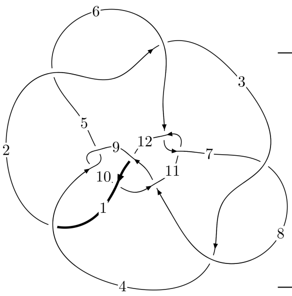
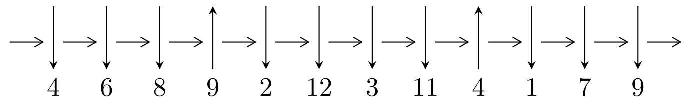
$12n_{0753}$ $(K12n_{0753})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-1.36970 \times 10^{192} u^{71} + 1.13541 \times 10^{192} u^{70} + \cdots + 8.77978 \times 10^{191} b - 2.52244 \times 10^{193},\\
&- 2.76575 \times 10^{194} u^{71} + 7.05669 \times 10^{194} u^{70} + \cdots + 6.36534 \times 10^{194} a - 1.06301 \times 10^{196},\\
&2u^{72} - 3u^{71} + \cdots - 314u - 29\rangle\\
I_2^u = \langle &1624226u^{15} + 189101u^{14} + \cdots + 2048967b - 3069244,\\
&1675780u^{15} - 2140649u^{14} + \cdots + 2048967a + 298066,\ u^{16} - u^{15} + \cdots - u + 1\rangle\\
I_3^u = \langle &b + a + 2,\ a^2 + 3a + 3,\ u + 1\rangle\\
I_4^u = \langle &b - 1,\ a,\ u + 1\rangle\\
I_5^u = \langle &b - 1,\ a - 3,\ 2u - 1\rangle
\end{aligned}$$

* 5 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. $\boldsymbol{I_1^u = \langle -1.37 \times 10^{192} u^{71} + 1.14 \times 10^{192} u^{70} + \cdots + 8.78 \times 10^{191} b - 2.52 \times 10^{193},\ -2.77 \times 10^{194} u^{71} + 7.06 \times 10^{194} u^{70} + \cdots + 6.37 \times 10^{194} a - 1.06 \times 10^{196},\ 2u^{72} - 3u^{71} + \cdots - 314u - 29 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.434501u^{71} - 1.10861u^{70} + \cdots + 347.297u + 16.7000 \\ 1.56006u^{71} - 1.29321u^{70} + \cdots + 356.879u + 28.7301 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.0355412u^{71} + 0.176136u^{70} + \cdots - 11.6952u - 6.02177 \\ 3.01683u^{71} - 1.28760u^{70} + \cdots + 385.689u + 33.1010 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.01568u^{71} - 0.393073u^{70} + \cdots + 193.878u + 14.0114 \\ -2.66963u^{71} + 1.21209u^{70} + \cdots - 462.369u - 40.0424 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1.45544u^{71} + 1.03210u^{70} + \cdots - 279.270u - 26.0870 \\ -2.04836u^{71} + 1.02912u^{70} + \cdots - 383.249u - 33.0258 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1.33808u^{71} - 0.482894u^{70} + \cdots + 103.747u + 5.16521 \\ 0.454400u^{71} + 0.395730u^{70} + \cdots - 29.3983u - 1.94875 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1.99456u^{71} - 2.40182u^{70} + \cdots + 704.175u + 45.4301 \\ 1.56006u^{71} - 1.29321u^{70} + \cdots + 356.879u + 28.7301 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1.11558u^{71} + 1.08287u^{70} + \cdots - 292.574u - 16.4833 \\ 0.445103u^{71} - 0.585548u^{70} + \cdots + 202.903u + 17.1718 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -2.49602u^{71} + 1.67951u^{70} + \cdots - 453.851u - 30.5168 \\ 0.204348u^{71} - 0.282806u^{70} + \cdots + 112.741u + 9.83185 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -10.8009u^{71} + 8.28607u^{70} + \cdots - 2650.54u - 220.978$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$2(2u^{72} - 7u^{71} + \cdots + 3152u + 248)$
c_2, c_5	$u^{72} + 2u^{71} + \cdots + 3215u + 491$
c_3, c_7	$2(2u^{72} - 3u^{71} + \cdots - 314u - 29)$
c_4, c_9	$2(2u^{72} + 3u^{71} + \cdots - 3289u + 373)$
c_6, c_{11}	$u^{72} + 2u^{71} + \cdots - 32u - 13$
c_8	$u^{72} - 9u^{71} + \cdots - 34u - 16$
c_{10}	$u^{72} - u^{71} + \cdots - 868u + 172$
c_{12}	$4(4u^{72} + 7u^{71} + \cdots + 3105391u - 546509)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$4(4y^{72} + 315y^{71} + \cdots + 1.07828 \times 10^7 y + 61504)$
c_2, c_5	$y^{72} - 34y^{71} + \cdots - 7263547y + 241081$
c_3, c_7	$4(4y^{72} - 149y^{71} + \cdots - 158162y + 841)$
c_4, c_9	$4(4y^{72} - 273y^{71} + \cdots - 1.06512 \times 10^7 y + 139129)$
c_6, c_{11}	$y^{72} + 40y^{71} + \cdots + 1758y + 169$
c_8	$y^{72} + 13y^{71} + \cdots - 21636y + 256$
c_{10}	$y^{72} + 71y^{71} + \cdots + 1106584y + 29584$
c_{12}	$16(16y^{72} + 383y^{71} + \cdots - 2.25832 \times 10^{13} y + 2.98672 \times 10^{11})$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.503006 + 0.831688I$ $a = -0.259579 + 1.246850I$ $b = 0.058808 - 1.112600I$	$3.45543 - 1.25801I$	0
$u = 0.503006 - 0.831688I$ $a = -0.259579 - 1.246850I$ $b = 0.058808 + 1.112600I$	$3.45543 + 1.25801I$	0
$u = -1.041580 + 0.024317I$ $a = 1.23868 - 0.87697I$ $b = 0.394506 + 1.005270I$	$-2.31888 + 0.24644I$	0
$u = -1.041580 - 0.024317I$ $a = 1.23868 + 0.87697I$ $b = 0.394506 - 1.005270I$	$-2.31888 - 0.24644I$	0
$u = -0.815728 + 0.487376I$ $a = -1.208560 - 0.387306I$ $b = 0.117552 + 0.652833I$	$-1.33286 - 0.50784I$	0
$u = -0.815728 - 0.487376I$ $a = -1.208560 + 0.387306I$ $b = 0.117552 - 0.652833I$	$-1.33286 + 0.50784I$	0
$u = -0.728632 + 0.606808I$ $a = 1.05815 + 1.44602I$ $b = 0.832891 - 1.079930I$	$6.64396 + 5.86161I$	0
$u = -0.728632 - 0.606808I$ $a = 1.05815 - 1.44602I$ $b = 0.832891 + 1.079930I$	$6.64396 - 5.86161I$	0
$u = 0.882988 + 0.321194I$ $a = 0.989354 - 0.026371I$ $b = 0.554950 + 1.267330I$	$7.66910 + 0.75809I$	0
$u = 0.882988 - 0.321194I$ $a = 0.989354 + 0.026371I$ $b = 0.554950 - 1.267330I$	$7.66910 - 0.75809I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.907468 + 0.164522I$ $a = 1.83157 - 1.23603I$ $b = 0.368044 + 0.713795I$	$-2.88359 - 0.80432I$	$0. + 8.12297I$
$u = 0.907468 - 0.164522I$ $a = 1.83157 + 1.23603I$ $b = 0.368044 - 0.713795I$	$-2.88359 + 0.80432I$	$0. - 8.12297I$
$u = 0.895691 + 0.175371I$ $a = -0.042597 - 1.012350I$ $b = -0.31696 + 1.83412I$	$7.94630 - 2.89493I$	$-8.00000 + 0.I$
$u = 0.895691 - 0.175371I$ $a = -0.042597 + 1.012350I$ $b = -0.31696 - 1.83412I$	$7.94630 + 2.89493I$	$-8.00000 + 0.I$
$u = 0.092924 + 1.093780I$ $a = -0.61636 - 1.43773I$ $b = 0.263182 + 1.078450I$	$0.22901 - 1.56376I$	0
$u = 0.092924 - 1.093780I$ $a = -0.61636 + 1.43773I$ $b = 0.263182 - 1.078450I$	$0.22901 + 1.56376I$	0
$u = -1.072600 + 0.291310I$ $a = 0.186386 - 0.014835I$ $b = 1.228110 + 0.658249I$	$-3.76116 + 2.21241I$	0
$u = -1.072600 - 0.291310I$ $a = 0.186386 + 0.014835I$ $b = 1.228110 - 0.658249I$	$-3.76116 - 2.21241I$	0
$u = -0.225907 + 0.857311I$ $a = 0.29618 - 1.73173I$ $b = 0.175849 + 1.362810I$	$11.23550 - 2.92648I$	0
$u = -0.225907 - 0.857311I$ $a = 0.29618 + 1.73173I$ $b = 0.175849 - 1.362810I$	$11.23550 + 2.92648I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.898595+0.693854I$ $a=\ \ 0.495800+0.631045I$ $b=-0.623277-1.241630I$	$6.17897-0.78005I$	0
$u=-0.898595-0.693854I$ $a=\ \ 0.495800-0.631045I$ $b=-0.623277+1.241630I$	$6.17897+0.78005I$	0
$u=-0.851572+0.098574I$ $a=-0.44810-2.02667I$ $b=-0.307315+1.330400I$	$-0.33014+2.90561I$	$-12.38642-2.35566I$
$u=-0.851572-0.098574I$ $a=-0.44810+2.02667I$ $b=-0.307315-1.330400I$	$-0.33014-2.90561I$	$-12.38642+2.35566I$
$u=\ \ 0.425042+0.726403I$ $a=-0.375790+0.136052I$ $b=\ \ 0.749628-0.466090I$	$5.42275-0.09793I$	$-5.98952+0.I$
$u=\ \ 0.425042-0.726403I$ $a=-0.375790-0.136052I$ $b=\ \ 0.749628+0.466090I$	$5.42275+0.09793I$	$-5.98952+0.I$
$u=\ \ 1.146890+0.239896I$ $a=-1.34749+1.59261I$ $b=-0.446655-1.147350I$	$2.40983-6.94246I$	0
$u=\ \ 1.146890-0.239896I$ $a=-1.34749-1.59261I$ $b=-0.446655+1.147350I$	$2.40983+6.94246I$	0
$u=\ \ 0.169569+0.808248I$ $a=\ \ 0.473104-1.295420I$ $b=-0.444943+1.156660I$	$1.56234+4.15508I$	$-3.60189-5.54738I$
$u=\ \ 0.169569-0.808248I$ $a=\ \ 0.473104+1.295420I$ $b=-0.444943-1.156660I$	$1.56234-4.15508I$	$-3.60189+5.54738I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.071170 + 0.491622I$ $a = -0.926908 + 0.936678I$ $b = -0.454134 - 1.102540I$	$1.52629 - 3.66253I$	0
$u = 1.071170 - 0.491622I$ $a = -0.926908 - 0.936678I$ $b = -0.454134 + 1.102540I$	$1.52629 + 3.66253I$	0
$u = 1.002430 + 0.646161I$ $a = -0.621070 + 1.079490I$ $b = -0.772604 - 0.519623I$	$3.91147 - 4.95776I$	0
$u = 1.002430 - 0.646161I$ $a = -0.621070 - 1.079490I$ $b = -0.772604 + 0.519623I$	$3.91147 + 4.95776I$	0
$u = -0.798501$ $a = -0.785864$ $b = -0.447077$	-1.17921	-8.47920
$u = 1.202480 + 0.283076I$ $a = 0.138975 - 0.079543I$ $b = -1.153200 + 0.368484I$	$-6.45016 - 1.40130I$	0
$u = 1.202480 - 0.283076I$ $a = 0.138975 + 0.079543I$ $b = -1.153200 - 0.368484I$	$-6.45016 + 1.40130I$	0
$u = -1.235190 + 0.143374I$ $a = 0.617261 - 0.416546I$ $b = 0.447349 - 0.814159I$	$-2.50871 + 2.84294I$	0
$u = -1.235190 - 0.143374I$ $a = 0.617261 + 0.416546I$ $b = 0.447349 + 0.814159I$	$-2.50871 - 2.84294I$	0
$u = -1.244310 + 0.423740I$ $a = 0.0054853 - 0.0913034I$ $b = -1.309550 - 0.242884I$	$0.98123 + 9.65251I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.244310-0.423740I$ $a=\ \ 0.0054853+0.0913034I$ $b=-1.309550+0.242884I$	$0.98123-9.65251I$	0
$u=-1.233970+0.484514I$ $a=-1.36969-0.62929I$ $b=-0.365240+1.167500I$	$8.05277+7.84555I$	0
$u=-1.233970-0.484514I$ $a=-1.36969+0.62929I$ $b=-0.365240-1.167500I$	$8.05277-7.84555I$	0
$u=\ \ 1.314710+0.242671I$ $a=\ \ 1.134490+0.342556I$ $b=\ \ 0.114449+0.782911I$	$-3.79390-2.56082I$	0
$u=\ \ 1.314710-0.242671I$ $a=\ \ 1.134490-0.342556I$ $b=\ \ 0.114449-0.782911I$	$-3.79390+2.56082I$	0
$u=\ \ 0.154651+1.330290I$ $a=-0.363017+1.326710I$ $b=\ \ 0.447735-1.196460I$	$8.31993+9.72275I$	0
$u=\ \ 0.154651-1.330290I$ $a=-0.363017-1.326710I$ $b=\ \ 0.447735+1.196460I$	$8.31993-9.72275I$	0
$u=\ \ 1.236540+0.527449I$ $a=\ \ 0.836971-1.017340I$ $b=\ \ 0.73985+1.21388I$	$-1.67018-9.17442I$	0
$u=\ \ 1.236540-0.527449I$ $a=\ \ 0.836971+1.017340I$ $b=\ \ 0.73985-1.21388I$	$-1.67018+9.17442I$	0
$u=\ \ 0.207226+0.606021I$ $a=-0.89244+1.68919I$ $b=\ \ 0.559166+0.057445I$	$4.92815-5.65520I$	$-7.10674+3.77487I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.207226 - 0.606021I$ $a = -0.89244 - 1.68919I$ $b = 0.559166 - 0.057445I$	$4.92815 + 5.65520I$	$-7.10674 - 3.77487I$
$u = 0.633327$ $a = 2.67730$ $b = 0.903177$	-3.55339	-29.9400
$u = 1.348140 + 0.296280I$ $a = 0.203425 + 0.158263I$ $b = 0.811304 - 0.216892I$	$-5.73500 - 3.48707I$	0
$u = 1.348140 - 0.296280I$ $a = 0.203425 - 0.158263I$ $b = 0.811304 + 0.216892I$	$-5.73500 + 3.48707I$	0
$u = -0.606261$ $a = -1.45762$ $b = -1.05497$	-1.75883	-2.53260
$u = -1.399550 + 0.110346I$ $a = -0.124373 - 0.433867I$ $b = -0.634981 - 0.141517I$	$-0.46262 + 2.79739I$	0
$u = -1.399550 - 0.110346I$ $a = -0.124373 + 0.433867I$ $b = -0.634981 + 0.141517I$	$-0.46262 - 2.79739I$	0
$u = 0.576573 + 0.148773I$ $a = -3.20227 + 0.71254I$ $b = 0.134280 + 0.503659I$	$4.97316 - 5.48093I$	$-7.15436 + 1.78291I$
$u = 0.576573 - 0.148773I$ $a = -3.20227 - 0.71254I$ $b = 0.134280 - 0.503659I$	$4.97316 + 5.48093I$	$-7.15436 - 1.78291I$
$u = -1.27477 + 0.62767I$ $a = -0.508037 - 1.269480I$ $b = -0.67450 + 1.28161I$	$-3.45946 + 7.92978I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.27477 - 0.62767I$ $a = -0.508037 + 1.269480I$ $b = -0.67450 - 1.28161I$	$-3.45946 - 7.92978I$	0
$u = 1.36637 + 0.66092I$ $a = -0.690847 + 1.216050I$ $b = -0.68777 - 1.34270I$	$4.4898 - 16.5640I$	0
$u = 1.36637 - 0.66092I$ $a = -0.690847 - 1.216050I$ $b = -0.68777 + 1.34270I$	$4.4898 + 16.5640I$	0
$u = -1.42815 + 0.61310I$ $a = 0.607526 + 1.114140I$ $b = 0.530368 - 1.219960I$	$-2.66048 + 8.50861I$	0
$u = -1.42815 - 0.61310I$ $a = 0.607526 - 1.114140I$ $b = 0.530368 + 1.219960I$	$-2.66048 - 8.50861I$	0
$u = -0.236862 + 0.337792I$ $a = -0.751492 + 0.941497I$ $b = -0.262698 + 0.288681I$	$-0.679533 + 0.910759I$	$-9.46747 - 7.43737I$
$u = -0.236862 - 0.337792I$ $a = -0.751492 - 0.941497I$ $b = -0.262698 - 0.288681I$	$-0.679533 - 0.910759I$	$-9.46747 + 7.43737I$
$u = 1.49094 + 0.88314I$ $a = -0.089296 + 1.196100I$ $b = -0.296159 - 1.050160I$	$2.84660 - 0.20549I$	0
$u = 1.49094 - 0.88314I$ $a = -0.089296 - 1.196100I$ $b = -0.296159 + 1.050160I$	$2.84660 + 0.20549I$	0
$u = -0.0772319$ $a = -9.75455$ $b = -0.694596$	-1.59790	-5.22370

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.13305 + 2.22143I$ $a = \quad 0.247002 + 1.038800I$ $b = -0.131303 - 0.926881I$	$1.94667 - 0.60383I$	0
$u = -1.13305 - 2.22143I$ $a = \quad 0.247002 - 1.038800I$ $b = -0.131303 + 0.926881I$	$1.94667 + 0.60383I$	0

II. $\boldsymbol{I_2^u = \langle 1.62 \times 10^6 u^{15} + 1.89 \times 10^5 u^{14} + \cdots + 2.05 \times 10^6 b - 3.07 \times 10^6,\ 1.68 \times 10^6 u^{15} - 2.14 \times 10^6 u^{14} + \cdots + 2.05 \times 10^6 a + 2.98 \times 10^5,\ u^{16} - u^{15} + \cdots - u + 1\rangle}$

(i) Arc colorings

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

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

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

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

$$a_{12} = \begin{pmatrix} -0.817866u^{15} + 1.04475u^{14} + \cdots + 2.00021u - 0.145471 \\ -0.792705u^{15} - 0.0922909u^{14} + \cdots + 0.278948u + 1.49795 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.729637u^{15} - 0.967738u^{14} + \cdots - 2.98482u + 0.0399850 \\ 0.196193u^{15} + 0.378990u^{14} + \cdots + 2.20563u + 0.831459 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.192246u^{15} + 0.746718u^{14} + \cdots + 2.69815u - 0.322782 \\ 0.958092u^{15} - 0.390810u^{14} + \cdots - 0.0247515u - 1.89818 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.686458u^{15} + 0.569194u^{14} + \cdots + 3.16943u - 1.78296 \\ 0.404897u^{15} - 0.320210u^{14} + \cdots - 0.673557u - 1.13918 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.358525u^{15} - 0.111506u^{14} + \cdots + 0.107810u + 1.23687 \\ -0.816934u^{15} + 0.884996u^{14} + \cdots + 2.49795u + 1.60964 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.61057u^{15} + 0.952455u^{14} + \cdots + 2.27916u + 1.35248 \\ -0.792705u^{15} - 0.0922909u^{14} + \cdots + 0.278948u + 1.49795 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0112340u^{15} - 0.628733u^{14} + \cdots - 0.0790242u + 0.753342 \\ 0.196193u^{15} - 0.621010u^{14} + \cdots - 2.79437u - 1.16854 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.226867u^{15} - 0.858932u^{14} + \cdots - 0.848647u + 0.482979 \\ 0.0412032u^{15} - 0.257966u^{14} + \cdots - 2.25495u - 0.906080 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{305674}{682989}u^{15} + \frac{1878059}{682989}u^{14} + \cdots + \frac{12968633}{682989}u - \frac{6937978}{682989}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16}+4u^{15}+\cdots+6u+9$
c_2	$u^{16}+6u^{15}+\cdots-8u+1$
c_3	$u^{16}+u^{15}+\cdots+u+1$
c_4	$u^{16}-u^{15}+\cdots+3u-1$
c_5	$u^{16}-6u^{15}+\cdots+8u+1$
c_6	$u^{16}+2u^{15}+\cdots-u-1$
c_7	$u^{16}-u^{15}+\cdots-u+1$
c_8	$u^{16}-5u^{15}+\cdots-24u+3$
c_9	$u^{16}+u^{15}+\cdots-3u-1$
c_{10}	$u^{16}+2u^{15}+\cdots+3u+1$
c_{11}	$u^{16}-2u^{15}+\cdots+u-1$
c_{12}	$u^{16}-4u^{15}+\cdots-84u+19$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} - 24y^{14} + \cdots - 342y + 81$
c_2, c_5	$y^{16} - 14y^{15} + \cdots - 92y + 1$
c_3, c_7	$y^{16} - 3y^{15} + \cdots - 9y + 1$
c_4, c_9	$y^{16} + 3y^{15} + \cdots - 57y + 1$
c_6, c_{11}	$y^{16} + 12y^{15} + \cdots - 7y + 1$
c_8	$y^{16} + 7y^{15} + \cdots + 30y + 9$
c_{10}	$y^{16} + 10y^{15} + \cdots - 7y + 1$
c_{12}	$y^{16} + 42y^{15} + \cdots - 1470y + 361$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.783327 + 0.431259I$ $a = 1.98472 + 1.73130I$ $b = 0.506320 - 0.759510I$	$4.95066 + 6.44197I$	$-7.47929 - 9.49903I$
$u = -0.783327 - 0.431259I$ $a = 1.98472 - 1.73130I$ $b = 0.506320 + 0.759510I$	$4.95066 - 6.44197I$	$-7.47929 + 9.49903I$
$u = -0.769550$ $a = -2.06724$ $b = -0.416003$	-2.77589	-9.30260
$u = 1.317990 + 0.153219I$ $a = -0.959345 - 0.606084I$ $b = -0.254210 - 0.816200I$	$-3.89973 - 3.06301I$	$-14.8110 + 10.7308I$
$u = 1.317990 - 0.153219I$ $a = -0.959345 + 0.606084I$ $b = -0.254210 + 0.816200I$	$-3.89973 + 3.06301I$	$-14.8110 - 10.7308I$
$u = 1.280500 + 0.351953I$ $a = 0.077547 - 0.163165I$ $b = -1.028010 + 0.495475I$	$-6.99938 - 2.30685I$	$-14.4564 + 3.2518I$
$u = 1.280500 - 0.351953I$ $a = 0.077547 + 0.163165I$ $b = -1.028010 - 0.495475I$	$-6.99938 + 2.30685I$	$-14.4564 - 3.2518I$
$u = 0.633765 + 0.175934I$ $a = 0.413970 + 0.029249I$ $b = 0.27230 - 1.64247I$	$8.56738 - 2.49160I$	$-1.63187 + 0.22782I$
$u = 0.633765 - 0.175934I$ $a = 0.413970 - 0.029249I$ $b = 0.27230 + 1.64247I$	$8.56738 + 2.49160I$	$-1.63187 - 0.22782I$
$u = -1.36049 + 0.59822I$ $a = -0.543626 - 1.179430I$ $b = -0.660633 + 1.247720I$	$-4.42847 + 8.52038I$	$-13.6558 - 6.9155I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.36049-0.59822I$ $a=-0.543626+1.179430I$ $b=-0.660633-1.247720I$	$-4.42847-8.52038I$	$-13.6558+6.9155I$
$u=\quad 0.231185+0.455324I$ $a=-1.15238-2.20524I$ $b=\quad 0.325781+1.209720I$	$0.70911-2.87401I$	$-4.30985+2.68066I$
$u=\quad 0.231185-0.455324I$ $a=-1.15238+2.20524I$ $b=\quad 0.325781-1.209720I$	$0.70911+2.87401I$	$-4.30985-2.68066I$
$u=-0.482422$ $a=-2.04540$ $b=\quad 0.358793$	-2.53212	-15.5700
$u=-0.19364+2.07771I$ $a=\quad 0.235435+1.139290I$ $b=-0.132938-0.978059I$	$2.10949-0.54207I$	$0.7802-14.5628I$
$u=-0.19364-2.07771I$ $a=\quad 0.235435-1.139290I$ $b=-0.132938+0.978059I$	$2.10949+0.54207I$	$0.7802+14.5628I$

III. $I_3^u = \langle b + a + 2,\ a^2 + 3a + 3,\ u + 1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} a \\ -a-2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -a-2 \\ -a-1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -a-1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -a-1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -a-3 \\ -a-1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -2 \\ -a-2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 2a+1 \\ -a-2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} a-1 \\ -a-2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -15$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	y^2
c_2, c_4, c_5 c_6, c_9, c_{11}	$y^2 + y + 1$
c_3, c_7, c_{10} c_{12}	$(y-1)^2$
c_8	$y^2 - 3y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.50000 + 0.86603I$ $b = -0.500000 - 0.866025I$	-3.28987	-15.0000
$u = -1.00000$ $a = -1.50000 - 0.86603I$ $b = -0.500000 + 0.866025I$	-3.28987	-15.0000

IV. $I_4^u = \langle b-1,\ a,\ u+1 \rangle$

(i) Arc colorings

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

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

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

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

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

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

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

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

$a_5 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

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

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

$a_{10} = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 0$ $b = 1.00000$	-3.28987	-12.0000

V. $\boldsymbol{I_5^u = \langle b-1,\ a-3,\ 2u-1 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ 0.5 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0.25 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.5 \\ 0.375 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 3 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2 \\ 1.5 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 2.75 \\ 0.9375 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ 0.5 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 4 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0.25 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1.25 \\ 0.0625 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 2.0625$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$4(4y-9)$
c_2, c_5, c_6 c_{10}, c_{11}	$y-1$
c_3, c_4, c_7 c_9	$4(4y-1)$
c_8	y
c_{12}	$16(16y-1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	0.500000		
$a =$	3.00000	-3.28987	2.06250
$b =$	1.00000		

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$4u^3(2u-3)(u^{16}+4u^{15}+\cdots+6u+9)(2u^{72}-7u^{71}+\cdots+3152u+248)$
c_2	$((u-1)^2)(u^2+u+1)(u^{16}+6u^{15}+\cdots-8u+1)$ $\cdot(u^{72}+2u^{71}+\cdots+3215u+491)$
c_3	$4(u-1)^3(2u+1)(u^{16}+u^{15}+\cdots+u+1)$ $\cdot(2u^{72}-3u^{71}+\cdots-314u-29)$
c_4	$4(u-1)(2u+1)(u^2+u+1)(u^{16}-u^{15}+\cdots+3u-1)$ $\cdot(2u^{72}+3u^{71}+\cdots-3289u+373)$
c_5	$((u+1)^2)(u^2-u+1)(u^{16}-6u^{15}+\cdots+8u+1)$ $\cdot(u^{72}+2u^{71}+\cdots+3215u+491)$
c_6	$((u-1)^2)(u^2+u+1)(u^{16}+2u^{15}+\cdots-u-1)$ $\cdot(u^{72}+2u^{71}+\cdots-32u-13)$
c_7	$4(u+1)^3(2u-1)(u^{16}-u^{15}+\cdots-u+1)$ $\cdot(2u^{72}-3u^{71}+\cdots-314u-29)$
c_8	$u^2(u^2-3u+3)(u^{16}-5u^{15}+\cdots-24u+3)(u^{72}-9u^{71}+\cdots-34u-16)$
c_9	$4(u+1)(2u-1)(u^2-u+1)(u^{16}+u^{15}+\cdots-3u-1)$ $\cdot(2u^{72}+3u^{71}+\cdots-3289u+373)$
c_{10}	$((u-1)^4)(u^{16}+2u^{15}+\cdots+3u+1)(u^{72}-u^{71}+\cdots-868u+172)$
c_{11}	$((u+1)^2)(u^2-u+1)(u^{16}-2u^{15}+\cdots+u-1)$ $\cdot(u^{72}+2u^{71}+\cdots-32u-13)$
c_{12}	$16(u+1)^3(4u+1)(u^{16}-4u^{15}+\cdots-84u+19)$ $\cdot(4u^{72}+7u^{71}+\cdots+3105391u-546509)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$16y^3(4y-9)(y^{16}-24y^{14}+\cdots-342y+81)$ $\cdot(4y^{72}+315y^{71}+\cdots+10782816y+61504)$
c_2, c_5	$((y-1)^2)(y^2+y+1)(y^{16}-14y^{15}+\cdots-92y+1)$ $\cdot(y^{72}-34y^{71}+\cdots-7263547y+241081)$
c_3, c_7	$16(y-1)^3(4y-1)(y^{16}-3y^{15}+\cdots-9y+1)$ $\cdot(4y^{72}-149y^{71}+\cdots-158162y+841)$
c_4, c_9	$16(y-1)(4y-1)(y^2+y+1)(y^{16}+3y^{15}+\cdots-57y+1)$ $\cdot(4y^{72}-273y^{71}+\cdots-10651163y+139129)$
c_6, c_{11}	$((y-1)^2)(y^2+y+1)(y^{16}+12y^{15}+\cdots-7y+1)$ $\cdot(y^{72}+40y^{71}+\cdots+1758y+169)$
c_8	$y^2(y^2-3y+9)(y^{16}+7y^{15}+\cdots+30y+9)$ $\cdot(y^{72}+13y^{71}+\cdots-21636y+256)$
c_{10}	$((y-1)^4)(y^{16}+10y^{15}+\cdots-7y+1)$ $\cdot(y^{72}+71y^{71}+\cdots+1106584y+29584)$
c_{12}	$256(y-1)^3(16y-1)(y^{16}+42y^{15}+\cdots-1470y+361)$ $\cdot(16y^{72}+383y^{71}+\cdots-22583235390339y+298672087081)$