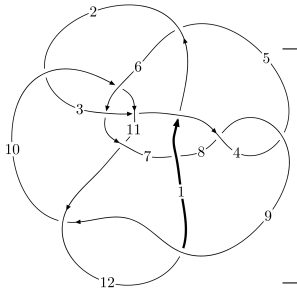
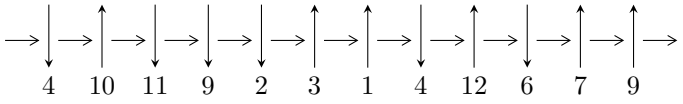
$12n_{0880}$ $(K12n_{0880})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle b-u,\ -1.08548\times 10^{25}u^{28} - 9.54353\times 10^{24}u^{27} + \cdots + 2.18894\times 10^{25}a - 1.64519\times 10^{26},\\
&\quad u^{29} + 2u^{28} + \cdots - 13u^2 - 1\rangle\\
I_2^u &= \langle 3.30161\times 10^{299}u^{69} + 1.46925\times 10^{300}u^{68} + \cdots + 1.12043\times 10^{304}b + 1.34425\times 10^{304},\\
&\quad 9.23538\times 10^{303}u^{69} + 3.54679\times 10^{304}u^{68} + \cdots + 8.20265\times 10^{307}a - 3.71102\times 10^{308},\\
&\quad u^{70} + 4u^{69} + \cdots - 25055u + 7321\rangle\\
I_3^u &= \langle b+u,\ 559u^{16} + 807u^{15} + \cdots + 229a - 7206,\ u^{17} - 2u^{16} + \cdots + 7u - 1\rangle\\
I_4^u &= \langle -33628u^{15} + 98620u^{14} + \cdots + 332531b + 154483,\\
&\quad -311649u^{15} + 1539315u^{14} + \cdots + 332531a - 733442,\ u^{16} - 5u^{15} + \cdots - u + 1\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 132 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. $I_1^u = \langle b-u,\ -1.09\times 10^{25}u^{28} - 9.54\times 10^{24}u^{27} + \cdots + 2.19\times 10^{25}a - 1.65\times 10^{26},\ u^{29} + 2u^{28} + \cdots - 13u^2 - 1\rangle$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.495891u^{28} + 0.435988u^{27} + \cdots - 9.79192u + 7.51592 \\ u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -0.236452u^{28} - 0.866910u^{27} + \cdots + 0.968434u + 5.19398 \\ -0.00914076u^{28} + 0.0683031u^{27} + \cdots + 0.555793u - 0.105732 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.495891u^{28} + 0.435988u^{27} + \cdots - 8.79192u + 7.51592 \\ u \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 3.59236u^{28} + 7.49492u^{27} + \cdots - 29.5652u - 5.99169 \\ -0.105732u^{28} - 0.220604u^{27} + \cdots + 0.504109u + 0.555793 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.495891u^{28} + 0.435988u^{27} + \cdots - 8.79192u + 7.51592 \\ 0.105732u^{28} + 0.220604u^{27} + \cdots + 1.49589u - 0.555793 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -3.48663u^{28} - 7.27432u^{27} + \cdots + 31.0611u + 5.43590 \\ 0.432299u^{28} + 0.854537u^{27} + \cdots - 1.99074u - 0.856852 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -4.79535u^{28} - 10.1485u^{27} + \cdots + 37.3810u + 9.72731 \\ 0.567598u^{28} + 1.08259u^{27} + \cdots - 2.27410u - 0.965582 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -4.76966u^{28} - 9.82306u^{27} + \cdots + 37.4134u + 7.57843 \\ 0.536273u^{28} + 1.28218u^{27} + \cdots - 3.23320u - 1.87683 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{155178934950200988499751 16}{21889407595733348190792803}u^{28} - \frac{54924211629619166277092344}{21889407595733348190792803}u^{27} + \cdots - \frac{191772394078626200464288803}{21889407595733348190792803}u + \frac{272223026286751222003122765}{21889407595733348190792803}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_8	$u^{29} + 2u^{28} + \cdots - 13u^2 - 1$
c_2, c_{11}	$u^{29} - u^{28} + \cdots + 6u - 1$
c_3, c_{10}	$u^{29} - u^{28} + \cdots + 3u - 1$
c_5	$u^{29} - 2u^{28} + \cdots + 15u - 1$
c_6	$u^{29} - 19u^{28} + \cdots - 36u + 8$
c_7	$u^{29} - 25u^{28} + \cdots + 26368u - 2560$
c_9, c_{12}	$u^{29} + 13u^{28} + \cdots - 544u - 64$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8	$y^{29} + 38y^{28} + \cdots - 26y - 1$
c_2, c_{11}	$y^{29} - 3y^{28} + \cdots + 8y - 1$
c_3, c_{10}	$y^{29} - 7y^{28} + \cdots + 11y - 1$
c_5	$y^{29} + 2y^{28} + \cdots + 99y - 1$
c_6	$y^{29} + 3y^{28} + \cdots - 1264y - 64$
c_7	$y^{29} - 17y^{28} + \cdots - 26279936y - 6553600$
c_9, c_{12}	$y^{29} + 17y^{28} + \cdots - 52736y - 4096$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.642235+0.726664I$ $a=-0.949259+0.155912I$ $b=-0.642235+0.726664I$	$-3.06174-3.25839I$	$-7.69069+6.26564I$
$u=-0.642235-0.726664I$ $a=-0.949259-0.155912I$ $b=-0.642235-0.726664I$	$-3.06174+3.25839I$	$-7.69069-6.26564I$
$u=-0.032170+0.801563I$ $a=\ \ 1.55712-0.56759I$ $b=-0.032170+0.801563I$	$-0.504140+0.951000I$	$1.54358-2.27904I$
$u=-0.032170-0.801563I$ $a=\ \ 1.55712+0.56759I$ $b=-0.032170-0.801563I$	$-0.504140-0.951000I$	$1.54358+2.27904I$
$u=\ \ 0.198126+0.740818I$ $a=-0.655188+0.248714I$ $b=\ \ 0.198126+0.740818I$	$2.37624+4.78664I$	$2.73963-5.44891I$
$u=\ \ 0.198126-0.740818I$ $a=-0.655188-0.248714I$ $b=\ \ 0.198126-0.740818I$	$2.37624-4.78664I$	$2.73963+5.44891I$
$u=-0.661536+0.319149I$ $a=\ \ 1.41580-1.68650I$ $b=-0.661536+0.319149I$	$-4.19456+0.95591I$	$-0.74396-10.67777I$
$u=-0.661536-0.319149I$ $a=\ \ 1.41580+1.68650I$ $b=-0.661536-0.319149I$	$-4.19456-0.95591I$	$-0.74396+10.67777I$
$u=\ \ 0.363420+0.611313I$ $a=-2.25022-1.12399I$ $b=\ \ 0.363420+0.611313I$	$-2.25137+9.11530I$	$0.91619-5.98946I$
$u=\ \ 0.363420-0.611313I$ $a=-2.25022+1.12399I$ $b=\ \ 0.363420-0.611313I$	$-2.25137-9.11530I$	$0.91619+5.98946I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.36313+1.47042I$ $a=\ \ 0.008827-1.188710I$ $b=-0.36313+1.47042I$	$2.73712+3.34248I$	$-3.35900-2.79422I$
$u=-0.36313-1.47042I$ $a=\ \ 0.008827+1.188710I$ $b=-0.36313-1.47042I$	$2.73712-3.34248I$	$-3.35900+2.79422I$
$u=-0.064814+0.477187I$ $a=\ \ 1.022190-0.598774I$ $b=-0.064814+0.477187I$	$0.008337+1.334080I$	$0.34791-4.25043I$
$u=-0.064814-0.477187I$ $a=\ \ 1.022190+0.598774I$ $b=-0.064814-0.477187I$	$0.008337-1.334080I$	$0.34791+4.25043I$
$u=\ \ 0.44900+1.45880I$ $a=\ \ 0.178143-0.845770I$ $b=\ \ 0.44900+1.45880I$	$-0.088337-0.453344I$	$-3.53660+0.I$
$u=\ \ 0.44900-1.45880I$ $a=\ \ 0.178143+0.845770I$ $b=\ \ 0.44900-1.45880I$	$-0.088337+0.453344I$	$-3.53660+0.I$
$u=-0.42651+1.53556I$ $a=\ \ 0.063635-0.740740I$ $b=-0.42651+1.53556I$	$1.85990+6.10163I$	$0.-6.71936I$
$u=-0.42651-1.53556I$ $a=\ \ 0.063635+0.740740I$ $b=-0.42651-1.53556I$	$1.85990-6.10163I$	$0.+6.71936I$
$u=-0.00700+1.64434I$ $a=\ \ 0.387864-1.087010I$ $b=-0.00700+1.64434I$	$5.36503+3.15379I$	$0.-5.21676I$
$u=-0.00700-1.64434I$ $a=\ \ 0.387864+1.087010I$ $b=-0.00700-1.64434I$	$5.36503-3.15379I$	$0.+5.21676I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.035016+0.329660I$ $a=\ \ 3.92347-1.51601I$ $b=-0.035016+0.329660I$	$-2.64525+3.58389I$	$5.38204-3.13101I$
$u=-0.035016-0.329660I$ $a=\ \ 3.92347+1.51601I$ $b=-0.035016-0.329660I$	$-2.64525-3.58389I$	$5.38204+3.13101I$
$u=\ \ 0.308534$ $a=\ \ 2.18209$ $b=\ \ 0.308534$	1.77894	6.13630
$u=\ \ 0.02951+1.77011I$ $a=-0.345581-0.914758I$ $b=\ \ 0.02951+1.77011I$	$7.48152-10.06130I$	0
$u=\ \ 0.02951-1.77011I$ $a=-0.345581+0.914758I$ $b=\ \ 0.02951-1.77011I$	$7.48152+10.06130I$	0
$u=-0.52214+1.75074I$ $a=\ \ 0.049722-1.179220I$ $b=-0.52214+1.75074I$	$3.80541+9.37886I$	0
$u=-0.52214-1.75074I$ $a=\ \ 0.049722+1.179220I$ $b=-0.52214-1.75074I$	$3.80541-9.37886I$	0
$u=\ \ 0.56023+1.75971I$ $a=\ \ 0.002425-1.091640I$ $b=\ \ 0.56023+1.75971I$	$4.6717-18.2246I$	0
$u=\ \ 0.56023-1.75971I$ $a=\ \ 0.002425+1.091640I$ $b=\ \ 0.56023-1.75971I$	$4.6717+18.2246I$	0

II. $\boldsymbol{I_2^u = \langle 3.30 \times 10^{299} u^{69} + 1.47 \times 10^{300} u^{68} + \cdots + 1.12 \times 10^{304} b + 1.34 \times 10^{304},\ 9.24 \times 10^{303} u^{69} + 3.55 \times 10^{304} u^{68} + \cdots + 8.20 \times 10^{307} a - 3.71 \times 10^{308},\ u^{70} + 4u^{69} + \cdots - 25055u + 7321 \rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.000112590u^{69} - 0.000432396u^{68} + \cdots + 39.3655u + 4.52418 \\ -0.0000294674u^{69} - 0.000131133u^{68} + \cdots + 10.9533u - 1.19976 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -0.000220172u^{69} - 0.000838330u^{68} + \cdots + 22.3863u + 3.16969 \\ 0.000123302u^{69} + 0.000461935u^{68} + \cdots - 0.298297u + 1.15154 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.000142058u^{69} - 0.000563529u^{68} + \cdots + 50.3188u + 3.32441 \\ -0.0000294674u^{69} - 0.000131133u^{68} + \cdots + 10.9533u - 1.19976 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -0.0000101216u^{69} - 0.000129726u^{68} + \cdots - 18.3646u - 6.84743 \\ 8.90333 \times 10^{-6} u^{69} + 0.0000205847u^{68} + \cdots + 2.62665u - 1.06858 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.000142058u^{69} - 0.000563529u^{68} + \cdots + 50.3188u + 3.32441 \\ 2.71889 \times 10^{-6} u^{69} - 0.0000339701u^{68} + \cdots + 12.1111u - 1.23418 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0000424653u^{69} - 0.0000800391u^{68} + \cdots + 22.4206u + 6.90329 \\ -0.000106669u^{69} - 0.000435892u^{68} + \cdots + 6.61734u - 0.601728 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.000135005u^{69} - 0.000501852u^{68} + \cdots - 2.82311u - 1.87464 \\ 0.0000112497u^{69} - 0.0000185942u^{68} + \cdots + 9.85186u - 1.86309 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0000677057u^{69} + 0.000381037u^{68} + \cdots - 9.38177u + 4.29494 \\ -0.000159969u^{69} - 0.000628642u^{68} + \cdots + 1.07104u - 0.793122 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.000428326u^{69} - 0.00153541u^{68} + \cdots + 42.7410u + 1.53991$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_8	$u^{70} + 4u^{69} + \cdots - 25055u + 7321$
c_2, c_{11}	$u^{70} + 3u^{69} + \cdots + 4797u + 373$
c_3, c_{10}	$u^{70} + 7u^{68} + \cdots - 28u + 1$
c_5	$u^{70} + 3u^{69} + \cdots + 13827u - 2381$
c_6	$(u^{35} + 8u^{34} + \cdots + 4u + 1)^2$
c_7	$(u^{35} + 13u^{34} + \cdots - 28u - 1)^2$
c_9, c_{12}	$(u^{35} - 10u^{34} + \cdots + 29u - 7)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8	$y^{70} + 64y^{69} + \cdots - 6291205415y + 53597041$
c_2, c_{11}	$y^{70} - y^{69} + \cdots - 4085189y + 139129$
c_3, c_{10}	$y^{70} + 14y^{69} + \cdots - 416y + 1$
c_5	$y^{70} + 19y^{69} + \cdots - 521935401y + 5669161$
c_6	$(y^{35} - 2y^{34} + \cdots + 18y - 1)^2$
c_7	$(y^{35} - 45y^{34} + \cdots + 92y - 1)^2$
c_9, c_{12}	$(y^{35} + 12y^{34} + \cdots - 825y - 49)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.058400 + 0.079730I$ $a = 0.545962 + 0.044088I$ $b = 0.173597 + 0.712167I$	$0.26528 + 2.69707I$	$5.39503 - 6.85723I$
$u = 1.058400 - 0.079730I$ $a = 0.545962 - 0.044088I$ $b = 0.173597 - 0.712167I$	$0.26528 - 2.69707I$	$5.39503 + 6.85723I$
$u = -0.024911 + 0.911364I$ $a = 0.715176 - 0.576738I$ $b = -1.51437 + 0.36342I$	$-2.44566 - 0.09156I$	$-4.00202 - 0.79327I$
$u = -0.024911 - 0.911364I$ $a = 0.715176 + 0.576738I$ $b = -1.51437 - 0.36342I$	$-2.44566 + 0.09156I$	$-4.00202 + 0.79327I$
$u = -0.842982 + 0.298449I$ $a = -0.21865 + 1.68444I$ $b = -0.352984 - 0.459182I$	$-4.03807 - 1.26323I$	$-2.43296 + 8.36038I$
$u = -0.842982 - 0.298449I$ $a = -0.21865 - 1.68444I$ $b = -0.352984 + 0.459182I$	$-4.03807 + 1.26323I$	$-2.43296 - 8.36038I$
$u = -0.106910 + 1.108100I$ $a = 0.42598 + 1.51358I$ $b = -0.02176 - 1.91547I$	$5.12124 - 4.17998I$	0
$u = -0.106910 - 1.108100I$ $a = 0.42598 - 1.51358I$ $b = -0.02176 + 1.91547I$	$5.12124 + 4.17998I$	0
$u = -0.345458 + 0.796183I$ $a = 0.0813893 + 0.0438662I$ $b = -1.279940 - 0.228114I$	$-1.55070 - 2.22046I$	$3.51989 + 4.80032I$
$u = -0.345458 - 0.796183I$ $a = 0.0813893 - 0.0438662I$ $b = -1.279940 + 0.228114I$	$-1.55070 + 2.22046I$	$3.51989 - 4.80032I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.332881+0.736341I$ $a=\ 0.809113+0.578377I$ $b=-1.332510+0.087336I$	$-2.58048+2.08849I$	$-4.91472-12.36677I$
$u=-0.332881-0.736341I$ $a=\ 0.809113-0.578377I$ $b=-1.332510-0.087336I$	$-2.58048-2.08849I$	$-4.91472+12.36677I$
$u=\ 0.771829$ $a=\ 1.06093$ $b=\ 0.0837624$	1.61445	9.96300
$u=-0.198870+0.719238I$ $a=\ 0.841225-0.931153I$ $b=\ 0.715177+0.075240I$	$-2.56135+4.30729I$	$-4.11547-11.98740I$
$u=-0.198870-0.719238I$ $a=\ 0.841225+0.931153I$ $b=\ 0.715177-0.075240I$	$-2.56135-4.30729I$	$-4.11547+11.98740I$
$u=\ 0.173597+0.712167I$ $a=\ 0.305095-0.732082I$ $b=\ 1.058400+0.079730I$	$0.26528+2.69707I$	$5.39503-6.85723I$
$u=\ 0.173597-0.712167I$ $a=\ 0.305095+0.732082I$ $b=\ 1.058400-0.079730I$	$0.26528-2.69707I$	$5.39503+6.85723I$
$u=\ 0.715177+0.075240I$ $a=\ 0.809801+1.019730I$ $b=-0.198870+0.719238I$	$-2.56135+4.30729I$	$-4.11547-11.98740I$
$u=\ 0.715177-0.075240I$ $a=\ 0.809801-1.019730I$ $b=-0.198870-0.719238I$	$-2.56135-4.30729I$	$-4.11547+11.98740I$
$u=\ 0.030698+0.717655I$ $a=-0.490991+0.799569I$ $b=\ 1.56053+0.16062I$	$-1.79291-10.37620I$	$1.00185+8.04577I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.030698 - 0.717655I$ $a = -0.490991 - 0.799569I$ $b = 1.56053 - 0.16062I$	$-1.79291 + 10.37620I$	$1.00185 - 8.04577I$
$u = -1.255260 + 0.308189I$ $a = 0.398382 - 0.072693I$ $b = -0.165206 - 0.197590I$	$-2.66687 + 0.36120I$	0
$u = -1.255260 - 0.308189I$ $a = 0.398382 + 0.072693I$ $b = -0.165206 + 0.197590I$	$-2.66687 - 0.36120I$	0
$u = -1.279940 + 0.228114I$ $a = 0.0410374 + 0.0461021I$ $b = -0.345458 - 0.796183I$	$-1.55070 + 2.22046I$	0
$u = -1.279940 - 0.228114I$ $a = 0.0410374 - 0.0461021I$ $b = -0.345458 + 0.796183I$	$-1.55070 - 2.22046I$	0
$u = 1.132590 + 0.686893I$ $a = -0.601873 - 0.054832I$ $b = -0.134777 - 0.571016I$	$-3.12149 - 5.64463I$	0
$u = 1.132590 - 0.686893I$ $a = -0.601873 + 0.054832I$ $b = -0.134777 + 0.571016I$	$-3.12149 + 5.64463I$	0
$u = -1.332510 + 0.087336I$ $a = 0.539255 - 0.267281I$ $b = -0.332881 + 0.736341I$	$-2.58048 + 2.08849I$	0
$u = -1.332510 - 0.087336I$ $a = 0.539255 + 0.267281I$ $b = -0.332881 - 0.736341I$	$-2.58048 - 2.08849I$	0
$u = 0.355920 + 1.345040I$ $a = -0.593513 + 0.907048I$ $b = 0.02059 - 1.72427I$	$5.20790 - 1.91522I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.355920 - 1.345040I$ $a = -0.593513 - 0.907048I$ $b = 0.02059 + 1.72427I$	$5.20790 + 1.91522I$	0
$u = -0.134777 + 0.571016I$ $a = 1.040980 + 0.882131I$ $b = 1.132590 - 0.686893I$	$-3.12149 + 5.64463I$	$0.09455 - 3.89255I$
$u = -0.134777 - 0.571016I$ $a = 1.040980 - 0.882131I$ $b = 1.132590 + 0.686893I$	$-3.12149 - 5.64463I$	$0.09455 + 3.89255I$
$u = -0.352984 + 0.459182I$ $a = 2.36810 - 1.12701I$ $b = -0.842982 - 0.298449I$	$-4.03807 + 1.26323I$	$-2.43296 - 8.36038I$
$u = -0.352984 - 0.459182I$ $a = 2.36810 + 1.12701I$ $b = -0.842982 + 0.298449I$	$-4.03807 - 1.26323I$	$-2.43296 + 8.36038I$
$u = -0.42198 + 1.39834I$ $a = -0.53394 - 1.33567I$ $b = 0.00672 + 1.90303I$	$7.29297 + 6.22548I$	0
$u = -0.42198 - 1.39834I$ $a = -0.53394 + 1.33567I$ $b = 0.00672 - 1.90303I$	$7.29297 - 6.22548I$	0
$u = 0.54051 + 1.43484I$ $a = -0.141799 + 1.049770I$ $b = -0.04610 - 1.73166I$	$6.40155 - 4.67956I$	0
$u = 0.54051 - 1.43484I$ $a = -0.141799 - 1.049770I$ $b = -0.04610 + 1.73166I$	$6.40155 + 4.67956I$	0
$u = 0.32270 + 1.50213I$ $a = 0.003594 + 1.213610I$ $b = -0.70316 - 1.74818I$	$2.39979 - 8.51124I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.32270 - 1.50213I$ $a = 0.003594 - 1.213610I$ $b = -0.70316 + 1.74818I$	$2.39979 + 8.51124I$	0
$u = -1.51437 + 0.36342I$ $a = -0.217248 - 0.492021I$ $b = -0.024911 + 0.911364I$	$-2.44566 - 0.09156I$	0
$u = -1.51437 - 0.36342I$ $a = -0.217248 + 0.492021I$ $b = -0.024911 - 0.911364I$	$-2.44566 + 0.09156I$	0
$u = 1.56053 + 0.16062I$ $a = -0.394801 - 0.169432I$ $b = 0.030698 + 0.717655I$	$-1.79291 - 10.37620I$	0
$u = 1.56053 - 0.16062I$ $a = -0.394801 + 0.169432I$ $b = 0.030698 - 0.717655I$	$-1.79291 + 10.37620I$	0
$u = 0.54090 + 1.55613I$ $a = 0.415824 - 1.126470I$ $b = -0.07039 + 1.65458I$	$7.79835 + 1.50555I$	0
$u = 0.54090 - 1.55613I$ $a = 0.415824 + 1.126470I$ $b = -0.07039 - 1.65458I$	$7.79835 - 1.50555I$	0
$u = -0.07039 + 1.65458I$ $a = -0.027974 - 1.194190I$ $b = 0.54090 + 1.55613I$	$7.79835 + 1.50555I$	0
$u = -0.07039 - 1.65458I$ $a = -0.027974 + 1.194190I$ $b = 0.54090 - 1.55613I$	$7.79835 - 1.50555I$	0
$u = 0.55556 + 1.62154I$ $a = -0.171442 + 1.034380I$ $b = -0.44556 - 1.78830I$	$5.47181 - 9.13625I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.55556 - 1.62154I$ $a = -0.171442 - 1.034380I$ $b = -0.44556 + 1.78830I$	$5.47181 + 9.13625I$	0
$u = 0.02059 + 1.72427I$ $a = 0.265797 + 0.833243I$ $b = 0.355920 - 1.345040I$	$5.20790 + 1.91522I$	0
$u = 0.02059 - 1.72427I$ $a = 0.265797 - 0.833243I$ $b = 0.355920 + 1.345040I$	$5.20790 - 1.91522I$	0
$u = -0.04610 + 1.73166I$ $a = -0.185709 + 0.919029I$ $b = 0.54051 - 1.43484I$	$6.40155 + 4.67956I$	0
$u = -0.04610 - 1.73166I$ $a = -0.185709 - 0.919029I$ $b = 0.54051 + 1.43484I$	$6.40155 - 4.67956I$	0
$u = -0.165206 + 0.197590I$ $a = 0.55212 + 1.95585I$ $b = -1.255260 - 0.308189I$	$-2.66687 - 0.36120I$	$-3.12875 - 5.49495I$
$u = -0.165206 - 0.197590I$ $a = 0.55212 - 1.95585I$ $b = -1.255260 + 0.308189I$	$-2.66687 + 0.36120I$	$-3.12875 + 5.49495I$
$u = 0.00841 + 1.79105I$ $a = 0.132285 + 0.808176I$ $b = 0.14593 - 1.82319I$	$8.77775 - 0.37906I$	0
$u = 0.00841 - 1.79105I$ $a = 0.132285 - 0.808176I$ $b = 0.14593 + 1.82319I$	$8.77775 + 0.37906I$	0
$u = 0.14593 + 1.82319I$ $a = -0.195925 + 0.777639I$ $b = 0.00841 - 1.79105I$	$8.77775 + 0.37906I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.14593 - 1.82319I$ $a = -0.195925 - 0.777639I$ $b = 0.00841 + 1.79105I$	$8.77775 - 0.37906I$	0
$u = -0.44556 + 1.78830I$ $a = 0.076328 + 0.972168I$ $b = 0.55556 - 1.62154I$	$5.47181 + 9.13625I$	0
$u = -0.44556 - 1.78830I$ $a = 0.076328 - 0.972168I$ $b = 0.55556 + 1.62154I$	$5.47181 - 9.13625I$	0
$u = -0.70316 + 1.74818I$ $a = 0.165319 + 0.975638I$ $b = 0.32270 - 1.50213I$	$2.39979 + 8.51124I$	0
$u = -0.70316 - 1.74818I$ $a = 0.165319 - 0.975638I$ $b = 0.32270 + 1.50213I$	$2.39979 - 8.51124I$	0
$u = 0.00672 + 1.90303I$ $a = -0.092277 - 1.100180I$ $b = -0.42198 + 1.39834I$	$7.29297 + 6.22548I$	0
$u = 0.00672 - 1.90303I$ $a = -0.092277 + 1.100180I$ $b = -0.42198 - 1.39834I$	$7.29297 - 6.22548I$	0
$u = -0.02176 + 1.91547I$ $a = -0.151716 + 0.901109I$ $b = -0.106910 - 1.108100I$	$5.12124 + 4.17998I$	0
$u = -0.02176 - 1.91547I$ $a = -0.151716 - 0.901109I$ $b = -0.106910 + 1.108100I$	$5.12124 - 4.17998I$	0
$u = 0.0837624$ $a = 9.77593$ $b = 0.771829$	1.61445	9.96300

III.

$\boldsymbol{I_3^u = \langle b+u,\ 559u^{16}+807u^{15}+\cdots+229a-7206,\ u^{17}-2u^{16}+\cdots+7u-1\rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-2.44105u^{16}-3.52402u^{15}+\cdots-80.4192u+31.4672\\-u\end{pmatrix}$$

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

$$a_6 = \begin{pmatrix}-19.2445u^{16}+23.7293u^{15}+\cdots+195.183u-48.6419\\-1.23581u^{16}+5.09607u^{15}+\cdots+32.6769u-5.86900\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-2.44105u^{16}-3.52402u^{15}+\cdots-81.4192u+31.4672\\-u\end{pmatrix}$$

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

$$a_7 = \begin{pmatrix}-57.9520u^{16}+87.0175u^{15}+\cdots+617.214u-129.249\\-5.86900u^{16}+10.5022u^{15}+\cdots+57.4017u-8.40611\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}-2.44105u^{16}-3.52402u^{15}+\cdots-81.4192u+31.4672\\-5.86900u^{16}+10.5022u^{15}+\cdots+55.4017u-8.40611\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}63.8210u^{16}-97.5197u^{15}+\cdots-672.616u+137.655\\21.2489u^{16}-32.5459u^{15}+\cdots-202.437u+38.5284\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}63.8166u^{16}-107.703u^{15}+\cdots-771.362u+165.769\\12.4760u^{16}-25.0087u^{15}+\cdots-189.607u+41.6245\end{pmatrix}$$

$$a_3 = \begin{pmatrix}49.5459u^{16}-84.0742u^{15}+\cdots-617.659u+133.808\\-5.63319u^{16}+7.40611u^{15}+\cdots+39.7249u-8.53712\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{64360}{229}u^{16}-\frac{83581}{229}u^{15}+\cdots-\frac{518407}{229}u+\frac{93833}{229}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{17} - 2u^{16} + \cdots + 7u - 1$
c_2, c_{11}	$u^{17} + u^{16} + \cdots - u - 1$
c_3, c_{10}	$u^{17} + u^{16} + \cdots + 2u - 1$
c_5	$u^{17} + 2u^{15} + \cdots + 8u + 47$
c_6	$u^{17} + 10u^{16} + \cdots - u - 1$
c_7	$u^{17} - 6u^{16} + \cdots + 11u + 11$
c_8	$u^{17} + 2u^{16} + \cdots + 7u + 1$
c_9	$u^{17} + 6u^{16} + \cdots + 36u + 9$
c_{12}	$u^{17} - 6u^{16} + \cdots + 36u - 9$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8	$y^{17} + 12y^{16} + \cdots + 19y - 1$
c_2, c_{11}	$y^{17} - y^{16} + \cdots - 15y - 1$
c_3, c_{10}	$y^{17} + 3y^{16} + \cdots + 12y - 1$
c_5	$y^{17} + 4y^{16} + \cdots + 8524y - 2209$
c_6	$y^{17} + 4y^{16} + \cdots + 15y - 1$
c_7	$y^{17} - 12y^{16} + \cdots - 715y - 121$
c_9, c_{12}	$y^{17} + 6y^{16} + \cdots - 558y - 81$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.822388+0.586206I$ $a=\ 0.326639-0.274735I$ $b=\ 0.822388-0.586206I$	$-4.23946+6.27514I$	$-6.90964-7.74561I$
$u=-0.822388-0.586206I$ $a=\ 0.326639+0.274735I$ $b=\ 0.822388+0.586206I$	$-4.23946-6.27514I$	$-6.90964+7.74561I$
$u=\ 0.836423+0.260647I$ $a=\ 0.477439-0.492519I$ $b=-0.836423-0.260647I$	$-3.27504-1.05790I$	$-10.74907+4.91523I$
$u=\ 0.836423-0.260647I$ $a=\ 0.477439+0.492519I$ $b=-0.836423+0.260647I$	$-3.27504+1.05790I$	$-10.74907-4.91523I$
$u=\ 0.828902+0.242494I$ $a=\ 1.23115+1.40814I$ $b=-0.828902-0.242494I$	$-4.50436-0.81799I$	$-23.5453+1.8319I$
$u=\ 0.828902-0.242494I$ $a=\ 1.23115-1.40814I$ $b=-0.828902+0.242494I$	$-4.50436+0.81799I$	$-23.5453-1.8319I$
$u=-0.825384+0.041955I$ $a=-0.47468+1.37301I$ $b=\ 0.825384-0.041955I$	$-3.69121+9.90376I$	$-5.08873-7.26877I$
$u=-0.825384-0.041955I$ $a=-0.47468-1.37301I$ $b=\ 0.825384+0.041955I$	$-3.69121-9.90376I$	$-5.08873+7.26877I$
$u=\ 0.459821$ $a=\ 2.00067$ $b=-0.459821$	0.847552	-3.28860
$u=\ 0.430359+0.130610I$ $a=\ 0.19719-2.75683I$ $b=-0.430359-0.130610I$	$-3.09214-3.56138I$	$-12.77052+2.44534I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.430359 - 0.130610I$ $a = 0.19719 + 2.75683I$ $b = -0.430359 + 0.130610I$	$-3.09214 + 3.56138I$	$-12.77052 - 2.44534I$
$u = -0.11773 + 1.61494I$ $a = 0.192085 + 1.294340I$ $b = 0.11773 - 1.61494I$	$7.37277 - 3.06323I$	$3.30604 + 4.71221I$
$u = -0.11773 - 1.61494I$ $a = 0.192085 - 1.294340I$ $b = 0.11773 + 1.61494I$	$7.37277 + 3.06323I$	$3.30604 - 4.71221I$
$u = 0.48097 + 1.68955I$ $a = -0.092254 + 1.087490I$ $b = -0.48097 - 1.68955I$	$4.36590 - 8.31847I$	$0.45301 + 5.31811I$
$u = 0.48097 - 1.68955I$ $a = -0.092254 - 1.087490I$ $b = -0.48097 + 1.68955I$	$4.36590 + 8.31847I$	$0.45301 - 5.31811I$
$u = -0.04106 + 1.82490I$ $a = 0.142096 + 0.733083I$ $b = 0.04106 - 1.82490I$	$8.28470 - 0.78469I$	$-3.05154 + 9.47045I$
$u = -0.04106 - 1.82490I$ $a = 0.142096 - 0.733083I$ $b = 0.04106 + 1.82490I$	$8.28470 + 0.78469I$	$-3.05154 - 9.47045I$

IV.

$\boldsymbol{I_4^u = \langle -3.36\times 10^4 u^{15} + 9.86\times 10^4 u^{14} + \cdots + 3.33\times 10^5 b + 1.54\times 10^5,\ -3.12\times 10^5 u^{15} + 1.54\times 10^6 u^{14} + \cdots + 3.33\times 10^5 a - 7.33\times 10^5,\ u^{16} - 5u^{15} + \cdots - u + 1\rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.937203u^{15} - 4.62909u^{14} + \cdots - 1.17521u + 2.20563 \\ 0.101127u^{15} - 0.296574u^{14} + \cdots - 0.903362u - 0.464567 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -0.501210u^{15} + 2.55767u^{14} + \cdots - 0.852218u + 0.136805 \\ 0.158770u^{15} - 0.409478u^{14} + \cdots + 0.726004u + 0.178206 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.03833u^{15} - 4.92566u^{14} + \cdots - 2.07857u + 1.74107 \\ 0.101127u^{15} - 0.296574u^{14} + \cdots - 0.903362u - 0.464567 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -1.27955u^{15} + 6.69195u^{14} + \cdots - 8.52424u + 2.17055 \\ -0.636560u^{15} + 3.07487u^{14} + \cdots + 3.40954u - 0.903362 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.03833u^{15} - 4.92566u^{14} + \cdots - 2.07857u + 1.74107 \\ 0.385047u^{15} - 1.17822u^{14} + \cdots - 1.67570u - 0.730557 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.25646u^{15} - 11.0019u^{14} + \cdots + 6.92305u - 1.53389 \\ 1.49746u^{15} - 6.42262u^{14} + \cdots - 3.57726u + 0.356262 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.59002u^{15} - 7.93196u^{14} + \cdots + 6.32355u - 1.43155 \\ 0.976913u^{15} - 4.30996u^{14} + \cdots - 2.60119u + 0.636656 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.562648u^{15} + 3.34829u^{14} + \cdots + 2.37556u - 2.04349 \\ 1.25990u^{15} - 5.70605u^{14} + \cdots + 3.82264u - 0.286361 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{1897388}{332531}u^{15} + \frac{8530028}{332531}u^{14} + \cdots + \frac{3266028}{332531}u - \frac{1136623}{332531}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{16} - 5u^{15} + \cdots - u + 1$
c_2, c_{11}	$u^{16} + 4u^{14} + \cdots + 3u + 1$
c_3, c_{10}	$u^{16} + u^{15} + \cdots + 2u + 1$
c_5	$u^{16} + 2u^{15} + \cdots - 3u + 1$
c_6	$(u^8 - 3u^7 + 5u^6 - 6u^5 + 7u^4 - 6u^3 + 5u^2 - 3u + 1)^2$
c_7	$(u^8 + 4u^7 + 8u^6 + 14u^5 + 19u^4 + 17u^3 + 11u^2 + 4u + 1)^2$
c_8	$u^{16} + 5u^{15} + \cdots + u + 1$
c_9	$(u^8 + u^7 + 4u^6 + u^5 + 4u^4 - u^3 + 2u^2 + 1)^2$
c_{12}	$(u^8 - u^7 + 4u^6 - u^5 + 4u^4 + u^3 + 2u^2 + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8	$y^{16} + 5y^{15} + \cdots + 9y + 1$
c_2, c_{11}	$y^{16} + 8y^{15} + \cdots - 9y + 1$
c_3, c_{10}	$y^{16} + 7y^{15} + \cdots - 8y + 1$
c_5	$y^{16} + 8y^{15} + \cdots - 29y + 1$
c_6	$(y^8 + y^7 + 3y^6 + 8y^5 + 11y^4 + 8y^3 + 3y^2 + y + 1)^2$
c_7	$(y^8 - 10y^6 - 6y^5 + 31y^4 + 33y^3 + 23y^2 + 6y + 1)^2$
c_9, c_{12}	$(y^8 + 7y^7 + 22y^6 + 37y^5 + 36y^4 + 23y^3 + 12y^2 + 4y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.843588 + 0.342312I$ $a = 0.683371 + 0.531641I$ $b = 0.428384 + 0.721790I$	$-2.13046 + 3.26530I$	$2.52059 - 6.28046I$
$u = 0.843588 - 0.342312I$ $a = 0.683371 - 0.531641I$ $b = 0.428384 - 0.721790I$	$-2.13046 - 3.26530I$	$2.52059 + 6.28046I$
$u = -0.428384 + 0.721790I$ $a = -0.939049 + 0.010775I$ $b = -0.843588 + 0.342312I$	$-2.13046 - 3.26530I$	$2.52059 + 6.28046I$
$u = -0.428384 - 0.721790I$ $a = -0.939049 - 0.010775I$ $b = -0.843588 - 0.342312I$	$-2.13046 + 3.26530I$	$2.52059 - 6.28046I$
$u = -0.298278 + 1.136440I$ $a = -0.209166 - 1.364500I$ $b = -0.09497 + 1.91727I$	$5.17180 + 5.22804I$	$-0.86821 - 8.88887I$
$u = -0.298278 - 1.136440I$ $a = -0.209166 + 1.364500I$ $b = -0.09497 - 1.91727I$	$5.17180 - 5.22804I$	$-0.86821 + 8.88887I$
$u = 1.042950 + 0.610170I$ $a = 0.439205 + 1.152430I$ $b = 0.207431 - 0.376211I$	$-4.18130 + 0.80828I$	$-8.44989 + 6.49561I$
$u = 1.042950 - 0.610170I$ $a = 0.439205 - 1.152430I$ $b = 0.207431 + 0.376211I$	$-4.18130 - 0.80828I$	$-8.44989 - 6.49561I$
$u = 0.003076 + 0.768345I$ $a = 0.610401 - 0.306734I$ $b = -1.44951 - 0.12338I$	$-2.14992 - 1.35977I$	$0.79752 + 2.34408I$
$u = 0.003076 - 0.768345I$ $a = 0.610401 + 0.306734I$ $b = -1.44951 + 0.12338I$	$-2.14992 + 1.35977I$	$0.79752 - 2.34408I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.44951 + 0.12338I$ $a = 0.189996 + 0.306734I$ $b = -0.003076 - 0.768345I$	$-2.14992 - 1.35977I$	$0.79752 + 2.34408I$
$u = 1.44951 - 0.12338I$ $a = 0.189996 - 0.306734I$ $b = -0.003076 + 0.768345I$	$-2.14992 + 1.35977I$	$0.79752 - 2.34408I$
$u = -0.207431 + 0.376211I$ $a = 3.27176 - 1.15243I$ $b = -1.042950 - 0.610170I$	$-4.18130 + 0.80828I$	$-8.44989 + 6.49561I$
$u = -0.207431 - 0.376211I$ $a = 3.27176 + 1.15243I$ $b = -1.042950 + 0.610170I$	$-4.18130 - 0.80828I$	$-8.44989 - 6.49561I$
$u = 0.09497 + 1.91727I$ $a = -0.046513 - 0.843632I$ $b = 0.298278 + 1.136440I$	$5.17180 - 5.22804I$	$-0.86821 + 8.88887I$
$u = 0.09497 - 1.91727I$ $a = -0.046513 + 0.843632I$ $b = 0.298278 - 1.136440I$	$5.17180 + 5.22804I$	$-0.86821 - 8.88887I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^{16}-5u^{15}+\cdots-u+1)(u^{17}-2u^{16}+\cdots+7u-1)$ $\cdot(u^{29}+2u^{28}+\cdots-13u^2-1)(u^{70}+4u^{69}+\cdots-25055u+7321)$
c_2, c_{11}	$(u^{16}+4u^{14}+\cdots+3u+1)(u^{17}+u^{16}+\cdots-u-1)$ $\cdot(u^{29}-u^{28}+\cdots+6u-1)(u^{70}+3u^{69}+\cdots+4797u+373)$
c_3, c_{10}	$(u^{16}+u^{15}+\cdots+2u+1)(u^{17}+u^{16}+\cdots+2u-1)$ $\cdot(u^{29}-u^{28}+\cdots+3u-1)(u^{70}+7u^{68}+\cdots-28u+1)$
c_5	$(u^{16}+2u^{15}+\cdots-3u+1)(u^{17}+2u^{15}+\cdots+8u+47)$ $\cdot(u^{29}-2u^{28}+\cdots+15u-1)(u^{70}+3u^{69}+\cdots+13827u-2381)$
c_6	$(u^8-3u^7+5u^6-6u^5+7u^4-6u^3+5u^2-3u+1)^2$ $\cdot(u^{17}+10u^{16}+\cdots-u-1)(u^{29}-19u^{28}+\cdots-36u+8)$ $\cdot(u^{35}+8u^{34}+\cdots+4u+1)^2$
c_7	$(u^8+4u^7+8u^6+14u^5+19u^4+17u^3+11u^2+4u+1)^2$ $\cdot(u^{17}-6u^{16}+\cdots+11u+11)(u^{29}-25u^{28}+\cdots+26368u-2560)$ $\cdot(u^{35}+13u^{34}+\cdots-28u-1)^2$
c_8	$(u^{16}+5u^{15}+\cdots+u+1)(u^{17}+2u^{16}+\cdots+7u+1)$ $\cdot(u^{29}+2u^{28}+\cdots-13u^2-1)(u^{70}+4u^{69}+\cdots-25055u+7321)$
c_9	$((u^8+u^7+\cdots+2u^2+1)^2)(u^{17}+6u^{16}+\cdots+36u+9)$ $\cdot(u^{29}+13u^{28}+\cdots-544u-64)(u^{35}-10u^{34}+\cdots+29u-7)^2$
c_{12}	$((u^8-u^7+\cdots+2u^2+1)^2)(u^{17}-6u^{16}+\cdots+36u-9)$ $\cdot(u^{29}+13u^{28}+\cdots-544u-64)(u^{35}-10u^{34}+\cdots+29u-7)^2$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_8	$(y^{16}+5y^{15}+\cdots+9y+1)(y^{17}+12y^{16}+\cdots+19y-1)$ $\cdot(y^{29}+38y^{28}+\cdots-26y-1)$ $\cdot(y^{70}+64y^{69}+\cdots-6291205415y+53597041)$
c_2, c_{11}	$(y^{16}+8y^{15}+\cdots-9y+1)(y^{17}-y^{16}+\cdots-15y-1)$ $\cdot(y^{29}-3y^{28}+\cdots+8y-1)(y^{70}-y^{69}+\cdots-4085189y+139129)$
c_3, c_{10}	$(y^{16}+7y^{15}+\cdots-8y+1)(y^{17}+3y^{16}+\cdots+12y-1)$ $\cdot(y^{29}-7y^{28}+\cdots+11y-1)(y^{70}+14y^{69}+\cdots-416y+1)$
c_5	$(y^{16}+8y^{15}+\cdots-29y+1)(y^{17}+4y^{16}+\cdots+8524y-2209)$ $\cdot(y^{29}+2y^{28}+\cdots+99y-1)$ $\cdot(y^{70}+19y^{69}+\cdots-521935401y+5669161)$
c_6	$(y^8+y^7+3y^6+8y^5+11y^4+8y^3+3y^2+y+1)^2$ $\cdot(y^{17}+4y^{16}+\cdots+15y-1)(y^{29}+3y^{28}+\cdots-1264y-64)$ $\cdot(y^{35}-2y^{34}+\cdots+18y-1)^2$
c_7	$(y^8-10y^6-6y^5+31y^4+33y^3+23y^2+6y+1)^2$ $\cdot(y^{17}-12y^{16}+\cdots-715y-121)$ $\cdot(y^{29}-17y^{28}+\cdots-26279936y-6553600)$ $\cdot(y^{35}-45y^{34}+\cdots+92y-1)^2$
c_9, c_{12}	$(y^8+7y^7+22y^6+37y^5+36y^4+23y^3+12y^2+4y+1)^2$ $\cdot(y^{17}+6y^{16}+\cdots-558y-81)(y^{29}+17y^{28}+\cdots-52736y-4096)$ $\cdot(y^{35}+12y^{34}+\cdots-825y-49)^2$