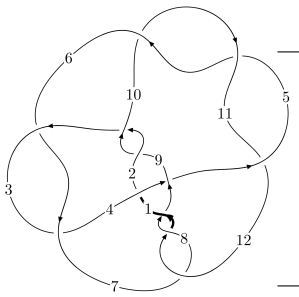
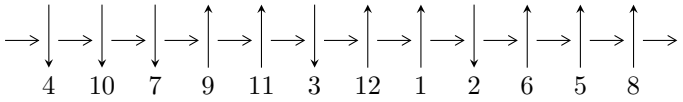
$12a_{1169}$ $(K12a_{1169})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 3.52939 \times 10^{358} u^{88} - 1.05772 \times 10^{359} u^{87} + \cdots + 6.97081 \times 10^{361} b + 7.41553 \times 10^{361}, \\ & 2.16674 \times 10^{361} u^{88} - 7.26375 \times 10^{361} u^{87} + \cdots + 7.24268 \times 10^{364} a - 1.16875 \times 10^{366}, \\ & u^{89} - 2u^{88} + \cdots + 21705u + 1039 \rangle \\ I_2^u = \langle & -14550u^{20} + 40621u^{19} + \cdots + 10007b + 23861, \\ & 43297u^{20} + 522281u^{19} + \cdots + 590413a + 482394,\ u^{21} - 3u^{20} + \cdots - 3u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 110 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. $\boldsymbol{I_1^u = \langle 3.53 \times 10^{358} u^{88} - 1.06 \times 10^{359} u^{87} + \cdots + 6.97 \times 10^{361} b + 7.42 \times 10^{361},\ 2.17 \times 10^{361} u^{88} - 7.26 \times 10^{361} u^{87} + \cdots + 7.24 \times 10^{364} a - 1.17 \times 10^{366},\ u^{89} - 2u^{88} + \cdots + 21705u + 1039 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

$$a_{10} = \begin{pmatrix} -0.000299164u^{88} + 0.00100291u^{87} + \cdots + 83.3155u + 16.1369 \\ -0.000506310u^{88} + 0.00151735u^{87} + \cdots - 23.7024u - 1.06380 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.000805473u^{88} + 0.00252026u^{87} + \cdots + 59.6131u + 15.0731 \\ -0.000506310u^{88} + 0.00151735u^{87} + \cdots - 23.7024u - 1.06380 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0000914777u^{88} + 0.000720740u^{87} + \cdots + 16.4384u - 11.3057 \\ -0.000933091u^{88} + 0.00300921u^{87} + \cdots - 3.26069u - 0.118984 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.00106155u^{88} + 0.00389260u^{87} + \cdots + 1.33023u - 12.0413 \\ -0.00154278u^{88} + 0.00499981u^{87} + \cdots - 13.8793u - 0.663133 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.00102463u^{88} - 0.00409500u^{87} + \cdots - 107.112u - 0.571082 \\ 0.000910114u^{88} - 0.00293287u^{87} + \cdots + 9.31770u + 0.203991 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.00290304u^{88} + 0.00870923u^{87} + \cdots - 80.1138u + 6.30898 \\ -0.00294118u^{88} + 0.00959789u^{87} + \cdots - 60.4307u - 3.05496 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0000311348u^{88} + 0.00200854u^{87} + \cdots + 241.819u + 13.6918 \\ -0.000739385u^{88} + 0.00225940u^{87} + \cdots - 11.2394u - 0.123333 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00306576u^{88} - 0.00889713u^{87} + \cdots + 170.165u + 9.84182 \\ 0.00288924u^{88} - 0.00941813u^{87} + \cdots + 49.9644u + 2.69032 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.00522368u^{88} - 0.0168283u^{87} + \cdots + 167.584u + 9.76277$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{89} - 10u^{88} + \cdots - 12u + 1$
c_2, c_9	$u^{89} - 41u^{87} + \cdots - 51u - 1$
c_3, c_6	$u^{89} - 2u^{88} + \cdots + 21705u + 1039$
c_4	$u^{89} + 3u^{88} + \cdots + 4u + 1$
c_5, c_{10}, c_{11}	$u^{89} + u^{88} + \cdots - 353u + 43$
c_7, c_8, c_{12}	$u^{89} + 3u^{88} + \cdots + 65u + 19$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{89} - 2y^{88} + \cdots + 104y - 1$
c_2, c_9	$y^{89} - 82y^{88} + \cdots + 881y - 1$
c_3, c_6	$y^{89} - 80y^{88} + \cdots + 9215419y - 1079521$
c_4	$y^{89} + 3y^{88} + \cdots + 496y - 1$
c_5, c_{10}, c_{11}	$y^{89} + 97y^{88} + \cdots - 64419y - 1849$
c_7, c_8, c_{12}	$y^{89} - 87y^{88} + \cdots - 6453y - 361$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.931334 + 0.269749I$ $a = -0.578251 - 0.839253I$ $b = 0.357409 - 0.353734I$	$-0.95217 - 3.28642I$	0
$u = 0.931334 - 0.269749I$ $a = -0.578251 + 0.839253I$ $b = 0.357409 + 0.353734I$	$-0.95217 + 3.28642I$	0
$u = -0.683702 + 0.782007I$ $a = 0.88313 + 1.24505I$ $b = -0.139809 - 1.380880I$	$-1.63400 + 2.87051I$	0
$u = -0.683702 - 0.782007I$ $a = 0.88313 - 1.24505I$ $b = -0.139809 + 1.380880I$	$-1.63400 - 2.87051I$	0
$u = 0.954613$ $a = 1.56265$ $b = -0.697507$	2.28117	0
$u = -0.903684 + 0.289064I$ $a = 0.0396045 + 0.0524369I$ $b = 0.275590 - 0.485377I$	$-1.52290 + 1.04949I$	0
$u = -0.903684 - 0.289064I$ $a = 0.0396045 - 0.0524369I$ $b = 0.275590 + 0.485377I$	$-1.52290 - 1.04949I$	0
$u = -0.013811 + 0.942942I$ $a = 0.18457 - 1.51213I$ $b = 0.03603 + 1.52937I$	$-8.35695 - 0.67709I$	0
$u = -0.013811 - 0.942942I$ $a = 0.18457 + 1.51213I$ $b = 0.03603 - 1.52937I$	$-8.35695 + 0.67709I$	0
$u = 0.896896 + 0.290740I$ $a = 0.95110 - 1.13833I$ $b = -0.039136 - 0.193931I$	$2.11051 - 1.86504I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.896896 - 0.290740I$ $a = 0.95110 + 1.13833I$ $b = -0.039136 + 0.193931I$	$2.11051 + 1.86504I$	0
$u = -0.661981 + 0.629334I$ $a = -0.753931 + 0.280222I$ $b = 0.403012 + 0.928682I$	$4.63292 + 1.45826I$	0
$u = -0.661981 - 0.629334I$ $a = -0.753931 - 0.280222I$ $b = 0.403012 - 0.928682I$	$4.63292 - 1.45826I$	0
$u = 0.003538 + 1.088700I$ $a = 0.327210 + 1.020930I$ $b = -0.477171 - 0.360950I$	$4.16916 + 6.28701I$	0
$u = 0.003538 - 1.088700I$ $a = 0.327210 - 1.020930I$ $b = -0.477171 + 0.360950I$	$4.16916 - 6.28701I$	0
$u = -0.921629 + 0.645105I$ $a = 0.057292 - 0.134936I$ $b = -0.503933 + 0.746162I$	$4.07349 + 3.32852I$	0
$u = -0.921629 - 0.645105I$ $a = 0.057292 + 0.134936I$ $b = -0.503933 - 0.746162I$	$4.07349 - 3.32852I$	0
$u = 0.319287 + 0.789276I$ $a = -0.792411 - 0.134429I$ $b = 0.722129 + 0.150041I$	$7.01793 + 2.51150I$	$9.08872 - 1.49368I$
$u = 0.319287 - 0.789276I$ $a = -0.792411 + 0.134429I$ $b = 0.722129 - 0.150041I$	$7.01793 - 2.51150I$	$9.08872 + 1.49368I$
$u = 1.028410 + 0.522864I$ $a = 0.505074 + 0.569011I$ $b = -0.596731 + 0.439235I$	$4.88850 - 7.23558I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.028410 - 0.522864I$ $a = 0.505074 - 0.569011I$ $b = -0.596731 - 0.439235I$	$4.88850 + 7.23558I$	0
$u = -0.180579 + 0.814917I$ $a = -0.646139 - 1.146690I$ $b = 0.322151 + 0.497476I$	$-1.47609 + 3.76203I$	$0. - 9.26829I$
$u = -0.180579 - 0.814917I$ $a = -0.646139 + 1.146690I$ $b = 0.322151 - 0.497476I$	$-1.47609 - 3.76203I$	$0. + 9.26829I$
$u = 1.129070 + 0.306011I$ $a = -1.210640 + 0.100169I$ $b = 0.22183 - 1.79891I$	$-9.28201 - 1.41066I$	0
$u = 1.129070 - 0.306011I$ $a = -1.210640 - 0.100169I$ $b = 0.22183 + 1.79891I$	$-9.28201 + 1.41066I$	0
$u = -0.118024 + 0.779790I$ $a = -0.576335 + 0.141417I$ $b = 0.307305 - 1.310700I$	$2.48861 - 6.20764I$	$5.37925 + 2.59992I$
$u = -0.118024 - 0.779790I$ $a = -0.576335 - 0.141417I$ $b = 0.307305 + 1.310700I$	$2.48861 + 6.20764I$	$5.37925 - 2.59992I$
$u = -1.211940 + 0.104338I$ $a = 1.08030 - 0.96380I$ $b = -0.01047 - 1.46876I$	$-3.62934 - 1.72446I$	0
$u = -1.211940 - 0.104338I$ $a = 1.08030 + 0.96380I$ $b = -0.01047 + 1.46876I$	$-3.62934 + 1.72446I$	0
$u = -1.252290 + 0.101314I$ $a = -1.073640 - 0.032751I$ $b = 1.152590 - 0.748543I$	$-0.30805 + 4.24243I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.252290-0.101314I$ $a=-1.073640+0.032751I$ $b=\ \ 1.152590+0.748543I$	$-0.30805-4.24243I$	0
$u=-1.26739$ $a=\ \ 0.0280880$ $b=-0.551997$	1.11552	0
$u=\ \ 1.219740+0.369609I$ $a=-0.106898-0.505468I$ $b=-0.02563-1.61339I$	$-4.49367-1.95081I$	0
$u=\ \ 1.219740-0.369609I$ $a=-0.106898+0.505468I$ $b=-0.02563+1.61339I$	$-4.49367+1.95081I$	0
$u=-0.629546+0.321594I$ $a=\ \ 1.26046+1.53138I$ $b=-0.208640-1.272490I$	$-1.43898+3.12025I$	$-8.35195-1.64472I$
$u=-0.629546-0.321594I$ $a=\ \ 1.26046-1.53138I$ $b=-0.208640+1.272490I$	$-1.43898-3.12025I$	$-8.35195+1.64472I$
$u=-1.280440+0.183298I$ $a=-0.623520+1.073820I$ $b=\ \ 0.09308+1.49321I$	$-7.14221+4.80877I$	0
$u=-1.280440-0.183298I$ $a=-0.623520-1.073820I$ $b=\ \ 0.09308-1.49321I$	$-7.14221-4.80877I$	0
$u=\ \ 1.299110+0.141790I$ $a=-1.144320-0.129659I$ $b=\ \ 0.614468-0.550808I$	$-5.78881-2.81212I$	0
$u=\ \ 1.299110-0.141790I$ $a=-1.144320+0.129659I$ $b=\ \ 0.614468+0.550808I$	$-5.78881+2.81212I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.338370+0.002380I$ $a=\ \ 0.997858-0.029656I$ $b=-1.034650+0.506155I$	$-5.71693+1.52951I$	0
$u=-1.338370-0.002380I$ $a=\ \ 0.997858+0.029656I$ $b=-1.034650-0.506155I$	$-5.71693-1.52951I$	0
$u=-0.527970+0.376833I$ $a=\ \ 1.162140+0.211653I$ $b=-0.093728-0.821357I$	$-0.97885+1.56395I$	$2.29472-4.65809I$
$u=-0.527970-0.376833I$ $a=\ \ 1.162140-0.211653I$ $b=-0.093728+0.821357I$	$-0.97885-1.56395I$	$2.29472+4.65809I$
$u=-1.335560+0.303573I$ $a=\ \ 0.512156-0.850853I$ $b=-0.18196-1.51376I$	$-1.59230+10.01400I$	0
$u=-1.335560-0.303573I$ $a=\ \ 0.512156+0.850853I$ $b=-0.18196+1.51376I$	$-1.59230-10.01400I$	0
$u=-1.185460+0.696447I$ $a=\ \ 0.800803+0.443584I$ $b=-0.359156-0.783223I$	$-0.45269+3.38593I$	0
$u=-1.185460-0.696447I$ $a=\ \ 0.800803-0.443584I$ $b=-0.359156+0.783223I$	$-0.45269-3.38593I$	0
$u=\ \ 0.243696+1.356640I$ $a=-0.306952+0.966814I$ $b=\ \ 0.07489-1.54016I$	$-8.39372-5.10345I$	0
$u=\ \ 0.243696-1.356640I$ $a=-0.306952-0.966814I$ $b=\ \ 0.07489+1.54016I$	$-8.39372+5.10345I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.376360 + 0.289133I$ $a = 1.040330 + 0.010906I$ $b = -0.836173 + 0.694879I$	$-6.44455 - 7.59452I$	0
$u = 1.376360 - 0.289133I$ $a = 1.040330 - 0.010906I$ $b = -0.836173 - 0.694879I$	$-6.44455 + 7.59452I$	0
$u = 1.397410 + 0.172062I$ $a = 0.029498 + 0.497892I$ $b = 0.08139 + 1.53467I$	$-8.31349 + 0.26560I$	0
$u = 1.397410 - 0.172062I$ $a = 0.029498 - 0.497892I$ $b = 0.08139 - 1.53467I$	$-8.31349 - 0.26560I$	0
$u = 1.38142 + 0.39645I$ $a = -1.007090 + 0.064358I$ $b = 1.010180 - 0.690416I$	$-0.37230 - 11.33630I$	0
$u = 1.38142 - 0.39645I$ $a = -1.007090 - 0.064358I$ $b = 1.010180 + 0.690416I$	$-0.37230 + 11.33630I$	0
$u = 1.40649 + 0.33533I$ $a = 0.978871 - 0.037046I$ $b = -0.33721 + 1.67361I$	$-13.00830 - 3.83518I$	0
$u = 1.40649 - 0.33533I$ $a = 0.978871 + 0.037046I$ $b = -0.33721 - 1.67361I$	$-13.00830 + 3.83518I$	0
$u = -1.45742$ $a = -0.931036$ $b = 1.26060$	-3.45488	0
$u = -1.43613 + 0.30102I$ $a = -0.860532 - 0.191814I$ $b = 0.505598 + 0.488318I$	$-5.59501 + 1.07532I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43613-0.30102I$ $a=-0.860532+0.191814I$ $b=\ \ 0.505598-0.488318I$	$-5.59501-1.07532I$	0
$u=-1.39226+0.47607I$ $a=-1.239040-0.059772I$ $b=\ \ 0.21041+1.54984I$	$-12.76470+5.88731I$	0
$u=-1.39226-0.47607I$ $a=-1.239040+0.059772I$ $b=\ \ 0.21041-1.54984I$	$-12.76470-5.88731I$	0
$u=-0.430277+0.288675I$ $a=-1.14253-1.93662I$ $b=-0.481362-0.915091I$	$2.59466-2.91254I$	$0.554054+0.592872I$
$u=-0.430277-0.288675I$ $a=-1.14253+1.93662I$ $b=-0.481362+0.915091I$	$2.59466+2.91254I$	$0.554054-0.592872I$
$u=\ \ 0.213406+0.394964I$ $a=\ \ 1.212980+0.056615I$ $b=-0.432414-0.150020I$	$0.917122+0.532753I$	$8.62327-2.86690I$
$u=\ \ 0.213406-0.394964I$ $a=\ \ 1.212980-0.056615I$ $b=-0.432414+0.150020I$	$0.917122-0.532753I$	$8.62327+2.86690I$
$u=\ \ 1.55069+0.10378I$ $a=\ \ 0.008176-0.478475I$ $b=-0.18148-1.45535I$	$-3.99790+2.66436I$	0
$u=\ \ 1.55069-0.10378I$ $a=\ \ 0.008176+0.478475I$ $b=-0.18148+1.45535I$	$-3.99790-2.66436I$	0
$u=-0.118298+0.422920I$ $a=\ \ 1.181190-0.583974I$ $b=-0.138944+1.287620I$	$-3.48703-2.56442I$	$2.62635+1.28700I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.118298-0.422920I$ $a=\ \ 1.181190+0.583974I$ $b=-0.138944-1.287620I$	$-3.48703+2.56442I$	$2.62635-1.28700I$
$u=\ \ 1.54299+0.24671I$ $a=-0.911471-0.044781I$ $b=\ \ 0.49798-1.57958I$	$-8.75803-6.44090I$	0
$u=\ \ 1.54299-0.24671I$ $a=-0.911471+0.044781I$ $b=\ \ 0.49798+1.57958I$	$-8.75803+6.44090I$	0
$u=\ \ 0.430244$ $a=\ \ 2.54596$ $b=-0.677536$	2.58420	4.24980
$u=-1.53841+0.53588I$ $a=\ \ 1.045700+0.040301I$ $b=-0.27174-1.60793I$	$-14.0298+11.7177I$	0
$u=-1.53841-0.53588I$ $a=\ \ 1.045700-0.040301I$ $b=-0.27174+1.60793I$	$-14.0298-11.7177I$	0
$u=\ \ 0.16846+1.71362I$ $a=\ \ 0.171565-0.782096I$ $b=-0.13652+1.51030I$	$-2.15977-8.41432I$	0
$u=\ \ 0.16846-1.71362I$ $a=\ \ 0.171565+0.782096I$ $b=-0.13652-1.51030I$	$-2.15977+8.41432I$	0
$u=-1.61607+0.60920I$ $a=-0.952663-0.063958I$ $b=\ \ 0.32947+1.63016I$	$-7.9490+16.2760I$	0
$u=-1.61607-0.60920I$ $a=-0.952663+0.063958I$ $b=\ \ 0.32947-1.63016I$	$-7.9490-16.2760I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.87983$ $a=\ \ 0.691725$ $b=-0.206458$	-2.91172	0
$u=\ \ 1.74218+0.74698I$ $a=-0.707757+0.147349I$ $b=\ \ 0.12896-1.55344I$	$-12.52120-3.24098I$	0
$u=\ \ 1.74218-0.74698I$ $a=-0.707757-0.147349I$ $b=\ \ 0.12896+1.55344I$	$-12.52120+3.24098I$	0
$u=-0.0611465+0.0620373I$ $a=\ \ 10.86920+4.68264I$ $b=\ \ 0.266273-0.506645I$	$-1.45336+1.48831I$	$0.53428+3.12329I$
$u=-0.0611465-0.0620373I$ $a=\ \ 10.86920-4.68264I$ $b=\ \ 0.266273+0.506645I$	$-1.45336-1.48831I$	$0.53428-3.12329I$
$u=\ \ 1.62131+1.14628I$ $a=\ \ 0.620849-0.287375I$ $b=-0.10732+1.62136I$	$-8.64981-5.17953I$	0
$u=\ \ 1.62131-1.14628I$ $a=\ \ 0.620849+0.287375I$ $b=-0.10732-1.62136I$	$-8.64981+5.17953I$	0
$u=\ \ 1.97568+0.52699I$ $a=\ \ 0.666662-0.028414I$ $b=-0.08012+1.45137I$	$-8.08023-1.07339I$	0
$u=\ \ 1.97568-0.52699I$ $a=\ \ 0.666662+0.028414I$ $b=-0.08012-1.45137I$	$-8.08023+1.07339I$	0

II. $\boldsymbol{I_2^u = \langle -14550u^{20} + 40621u^{19} + \cdots + 10007b + 23861,\ 4.33 \times 10^4 u^{20} + 5.22 \times 10^5 u^{19} + \cdots + 5.90 \times 10^5 a + 4.82 \times 10^5,\ u^{21} - 3u^{20} + \cdots - 3u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

$$a_{10} = \begin{pmatrix} -0.0733334u^{20} - 0.884603u^{19} + \cdots - 2.10088u - 0.817045 \\ 1.45398u^{20} - 4.05926u^{19} + \cdots + 2.55591u - 2.38443 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.38065u^{20} - 4.94386u^{19} + \cdots + 0.455036u - 3.20148 \\ 1.45398u^{20} - 4.05926u^{19} + \cdots + 2.55591u - 2.38443 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 2.42133u^{20} - 6.29378u^{19} + \cdots + 6.44122u - 3.33218 \\ -1.03482u^{20} + 2.41829u^{19} + \cdots - 3.13756u + 3.16651 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3.01039u^{20} - 7.93884u^{19} + \cdots + 6.35545u - 3.68082 \\ -1.59680u^{20} + 4.05130u^{19} + \cdots - 3.27446u + 3.39302 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -3.16651u^{20} + 8.46472u^{19} + \cdots - 5.95194u + 5.36198 \\ -u - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 2.25590u^{20} - 6.37485u^{19} + \cdots + 1.61544u - 1.00378 \\ -0.302688u^{20} + 0.718797u^{19} + \cdots - 1.97752u + 1.45398 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.741662u^{20} + 1.03912u^{19} + \cdots - 1.93260u - 1.96370 \\ 2.47095u^{20} - 5.43984u^{19} + \cdots + 8.58724u - 3.36947 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.865828u^{20} - 2.87756u^{19} + \cdots + 1.56930u - 1.46777 \\ 0.0250147u^{20} - 0.0229416u^{19} + \cdots + 0.394827u + 0.0971185 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1401070}{590413}u^{20} - \frac{5207729}{590413}u^{19} + \cdots + \frac{12397325}{590413}u - \frac{12952837}{590413}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{21} - 3u^{20} + \cdots + 2u - 1$
c_2	$u^{21} + u^{20} + \cdots - u + 3$
c_3	$u^{21} + 3u^{20} + \cdots - 3u - 1$
c_4	$u^{21} + u^{19} + \cdots - 2u - 1$
c_5	$u^{21} + 12u^{19} + \cdots - u + 1$
c_6	$u^{21} - 3u^{20} + \cdots - 3u + 1$
c_7, c_8	$u^{21} - 12u^{19} + \cdots + u + 1$
c_9	$u^{21} - u^{20} + \cdots - u - 3$
c_{10}, c_{11}	$u^{21} + 12u^{19} + \cdots - u - 1$
c_{12}	$u^{21} - 12u^{19} + \cdots + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{21} - 3y^{20} + \cdots - 10y - 1$
c_2, c_9	$y^{21} - 19y^{20} + \cdots + 115y - 9$
c_3, c_6	$y^{21} - 21y^{20} + \cdots + 13y - 1$
c_4	$y^{21} + 2y^{20} + \cdots + 10y - 1$
c_5, c_{10}, c_{11}	$y^{21} + 24y^{20} + \cdots - y - 1$
c_7, c_8, c_{12}	$y^{21} - 24y^{20} + \cdots + 17y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.930383+0.277435I$ $a=\ \ 1.015260+0.862529I$ $b=-0.328952+0.421695I$	$2.08819+1.44870I$	$3.52006+4.93432I$
$u=-0.930383-0.277435I$ $a=\ \ 1.015260-0.862529I$ $b=-0.328952-0.421695I$	$2.08819-1.44870I$	$3.52006-4.93432I$
$u=-0.648396+0.664203I$ $a=\ \ 0.909055+0.463752I$ $b=\ \ 0.447170-0.742674I$	$3.07921+4.35618I$	$0.88528-5.41840I$
$u=-0.648396-0.664203I$ $a=\ \ 0.909055-0.463752I$ $b=\ \ 0.447170+0.742674I$	$3.07921-4.35618I$	$0.88528+5.41840I$
$u=-1.12254$ $a=\ \ 0.474285$ $b=\ \ 0.350060$	0.648902	-6.00040
$u=\ \ 0.655950+0.397506I$ $a=\ \ 1.13303-1.90664I$ $b=-0.153365+1.295940I$	$-1.13185-3.22934I$	$15.8994+10.3878I$
$u=\ \ 0.655950-0.397506I$ $a=\ \ 1.13303+1.90664I$ $b=-0.153365-1.295940I$	$-1.13185+3.22934I$	$15.8994-10.3878I$
$u=-0.685782+0.264566I$ $a=-1.227390+0.116414I$ $b=-0.219712+0.602073I$	$-1.88174+2.05701I$	$-7.23952-6.65923I$
$u=-0.685782-0.264566I$ $a=-1.227390-0.116414I$ $b=-0.219712-0.602073I$	$-1.88174-2.05701I$	$-7.23952+6.65923I$
$u=\ \ 0.285973+0.565869I$ $a=\ \ 0.974671-0.799331I$ $b=\ \ 0.243921-1.159940I$	$1.48365-6.92231I$	$-1.25656+6.03552I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.285973 - 0.565869I$ $a = 0.974671 + 0.799331I$ $b = 0.243921 + 1.159940I$	$1.48365 + 6.92231I$	$-1.25656 - 6.03552I$
$u = 1.387470 + 0.049356I$ $a = 0.335276 - 0.492303I$ $b = 0.01597 - 1.54523I$	$-5.59782 - 1.13031I$	$-2.89204 + 0.12021I$
$u = 1.387470 - 0.049356I$ $a = 0.335276 + 0.492303I$ $b = 0.01597 + 1.54523I$	$-5.59782 + 1.13031I$	$-2.89204 - 0.12021I$
$u = -1.46205$ $a = -0.918191$ $b = 0.679742$	-5.65099	-6.57830
$u = 0.438197 + 0.182945I$ $a = -1.58094 - 0.53997I$ $b = -0.076122 + 1.201660I$	$-4.11956 - 3.06636I$	$-6.09997 + 6.67662I$
$u = 0.438197 - 0.182945I$ $a = -1.58094 + 0.53997I$ $b = -0.076122 - 1.201660I$	$-4.11956 + 3.06636I$	$-6.09997 - 6.67662I$
$u = 1.46185 + 0.56955I$ $a = -0.905072 + 0.140044I$ $b = 0.18031 - 1.57936I$	$-11.71150 - 3.26273I$	$-1.60994 + 1.37257I$
$u = 1.46185 - 0.56955I$ $a = -0.905072 - 0.140044I$ $b = 0.18031 + 1.57936I$	$-11.71150 + 3.26273I$	$-1.60994 - 1.37257I$
$u = -1.68012$ $a = 0.744875$ $b = -0.824696$	-1.98125	3.79130
$u = 1.66747 + 0.69754I$ $a = 0.695614 - 0.152518I$ $b = -0.21177 + 1.64691I$	$-8.32574 - 4.07513I$	$-1.31294 + 0.55497I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.66747 - 0.69754I$		
$a = 0.695614 + 0.152518I$	$-8.32574 + 4.07513I$	$-1.31294 - 0.55497I$
$b = -0.21177 - 1.64691I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{21}-3u^{20}+\cdots+2u-1)(u^{89}-10u^{88}+\cdots-12u+1)$
c_2	$(u^{21}+u^{20}+\cdots-u+3)(u^{89}-41u^{87}+\cdots-51u-1)$
c_3	$(u^{21}+3u^{20}+\cdots-3u-1)(u^{89}-2u^{88}+\cdots+21705u+1039)$
c_4	$(u^{21}+u^{19}+\cdots-2u-1)(u^{89}+3u^{88}+\cdots+4u+1)$
c_5	$(u^{21}+12u^{19}+\cdots-u+1)(u^{89}+u^{88}+\cdots-353u+43)$
c_6	$(u^{21}-3u^{20}+\cdots-3u+1)(u^{89}-2u^{88}+\cdots+21705u+1039)$
c_7, c_8	$(u^{21}-12u^{19}+\cdots+u+1)(u^{89}+3u^{88}+\cdots+65u+19)$
c_9	$(u^{21}-u^{20}+\cdots-u-3)(u^{89}-41u^{87}+\cdots-51u-1)$
c_{10}, c_{11}	$(u^{21}+12u^{19}+\cdots-u-1)(u^{89}+u^{88}+\cdots-353u+43)$
c_{12}	$(u^{21}-12u^{19}+\cdots+u-1)(u^{89}+3u^{88}+\cdots+65u+19)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{21}-3y^{20}+\cdots-10y-1)(y^{89}-2y^{88}+\cdots+104y-1)$
c_2, c_9	$(y^{21}-19y^{20}+\cdots+115y-9)(y^{89}-82y^{88}+\cdots+881y-1)$
c_3, c_6	$(y^{21}-21y^{20}+\cdots+13y-1)$ $\cdot(y^{89}-80y^{88}+\cdots+9215419y-1079521)$
c_4	$(y^{21}+2y^{20}+\cdots+10y-1)(y^{89}+3y^{88}+\cdots+496y-1)$
c_5, c_{10}, c_{11}	$(y^{21}+24y^{20}+\cdots-y-1)(y^{89}+97y^{88}+\cdots-64419y-1849)$
c_7, c_8, c_{12}	$(y^{21}-24y^{20}+\cdots+17y-1)(y^{89}-87y^{88}+\cdots-6453y-361)$