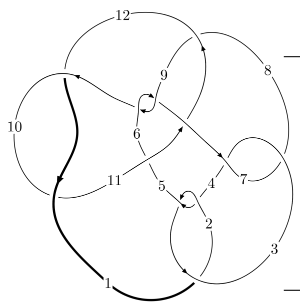
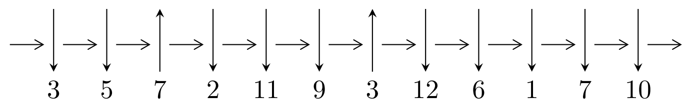
$12n_{0213}$ $(K12n_{0213})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-4.59949 \times 10^{269} u^{80} + 6.86481 \times 10^{269} u^{79} + \cdots + 5.51786 \times 10^{269} b + 2.33003 \times 10^{272},\\
&-2.46814 \times 10^{269} u^{80} + 3.35212 \times 10^{269} u^{79} + \cdots + 1.10357 \times 10^{270} a + 1.23485 \times 10^{272},\\
&u^{81} - 2u^{80} + \cdots + 128u + 256 \rangle\\
I_2^u = \langle &b,\ -9u^4 + 4u^3 - 3u^2 + 17a + 18u - 1,\ u^5 + u^4 + 2u^3 + u^2 + u + 1 \rangle
\end{aligned}$$

$$\begin{aligned}
I_1^v = \langle &a,\ -941v^7 - 2551v^6 - 1791v^5 + 6184v^4 + 16309v^3 - 15249v^2 + 887b - 4192v + 1842,\\
&v^8 + 2v^7 - 8v^5 - 13v^4 + 28v^3 - 7v^2 - 3v + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 94 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. $I_1^u = \langle -4.60 \times 10^{269} u^{80} + 6.86 \times 10^{269} u^{79} + \cdots + 5.52 \times 10^{269} b + 2.33 \times 10^{272},\ -2.47 \times 10^{269} u^{80} + 3.35 \times 10^{269} u^{79} + \cdots + 1.10 \times 10^{270} a + 1.23 \times 10^{272},\ u^{81} - 2u^{80} + \cdots + 128u + 256 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.223650u^{80} - 0.303752u^{79} + \cdots - 220.646u - 111.896 \\ 0.833564u^{80} - 1.24411u^{79} + \cdots - 1041.50u - 422.270 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.0640486u^{80} - 0.0983033u^{79} + \cdots - 107.977u - 39.3161 \\ -0.588758u^{80} + 0.829945u^{79} + \cdots + 564.671u + 265.326 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.0674337u^{80} + 0.135096u^{79} + \cdots + 187.141u + 50.7879 \\ 0.563979u^{80} - 0.802383u^{79} + \cdots - 556.962u - 256.795 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1.05721u^{80} - 1.54786u^{79} + \cdots - 1262.14u - 534.166 \\ 0.833564u^{80} - 1.24411u^{79} + \cdots - 1041.50u - 422.270 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.314943u^{80} - 0.447399u^{79} + \cdots - 386.680u - 179.586 \\ 0.697460u^{80} - 1.02573u^{79} + \cdots - 848.797u - 360.306 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.382518u^{80} - 0.578331u^{79} + \cdots - 462.117u - 180.720 \\ 0.697460u^{80} - 1.02573u^{79} + \cdots - 848.797u - 360.306 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.382518u^{80} - 0.578331u^{79} + \cdots - 462.117u - 180.720 \\ 0.598651u^{80} - 0.876596u^{79} + \cdots - 726.974u - 312.510 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.412932u^{80} - 0.594022u^{79} + \cdots - 454.675u - 197.166 \\ -0.598651u^{80} + 0.876596u^{79} + \cdots + 726.974u + 312.510 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.57477u^{80} + 2.25832u^{79} + \cdots + 1490.53u + 646.531$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{81} + 36u^{80} + \cdots + 29u + 1$
c_2, c_4	$u^{81} - 10u^{80} + \cdots - 13u + 1$
c_3, c_7	$u^{81} - 2u^{80} + \cdots + 128u + 256$
c_5	$17(17u^{81} - 14u^{80} + \cdots - 259698u + 23437)$
c_6, c_9	$u^{81} - 3u^{80} + \cdots + 3u - 1$
c_8	$17(17u^{81} - 148u^{80} + \cdots - 626508u - 174339)$
c_{10}, c_{12}	$u^{81} - 7u^{80} + \cdots + 339u - 289$
c_{11}	$u^{81} - 2u^{80} + \cdots - 32096u + 9248$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{81} + 28y^{80} + \cdots + 6913y - 1$
c_2, c_4	$y^{81} - 36y^{80} + \cdots + 29y - 1$
c_3, c_7	$y^{81} - 48y^{80} + \cdots + 2080768y - 65536$
c_5	$289(289y^{81} + 19082y^{80} + \cdots - 6.59115 \times 10^{9}y - 5.49293 \times 10^{8})$
c_6, c_9	$y^{81} + 45y^{80} + \cdots + 5y - 1$
c_8	$289(289y^{81} - 4428y^{80} + \cdots - 1.69694 \times 10^{11}y - 3.03941 \times 10^{10})$
c_{10}, c_{12}	$y^{81} - 43y^{80} + \cdots + 4014687y - 83521$
c_{11}	$y^{81} + 30y^{80} + \cdots - 1164952064y - 85525504$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.917288 + 0.136182I$ $a = -1.80406 - 1.65669I$ $b = 0.466096 + 1.065420I$	$1.75099 - 2.26560I$	0
$u = 0.917288 - 0.136182I$ $a = -1.80406 + 1.65669I$ $b = 0.466096 - 1.065420I$	$1.75099 + 2.26560I$	0
$u = 0.120668 + 1.075100I$ $a = 0.110583 - 0.334996I$ $b = -0.63907 - 1.32827I$	$3.50365 - 4.45577I$	0
$u = 0.120668 - 1.075100I$ $a = 0.110583 + 0.334996I$ $b = -0.63907 + 1.32827I$	$3.50365 + 4.45577I$	0
$u = -1.065120 + 0.201662I$ $a = 0.13685 - 1.63080I$ $b = 0.90356 + 1.59497I$	$-0.801342 - 0.587804I$	0
$u = -1.065120 - 0.201662I$ $a = 0.13685 + 1.63080I$ $b = 0.90356 - 1.59497I$	$-0.801342 + 0.587804I$	0
$u = 1.102270 + 0.086046I$ $a = 0.731098 + 0.138738I$ $b = -1.77507 + 0.10621I$	$2.29933 + 2.90155I$	0
$u = 1.102270 - 0.086046I$ $a = 0.731098 - 0.138738I$ $b = -1.77507 - 0.10621I$	$2.29933 - 2.90155I$	0
$u = 0.377849 + 1.055930I$ $a = -0.042987 + 0.341087I$ $b = -0.154093 + 1.058040I$	$2.93287 - 0.15502I$	0
$u = 0.377849 - 1.055930I$ $a = -0.042987 - 0.341087I$ $b = -0.154093 - 1.058040I$	$2.93287 + 0.15502I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.124380 + 0.061386I$ $a = 0.045693 - 0.667032I$ $b = 1.263870 + 0.473188I$	$0.245536 - 0.603566I$	0
$u = -1.124380 - 0.061386I$ $a = 0.045693 + 0.667032I$ $b = 1.263870 - 0.473188I$	$0.245536 + 0.603566I$	0
$u = 1.109070 + 0.299410I$ $a = -0.44786 - 1.55704I$ $b = 0.27630 + 1.76877I$	$-1.06769 + 4.07791I$	0
$u = 1.109070 - 0.299410I$ $a = -0.44786 + 1.55704I$ $b = 0.27630 - 1.76877I$	$-1.06769 - 4.07791I$	0
$u = -0.304908 + 0.772829I$ $a = 1.70493 - 1.90308I$ $b = 1.263410 + 0.370125I$	$-1.76648 + 3.44608I$	$-11.81203 - 6.71131I$
$u = -0.304908 - 0.772829I$ $a = 1.70493 + 1.90308I$ $b = 1.263410 - 0.370125I$	$-1.76648 - 3.44608I$	$-11.81203 + 6.71131I$
$u = 0.037140 + 0.801194I$ $a = 0.424195 + 0.072722I$ $b = 0.321351 - 0.451413I$	$-0.644523 + 1.154210I$	$-7.22358 - 5.30161I$
$u = 0.037140 - 0.801194I$ $a = 0.424195 - 0.072722I$ $b = 0.321351 + 0.451413I$	$-0.644523 - 1.154210I$	$-7.22358 + 5.30161I$
$u = 1.181860 + 0.365384I$ $a = -0.322573 - 0.695076I$ $b = 1.16061 + 1.01997I$	$-0.44702 + 4.44359I$	0
$u = 1.181860 - 0.365384I$ $a = -0.322573 + 0.695076I$ $b = 1.16061 - 1.01997I$	$-0.44702 - 4.44359I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.305807 + 1.214000I$ $a = 0.138866 + 0.073449I$ $b = -0.076313 - 0.714540I$	$-1.00073 + 1.10337I$	0
$u = 0.305807 - 1.214000I$ $a = 0.138866 - 0.073449I$ $b = -0.076313 + 0.714540I$	$-1.00073 - 1.10337I$	0
$u = 1.259720 + 0.183479I$ $a = 0.42270 - 1.68355I$ $b = -0.647775 + 1.125350I$	$-0.57249 + 7.40525I$	0
$u = 1.259720 - 0.183479I$ $a = 0.42270 + 1.68355I$ $b = -0.647775 - 1.125350I$	$-0.57249 - 7.40525I$	0
$u = 1.271440 + 0.091622I$ $a = -1.26707 + 0.81502I$ $b = -0.635645 + 0.052930I$	$3.70065 + 2.46096I$	0
$u = 1.271440 - 0.091622I$ $a = -1.26707 - 0.81502I$ $b = -0.635645 - 0.052930I$	$3.70065 - 2.46096I$	0
$u = -1.207870 + 0.444621I$ $a = 0.756760 + 0.229343I$ $b = -2.00837 + 0.41189I$	$1.14509 - 8.06770I$	0
$u = -1.207870 - 0.444621I$ $a = 0.756760 - 0.229343I$ $b = -2.00837 - 0.41189I$	$1.14509 + 8.06770I$	0
$u = -0.031998 + 0.705333I$ $a = 2.25763 + 3.03351I$ $b = 0.595287 - 0.236308I$	$-0.856013 - 0.572838I$	$-9.77883 - 6.76958I$
$u = -0.031998 - 0.705333I$ $a = 2.25763 - 3.03351I$ $b = 0.595287 + 0.236308I$	$-0.856013 + 0.572838I$	$-9.77883 + 6.76958I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.254380 + 0.379088I$ $a = 0.073419 - 0.993964I$ $b = 0.322122 + 0.778979I$	$-3.62852 - 1.44404I$	0
$u = -1.254380 - 0.379088I$ $a = 0.073419 + 0.993964I$ $b = 0.322122 - 0.778979I$	$-3.62852 + 1.44404I$	0
$u = -1.290060 + 0.297853I$ $a = -2.40362 + 0.15222I$ $b = -0.496430 + 0.171022I$	$3.27537 - 3.11183I$	0
$u = -1.290060 - 0.297853I$ $a = -2.40362 - 0.15222I$ $b = -0.496430 - 0.171022I$	$3.27537 + 3.11183I$	0
$u = -0.430170 + 1.261980I$ $a = 0.0208238 - 0.0730675I$ $b = 0.075154 + 0.342675I$	$-7.39266 - 4.46618I$	0
$u = -0.430170 - 1.261980I$ $a = 0.0208238 + 0.0730675I$ $b = 0.075154 - 0.342675I$	$-7.39266 + 4.46618I$	0
$u = 0.003874 + 1.341760I$ $a = -0.051217 + 0.133529I$ $b = 0.462332 - 1.087250I$	$1.57086 + 4.63500I$	0
$u = 0.003874 - 1.341760I$ $a = -0.051217 - 0.133529I$ $b = 0.462332 + 1.087250I$	$1.57086 - 4.63500I$	0
$u = 0.359544 + 1.313050I$ $a = -0.0563961 - 0.1200560I$ $b = 0.74899 + 1.24410I$	$0.87722 - 10.39950I$	0
$u = 0.359544 - 1.313050I$ $a = -0.0563961 + 0.1200560I$ $b = 0.74899 - 1.24410I$	$0.87722 + 10.39950I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.384620 + 0.499680I$ $a = -3.36808 - 2.21393I$ $b = -0.093782 + 0.930633I$	$-3.35669 - 0.78678I$	$-13.41061 - 2.25803I$
$u = 0.384620 - 0.499680I$ $a = -3.36808 + 2.21393I$ $b = -0.093782 - 0.930633I$	$-3.35669 + 0.78678I$	$-13.41061 + 2.25803I$
$u = 0.264306 + 0.568630I$ $a = -3.33735 - 2.02034I$ $b = -0.391309 + 0.555476I$	$-3.28994 - 0.66311I$	$-15.7713 - 6.3444I$
$u = 0.264306 - 0.568630I$ $a = -3.33735 + 2.02034I$ $b = -0.391309 - 0.555476I$	$-3.28994 + 0.66311I$	$-15.7713 + 6.3444I$
$u = -0.470622 + 1.297750I$ $a = 0.1152940 - 0.0121795I$ $b = -0.480849 + 0.922837I$	$-2.44609 + 4.54883I$	0
$u = -0.470622 - 1.297750I$ $a = 0.1152940 + 0.0121795I$ $b = -0.480849 - 0.922837I$	$-2.44609 - 4.54883I$	0
$u = -0.563976 + 0.252821I$ $a = 3.87049 - 0.67399I$ $b = -0.924450 + 0.521315I$	$-2.51389 - 1.66198I$	$-7.48365 + 7.67369I$
$u = -0.563976 - 0.252821I$ $a = 3.87049 + 0.67399I$ $b = -0.924450 - 0.521315I$	$-2.51389 + 1.66198I$	$-7.48365 - 7.67369I$
$u = -1.314700 + 0.516481I$ $a = -0.700496 + 0.794611I$ $b = -0.170363 - 1.259370I$	$7.93642 - 0.74689I$	0
$u = -1.314700 - 0.516481I$ $a = -0.700496 - 0.794611I$ $b = -0.170363 + 1.259370I$	$7.93642 + 0.74689I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.41962+0.28061I$ $a=-0.08835-1.53474I$ $b=\ \ 0.68305+1.74784I$	$9.06005-4.28051I$	0
$u=-1.41962-0.28061I$ $a=-0.08835+1.53474I$ $b=\ \ 0.68305-1.74784I$	$9.06005+4.28051I$	0
$u=\ \ 0.536208+0.020154I$ $a=\ \ 0.381909+0.660403I$ $b=-0.990257+0.466409I$	$1.74024+2.57808I$	$-1.64614-3.99127I$
$u=\ \ 0.536208-0.020154I$ $a=\ \ 0.381909-0.660403I$ $b=-0.990257-0.466409I$	$1.74024-2.57808I$	$-1.64614+3.99127I$
$u=\ \ 1.26179+0.74689I$ $a=-0.568701-0.625869I$ $b=-0.446841+1.027050I$	$5.50142+6.66477I$	0
$u=\ \ 1.26179-0.74689I$ $a=-0.568701+0.625869I$ $b=-0.446841-1.027050I$	$5.50142-6.66477I$	0
$u=\ \ 1.45648+0.17045I$ $a=-0.014130-1.109200I$ $b=-0.486362+1.176390I$	$5.13729+0.14448I$	0
$u=\ \ 1.45648-0.17045I$ $a=-0.014130+1.109200I$ $b=-0.486362-1.176390I$	$5.13729-0.14448I$	0
$u=-1.38541+0.48962I$ $a=-0.222539+1.164460I$ $b=-0.863918-1.085180I$	$3.90532-6.32227I$	0
$u=-1.38541-0.48962I$ $a=-0.222539-1.164460I$ $b=-0.863918+1.085180I$	$3.90532+6.32227I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.36979 + 0.56225I$ $a = 0.32140 + 1.55951I$ $b = 1.00900 - 1.78065I$	$7.48247 + 10.42400I$	0
$u = 1.36979 - 0.56225I$ $a = 0.32140 - 1.55951I$ $b = 1.00900 + 1.78065I$	$7.48247 - 10.42400I$	0
$u = 0.510766 + 0.040571I$ $a = -0.0448621 - 0.1105510I$ $b = 1.130170 + 0.637260I$	$-3.66273 - 6.35091I$	$0.98592 + 2.27880I$
$u = 0.510766 - 0.040571I$ $a = -0.0448621 + 0.1105510I$ $b = 1.130170 - 0.637260I$	$-3.66273 + 6.35091I$	$0.98592 - 2.27880I$
$u = -0.488226$ $a = 0.0864842$ $b = -1.20413$	-7.82560	-1.06680
$u = -0.460537$ $a = 2.90679$ $b = -0.378026$	-2.10956	0.570870
$u = 1.43085 + 0.59706I$ $a = 0.225520 + 1.054550I$ $b = 0.617156 - 1.185330I$	$2.95577 + 5.59636I$	0
$u = 1.43085 - 0.59706I$ $a = 0.225520 - 1.054550I$ $b = 0.617156 + 1.185330I$	$2.95577 - 5.59636I$	0
$u = -1.34748 + 0.77249I$ $a = 0.341891 - 1.108690I$ $b = 0.88792 + 1.14316I$	$0.44420 - 11.92600I$	0
$u = -1.34748 - 0.77249I$ $a = 0.341891 + 1.108690I$ $b = 0.88792 - 1.14316I$	$0.44420 + 11.92600I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.37337 + 0.74737I$ $a = -0.47636 - 1.44039I$ $b = -1.00899 + 1.43140I$	$4.1305 + 17.6948I$	0
$u = 1.37337 - 0.74737I$ $a = -0.47636 + 1.44039I$ $b = -1.00899 - 1.43140I$	$4.1305 - 17.6948I$	0
$u = -1.47814 + 0.54713I$ $a = -0.19095 + 1.42666I$ $b = -0.82247 - 1.43998I$	$6.48435 - 11.27690I$	0
$u = -1.47814 - 0.54713I$ $a = -0.19095 - 1.42666I$ $b = -0.82247 + 1.43998I$	$6.48435 + 11.27690I$	0
$u = 1.52599 + 0.50100I$ $a = 0.477540 + 0.885654I$ $b = 0.108340 - 1.030180I$	$6.76050 + 2.10600I$	0
$u = 1.52599 - 0.50100I$ $a = 0.477540 - 0.885654I$ $b = 0.108340 + 1.030180I$	$6.76050 - 2.10600I$	0
$u = -1.60879 + 0.22946I$ $a = 0.417558 - 1.009620I$ $b = -0.125923 + 1.213300I$	$8.03820 + 4.62100I$	0
$u = -1.60879 - 0.22946I$ $a = 0.417558 + 1.009620I$ $b = -0.125923 - 1.213300I$	$8.03820 - 4.62100I$	0
$u = -0.218066 + 0.304864I$ $a = 0.49252 + 3.66787I$ $b = 0.425595 - 0.658071I$	$-0.977641 - 0.985323I$	$-3.19724 - 0.04207I$
$u = -0.218066 - 0.304864I$ $a = 0.49252 - 3.66787I$ $b = 0.425595 + 0.658071I$	$-0.977641 + 0.985323I$	$-3.19724 + 0.04207I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.341255$ $a = 1.06309$ $b = 0.618121$	-0.986770	-9.94130

II. $\boldsymbol{I_2^u = \langle b,\ -9u^4 + 4u^3 - 3u^2 + 17a + 18u - 1,\ u^5 + u^4 + 2u^3 + u^2 + u + 1\rangle}$

(i) Arc colorings

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

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

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

$$a_{12} = \begin{pmatrix} 0.529412u^4 - 0.235294u^3 + \cdots - 1.05882u + 0.0588235 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.131488u^4 - 0.463668u^3 + \cdots - 0.910035u + 1.14533 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0622837u^4 + 0.148789u^3 + \cdots + 0.463668u + 1.59516 \\ -u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.529412u^4 - 0.235294u^3 + \cdots - 1.05882u + 0.0588235 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^4 - u^2 - 1 \\ -u^4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^4 - u^2 - 1 \\ -u^4 + u^3 + u^2 + 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.52941u^4 - 0.235294u^3 + \cdots - 1.05882u + 1.05882 \\ u^4 - u^3 - u^2 - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{1429}{289}u^4 - \frac{3783}{289}u^3 - \frac{1128}{289}u^2 - \frac{3092}{289}u - \frac{5595}{289}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 - 5u^4 + 8u^3 - 3u^2 - u - 1$
c_2	$u^5 + u^4 - 2u^3 - u^2 + u - 1$
c_3	$u^5 - u^4 + 2u^3 - u^2 + u - 1$
c_4	$u^5 - u^4 - 2u^3 + u^2 + u + 1$
c_5	$17(17u^5 + 32u^4 + 18u^3 - u^2 - 4u - 1)$
c_6	$u^5 - 3u^4 + 4u^3 - u^2 - u + 1$
c_7	$u^5 + u^4 + 2u^3 + u^2 + u + 1$
c_8	$17(17u^5 - 42u^4 + 43u^3 - 22u^2 + 6u - 1)$
c_9	$u^5 + 3u^4 + 4u^3 + u^2 - u - 1$
c_{10}	$(u - 1)^5$
c_{11}	u^5
c_{12}	$(u + 1)^5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_2, c_4	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_3, c_7	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_5	$289(289y^5 - 412y^4 + 252y^3 - 81y^2 + 14y - 1)$
c_6, c_9	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_8	$289(289y^5 - 302y^4 + 205y^3 - 52y^2 - 8y - 1)$
c_{10}, c_{12}	$(y - 1)^5$
c_{11}	y^5

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.339110 + 0.822375I$ $a = -0.244471 - 1.039700I$ $b = 0$	$-1.97403 + 1.53058I$	$-12.32109 - 4.31295I$
$u = 0.339110 - 0.822375I$ $a = -0.244471 + 1.039700I$ $b = 0$	$-1.97403 - 1.53058I$	$-12.32109 + 4.31295I$
$u = -0.766826$ $a = 1.26368$ $b = 0$	-4.04602	-9.25800
$u = -0.455697 + 1.200150I$ $a = 0.053809 + 0.194708I$ $b = 0$	$-7.51750 - 4.40083I$	$-35.8077 - 9.0642I$
$u = -0.455697 - 1.200150I$ $a = 0.053809 - 0.194708I$ $b = 0$	$-7.51750 + 4.40083I$	$-35.8077 + 9.0642I$

III. $I_1^v = \langle a,\ -941v^7 - 2551v^6 + \cdots + 887b + 1842,\ v^8 + 2v^7 - 8v^5 - 13v^4 + 28v^3 - 7v^2 - 3v + 1\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ 1.06088v^7 + 2.87599v^6 + \cdots + 4.72604v - 2.07666 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 1.62683v^7 + 3.57497v^6 + \cdots + 1.17926v - 3.82638 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1.62683v^7 - 3.57497v^6 + \cdots - 1.17926v + 4.82638 \\ -2.38219v^7 - 5.33258v^6 + \cdots + 1.21984v + 6.70349 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1.06088v^7 + 2.87599v^6 + \cdots + 4.72604v - 2.07666 \\ 1.06088v^7 + 2.87599v^6 + \cdots + 4.72604v - 2.07666 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.244645v^7 - 0.242390v^6 + \cdots + 4.60090v + 1.12289 \\ -v^7 - 2v^6 + 8v^4 + 13v^3 - 28v^2 + 7v + 3 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.244645v^7 + 0.242390v^6 + \cdots - 3.60090v - 1.12289 \\ v^7 + 2v^6 - 8v^4 - 13v^3 + 28v^2 - 7v - 3 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.244645v^7 + 0.242390v^6 + \cdots - 4.60090v - 1.12289 \\ v^7 + 2v^6 - 8v^4 - 13v^3 + 28v^2 - 7v - 3 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.755355v^7 + 1.75761v^6 + \cdots - 2.39910v - 1.87711 \\ v^7 + 2v^6 - 8v^4 - 13v^3 + 28v^2 - 7v - 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= \frac{7569}{887}v^7 + \frac{17105}{887}v^6 + \frac{3122}{887}v^5 - \frac{63760}{887}v^4 - \frac{119185}{887}v^3 + \frac{185558}{887}v^2 + \frac{17829}{887}v - \frac{42646}{887}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^8$
c_3, c_7	u^8
c_4	$(u+1)^8$
c_5, c_{10}	$u^8 + u^7 - 3u^6 - 2u^5 + 3u^4 + 2u - 1$
c_6	$u^8 - 3u^7 + 7u^6 - 10u^5 + 11u^4 - 10u^3 + 6u^2 - 4u + 1$
c_8	$u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1$
c_9	$u^8 + 3u^7 + 7u^6 + 10u^5 + 11u^4 + 10u^3 + 6u^2 + 4u + 1$
c_{11}	$u^8 + u^7 - u^6 - 2u^5 + u^4 + 2u^3 - 2u - 1$
c_{12}	$u^8 - u^7 - 3u^6 + 2u^5 + 3u^4 - 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^8$
c_3, c_7	y^8
c_5, c_{10}, c_{12}	$y^8 - 7y^7 + 19y^6 - 22y^5 + 3y^4 + 14y^3 - 6y^2 - 4y + 1$
c_6, c_9	$y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1$
c_8, c_{11}	$y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 1.230330 + 0.083902I$ $a = 0$ $b = -0.855237 + 0.665892I$	$0.51448 + 2.57849I$	$-10.43522 - 3.68514I$
$v = 1.230330 - 0.083902I$ $a = 0$ $b = -0.855237 - 0.665892I$	$0.51448 - 2.57849I$	$-10.43522 + 3.68514I$
$v = 0.370895 + 0.073482I$ $a = 0$ $b = 1.031810 + 0.655470I$	$-4.02461 - 6.44354I$	$-20.0271 + 7.9066I$
$v = 0.370895 - 0.073482I$ $a = 0$ $b = 1.031810 - 0.655470I$	$-4.02461 + 6.44354I$	$-20.0271 - 7.9066I$
$v = -0.337834$ $a = 0$ $b = -1.09818$	-8.14766	-26.7400
$v = -1.21928 + 2.03110I$ $a = 0$ $b = 0.570868 + 0.730671I$	$-2.68559 + 1.13123I$	$-8.69271 + 4.28492I$
$v = -1.21928 - 2.03110I$ $a = 0$ $b = 0.570868 - 0.730671I$	$-2.68559 - 1.13123I$	$-8.69271 - 4.28492I$
$v = -2.42604$ $a = 0$ $b = 0.603304$	-2.48997	-21.9500

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^8)(u^5-5u^4+\cdots-u-1)(u^{81}+36u^{80}+\cdots+29u+1)$
c_2	$((u-1)^8)(u^5+u^4+\cdots+u-1)(u^{81}-10u^{80}+\cdots-13u+1)$
c_3	$u^8(u^5-u^4+\cdots+u-1)(u^{81}-2u^{80}+\cdots+128u+256)$
c_4	$((u+1)^8)(u^5-u^4+\cdots+u+1)(u^{81}-10u^{80}+\cdots-13u+1)$
c_5	$289(17u^5+32u^4+18u^3-u^2-4u-1)$ $\cdot(u^8+u^7-3u^6-2u^5+3u^4+2u-1)$ $\cdot(17u^{81}-14u^{80}+\cdots-259698u+23437)$
c_6	$(u^5-3u^4+4u^3-u^2-u+1)$ $\cdot(u^8-3u^7+7u^6-10u^5+11u^4-10u^3+6u^2-4u+1)$ $\cdot(u^{81}-3u^{80}+\cdots+3u-1)$
c_7	$u^8(u^5+u^4+\cdots+u+1)(u^{81}-2u^{80}+\cdots+128u+256)$
c_8	$289(17u^5-42u^4+43u^3-22u^2+6u-1)$ $\cdot(u^8-u^7-u^6+2u^5+u^4-2u^3+2u-1)$ $\cdot(17u^{81}-148u^{80}+\cdots-626508u-174339)$
c_9	$(u^5+3u^4+4u^3+u^2-u-1)$ $\cdot(u^8+3u^7+7u^6+10u^5+11u^4+10u^3+6u^2+4u+1)$ $\cdot(u^{81}-3u^{80}+\cdots+3u-1)$
c_{10}	$(u-1)^5(u^8+u^7-3u^6-2u^5+3u^4+2u-1)$ $\cdot(u^{81}-7u^{80}+\cdots+339u-289)$
c_{11}	$u^5(u^8+u^7-u^6-2u^5+u^4+2u^3-2u-1)$ $\cdot(u^{81}-2u^{80}+\cdots-32096u+9248)$
c_{12}	$(u+1)^5(u^8-u^7-3u^6+2u^5+3u^4-2u-1)$ $\cdot(u^{81}-7u^{80}+\cdots+339u-289)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^8(y^5-9y^4+32y^3-35y^2-5y-1)$ $\cdot(y^{81}+28y^{80}+\cdots+6913y-1)$
c_2, c_4	$((y-1)^8)(y^5-5y^4+\cdots-y-1)(y^{81}-36y^{80}+\cdots+29y-1)$
c_3, c_7	$y^8(y^5+3y^4+\cdots-y-1)(y^{81}-48y^{80}+\cdots+2080768y-65536)$
c_5	$83521(289y^5-412y^4+252y^3-81y^2+14y-1)$ $\cdot(y^8-7y^7+19y^6-22y^5+3y^4+14y^3-6y^2-4y+1)$ $\cdot(289y^{81}+19082y^{80}+\cdots-6591150616y-549292969)$
c_6, c_9	$(y^5-y^4+8y^3-3y^2+3y-1)$ $\cdot(y^8+5y^7+11y^6+6y^5-17y^4-34y^3-22y^2-4y+1)$ $\cdot(y^{81}+45y^{80}+\cdots+5y-1)$
c_8	$83521(289y^5-302y^4+205y^3-52y^2-8y-1)$ $\cdot(y^8-3y^7+7y^6-10y^5+11y^4-10y^3+6y^2-4y+1)$ $\cdot(289y^{81}-4428y^{80}+\cdots-169694389746y-30394086921)$
c_{10}, c_{12}	$(y-1)^5(y^8-7y^7+19y^6-22y^5+3y^4+14y^3-6y^2-4y+1)$ $\cdot(y^{81}-43y^{80}+\cdots+4014687y-83521)$
c_{11}	$y^5(y^8-3y^7+7y^6-10y^5+11y^4-10y^3+6y^2-4y+1)$ $\cdot(y^{81}+30y^{80}+\cdots-1164952064y-85525504)$