=\ 0.760440+0.576623I$	$-0.932767-0.879726I$	$3.02133-5.92289I$
$u=-0.942420+0.425846I$ $a=\ 0.990477+0.135569I$ $b=\ 0.667510+0.309330I$	$-1.20958+2.51761I$	$3.24397-8.62261I$
$u=-0.942420-0.425846I$ $a=\ 0.990477-0.135569I$ $b=\ 0.667510-0.309330I$	$-1.20958-2.51761I$	$3.24397+8.62261I$
$u=\ 0.918962+0.185501I$ $a=\ 0.772753-0.368979I$ $b=\ 0.980426+0.543348I$	$0.449422+0.992006I$	$4.91900-1.24662I$
$u=\ 0.918962-0.185501I$ $a=\ 0.772753+0.368979I$ $b=\ 0.980426-0.543348I$	$0.449422-0.992006I$	$4.91900+1.24662I$
$u=\ 0.805987+0.473388I$ $a=-1.14949-1.16426I$ $b=\ 0.472421-0.931467I$	$-1.04141-4.12353I$	$-1.85641+2.83850I$
$u=\ 0.805987-0.473388I$ $a=-1.14949+1.16426I$ $b=\ 0.472421+0.931467I$	$-1.04141+4.12353I$	$-1.85641-2.83850I$
$u=\ 1.030030+0.445576I$ $a=-0.224858-1.133130I$ $b=\ 0.752856-0.363100I$	$-0.50274-3.54177I$	$2.42929+4.86648I$
$u=\ 1.030030-0.445576I$ $a=-0.224858+1.133130I$ $b=\ 0.752856+0.363100I$	$-0.50274+3.54177I$	$2.42929-4.86648I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.101300 + 0.335368I$ $a = 0.718236 + 0.312049I$ $b = 0.365568 + 0.668549I$	$-2.43063 + 0.67941I$	$-4.10126 - 2.36820I$
$u = 1.101300 - 0.335368I$ $a = 0.718236 - 0.312049I$ $b = 0.365568 - 0.668549I$	$-2.43063 - 0.67941I$	$-4.10126 + 2.36820I$
$u = -0.637051 + 0.475657I$ $a = -0.641785 + 0.810694I$ $b = 0.371089 - 1.189360I$	$-9.15677 + 0.14682I$	$1.19258 + 1.36386I$
$u = -0.637051 - 0.475657I$ $a = -0.641785 - 0.810694I$ $b = 0.371089 + 1.189360I$	$-9.15677 - 0.14682I$	$1.19258 - 1.36386I$
$u = -1.198170 + 0.492756I$ $a = -0.389462 + 0.514253I$ $b = -0.429522 + 0.342584I$	$-0.28781 + 8.86990I$	$2.50133 - 9.25007I$
$u = -1.198170 - 0.492756I$ $a = -0.389462 - 0.514253I$ $b = -0.429522 - 0.342584I$	$-0.28781 - 8.86990I$	$2.50133 + 9.25007I$
$u = 0.347894 + 1.261540I$ $a = -1.145370 - 0.093955I$ $b = 1.46537 + 0.16374I$	$2.87728 - 1.15731I$	$-0.12131 - 4.65886I$
$u = 0.347894 - 1.261540I$ $a = -1.145370 + 0.093955I$ $b = 1.46537 - 0.16374I$	$2.87728 + 1.15731I$	$-0.12131 + 4.65886I$
$u = -0.582042 + 0.114441I$ $a = -3.71699 + 1.44960I$ $b = -0.518015 + 0.023656I$	$2.80413 - 5.94257I$	$-4.38802 + 4.41854I$
$u = -0.582042 - 0.114441I$ $a = -3.71699 - 1.44960I$ $b = -0.518015 - 0.023656I$	$2.80413 + 5.94257I$	$-4.38802 - 4.41854I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.592085 + 0.032840I$ $a = -3.11419 - 1.27073I$ $b = -0.431358 + 0.454461I$	$2.54811 - 1.76721I$	$-0.0133359 - 0.0791266I$
$u = 0.592085 - 0.032840I$ $a = -3.11419 + 1.27073I$ $b = -0.431358 - 0.454461I$	$2.54811 + 1.76721I$	$-0.0133359 + 0.0791266I$
$u = -0.03393 + 1.43301I$ $a = 0.954956 - 0.213579I$ $b = -1.060600 - 0.576962I$	$4.04859 - 3.36586I$	$2.59994 + 9.05520I$
$u = -0.03393 - 1.43301I$ $a = 0.954956 + 0.213579I$ $b = -1.060600 + 0.576962I$	$4.04859 + 3.36586I$	$2.59994 - 9.05520I$
$u = -0.289164 + 0.364349I$ $a = -0.762478 + 0.282994I$ $b = 0.13710 + 1.64032I$	$-5.61406 + 4.42294I$	$3.80460 - 11.65991I$
$u = -0.289164 - 0.364349I$ $a = -0.762478 - 0.282994I$ $b = 0.13710 - 1.64032I$	$-5.61406 - 4.42294I$	$3.80460 + 11.65991I$
$u = 1.50756 + 0.48121I$ $a = 0.300988 + 0.564457I$ $b = -1.175620 + 0.291973I$	$-2.12714 - 3.25888I$	$0.91150 + 4.03136I$
$u = 1.50756 - 0.48121I$ $a = 0.300988 - 0.564457I$ $b = -1.175620 - 0.291973I$	$-2.12714 + 3.25888I$	$0.91150 - 4.03136I$
$u = -1.74582 + 0.25668I$ $a = -0.29120 + 1.43523I$ $b = 0.14233 + 2.41540I$	$-14.0986 + 3.6495I$	0
$u = -1.74582 - 0.25668I$ $a = -0.29120 - 1.43523I$ $b = 0.14233 - 2.41540I$	$-14.0986 - 3.6495I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{30}-32u^{29}+\cdots-27u+1)$ $\cdot(u^{62}+93u^{61}+\cdots+2327471u+1442401)$
c_2	$(u^{30}+16u^{28}+\cdots-3u+1)(u^{62}-u^{61}+\cdots-7479u+1201)$
c_3	$(u^{30}+8u^{29}+\cdots+23u+11)(u^{62}-5u^{61}+\cdots-351u+81)$
c_4	$(u^{30}+4u^{29}+\cdots+3u+1)(u^{62}+u^{61}+\cdots-29453u+24019)$
c_5	$(u^{30}-5u^{29}+\cdots-6u^2+1)(u^{62}+45u^{60}+\cdots-7939816u+1967081)$
c_6	$(u^{30}-8u^{28}+\cdots+2u+1)(u^{62}+u^{61}+\cdots+540u+108)$
c_7	$(u^{30}+16u^{28}+\cdots+3u+1)(u^{62}-u^{61}+\cdots-7479u+1201)$
c_8	$(u^{30}+u^{29}+\cdots+12u+1)$ $\cdot(u^{62}+4u^{61}+\cdots-17319366u+37837071)$
c_9	$(u^{30}+u^{29}+\cdots+6u^2+1)(u^{62}+2u^{61}+\cdots+1506u+313)$
c_{10}	$(u^{30}-8u^{28}+\cdots-2u+1)(u^{62}+u^{61}+\cdots+540u+108)$
c_{11}	$(u^{30}-6u^{29}+\cdots-3u+1)(u^{62}+3u^{61}+\cdots+9u+1)$
c_{12}	$(u^{30}+16u^{28}+\cdots+148u+73)(u^{62}+u^{61}+\cdots+40816u+5087)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{30}-48y^{29}+\cdots+267y+1)$ $\cdot(y^{62}-227y^{61}+\cdots+374501199567555y+2080520644801)$
c_2, c_7	$(y^{30}+32y^{29}+\cdots+27y+1)$ $\cdot(y^{62}+93y^{61}+\cdots+2327471y+1442401)$
c_3	$(y^{30}+16y^{29}+\cdots+2199y+121)$ $\cdot(y^{62}+25y^{61}+\cdots+101331y+6561)$
c_4	$(y^{30}-2y^{29}+\cdots+15y+1)$ $\cdot(y^{62}+27y^{61}+\cdots+214913007y+576912361)$
c_5	$(y^{30}+9y^{29}+\cdots-12y+1)$ $\cdot(y^{62}+90y^{61}+\cdots-46218775789508y+3869407660561)$
c_6, c_{10}	$(y^{30}-16y^{29}+\cdots-18y+1)(y^{62}-51y^{61}+\cdots-56376y+11664)$
c_8	$(y^{30}-9y^{29}+\cdots+154y+1)$ $\cdot(y^{62}-60y^{61}+\cdots+40273910932902534y+1431643941859041)$
c_9	$(y^{30}-5y^{29}+\cdots+12y+1)(y^{62}+4y^{61}+\cdots+269768y+97969)$
c_{11}	$(y^{30}-6y^{29}+\cdots-11y+1)(y^{62}-5y^{61}+\cdots-19y+1)$
c_{12}	$(y^{30}+32y^{29}+\cdots-588y+5329)$ $\cdot(y^{62}+101y^{61}+\cdots-990656780y+25877569)$