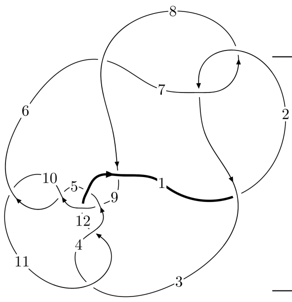
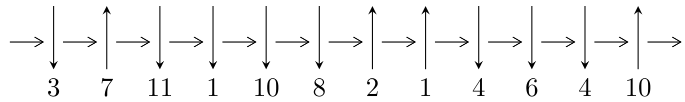
$12n_{0612}$ ($K12n_{0612}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & b - u, \\
& 65065875226664520u^{27} + 9394396496362895u^{26} + \cdots + 76364734116743a + 26735659168418070, \\
& u^{28} + 23u^{26} + \cdots - 3u + 1\rangle \\
I_2^u = \langle & b + u,\ 5u^{16} + u^{15} + \cdots + a - 5, \\
& u^{17} + 3u^{15} - u^{14} - 4u^{13} - 5u^{11} + 5u^{10} + 11u^9 - 6u^8 - 2u^7 - 2u^6 - 7u^5 + 8u^4 + 5u^3 - 5u^2 - u + 1\rangle \\
I_3^u = \langle & 1.90741 \times 10^{76}u^{35} + 2.50394 \times 10^{76}u^{34} + \cdots + 5.34816 \times 10^{78}b - 7.63438 \times 10^{78}, \\
& 4.20379 \times 10^{66}u^{35} + 2.74371 \times 10^{66}u^{34} + \cdots + 1.04184 \times 10^{69}a - 1.38242 \times 10^{70}, \\
& u^{36} + u^{35} + \cdots - 2560u + 121\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 81 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. $\boldsymbol{I_1^u = \langle b-u,\ 6.51\times 10^{16}u^{27} + 9.39\times 10^{15}u^{26} + \cdots + 7.64\times 10^{13}a + 2.67\times 10^{16},\ u^{28} + 23u^{26} + \cdots - 3u + 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -852.041u^{27} - 123.020u^{26} + \cdots - 1960.13u - 350.105 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -104.065u^{27} + 370.478u^{26} + \cdots - 4216.19u + 1309.36 \\ -42.7858u^{27} + 67.8173u^{26} + \cdots - 845.364u + 240.781 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -852.041u^{27} - 123.020u^{26} + \cdots - 1959.13u - 350.105 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -852.041u^{27} - 123.020u^{26} + \cdots - 1959.13u - 350.105 \\ 240.781u^{27} + 42.7858u^{26} + \cdots + 483.981u + 123.020 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -456.322u^{27} + 18.9555u^{26} + \cdots - 1801.95u + 59.0018 \\ -240.781u^{27} - 42.7858u^{26} + \cdots - 481.981u - 123.020 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -697.103u^{27} - 23.8304u^{26} + \cdots - 2283.93u - 64.0183 \\ -240.781u^{27} - 42.7858u^{26} + \cdots - 481.981u - 123.020 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -186.897u^{27} + 111.670u^{26} + \cdots - 1633.52u + 381.526 \\ 80.2342u^{27} - 172.964u^{26} + \cdots + 2060.86u - 611.260 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 643.875u^{27} + 247.704u^{26} + \cdots - 217.453u + 810.960 \\ -403.888u^{27} + 1.74743u^{26} + \cdots - 1518.50u + 43.0095 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 20.8672u^{27} - 274.777u^{26} + \cdots + 2601.82u - 917.955 \\ -35.7010u^{27} + 222.640u^{26} + \cdots - 2384.15u + 774.366 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $=$
$-\frac{57088194451595465}{76364734116743}u^{27} + \frac{88581311353921087}{76364734116743}u^{26} + \cdots - \frac{1111026347572146836}{76364734116743}u + \frac{313608959053702506}{76364734116743}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{28} + 9u^{27} + \cdots + 84u + 16$
c_2, c_7	$u^{28} + 5u^{27} + \cdots + 2u + 4$
c_3, c_5, c_{10} c_{11}	$u^{28} + u^{27} + \cdots + 4u + 1$
c_4, c_9	$u^{28} + 23u^{26} + \cdots + 3u + 1$
c_8	$u^{28} - 25u^{27} + \cdots - 98862u + 9028$
c_{12}	$u^{28} + 21u^{27} + \cdots + 3584u + 512$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{28} + 21y^{27} + \cdots + 2064y + 256$
c_2, c_7	$y^{28} + 9y^{27} + \cdots + 84y + 16$
c_3, c_5, c_{10} c_{11}	$y^{28} - 11y^{27} + \cdots - 6y + 1$
c_4, c_9	$y^{28} + 46y^{27} + \cdots + 49y + 1$
c_8	$y^{28} - 3y^{27} + \cdots + 785869044y + 81504784$
c_{12}	$y^{28} - 17y^{27} + \cdots + 4456448y + 262144$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.062917+0.794694I$ $a=-1.44001-0.70376I$ $b=-0.062917+0.794694I$	$-1.93668-4.60321I$	$-5.64825+3.26019I$
$u=-0.062917-0.794694I$ $a=-1.44001+0.70376I$ $b=-0.062917-0.794694I$	$-1.93668+4.60321I$	$-5.64825-3.26019I$
$u=\ 0.193820+0.693750I$ $a=\ 1.312680-0.250146I$ $b=\ 0.193820+0.693750I$	$-0.409488-0.484105I$	$-3.68035+2.98454I$
$u=\ 0.193820-0.693750I$ $a=\ 1.312680+0.250146I$ $b=\ 0.193820-0.693750I$	$-0.409488+0.484105I$	$-3.68035-2.98454I$
$u=-0.015958+0.620215I$ $a=-2.15814-0.25579I$ $b=-0.015958+0.620215I$	$-5.53121+1.96442I$	$-8.05770-3.63784I$
$u=-0.015958-0.620215I$ $a=-2.15814+0.25579I$ $b=-0.015958-0.620215I$	$-5.53121-1.96442I$	$-8.05770+3.63784I$
$u=\ 0.007916+0.540155I$ $a=-2.68846+0.36830I$ $b=\ 0.007916+0.540155I$	$-0.95872+8.32918I$	$-2.85757-9.28705I$
$u=\ 0.007916-0.540155I$ $a=-2.68846-0.36830I$ $b=\ 0.007916-0.540155I$	$-0.95872-8.32918I$	$-2.85757+9.28705I$
$u=\ 0.018995+0.532352I$ $a=\ 2.36847+0.52484I$ $b=\ 0.018995+0.532352I$	$0.30181-2.82865I$	$-1.29087+4.58370I$
$u=\ 0.018995-0.532352I$ $a=\ 2.36847-0.52484I$ $b=\ 0.018995-0.532352I$	$0.30181+2.82865I$	$-1.29087-4.58370I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.25002 + 1.56539I$ $a = 0.238631 - 0.969260I$ $b = -0.25002 + 1.56539I$	$0.93824 + 1.99231I$	0
$u = -0.25002 - 1.56539I$ $a = 0.238631 + 0.969260I$ $b = -0.25002 - 1.56539I$	$0.93824 - 1.99231I$	0
$u = 0.005308 + 0.404634I$ $a = 0.23723 + 2.20308I$ $b = 0.005308 + 0.404634I$	$3.88624 - 2.72415I$	$0.13151 + 3.72503I$
$u = 0.005308 - 0.404634I$ $a = 0.23723 - 2.20308I$ $b = 0.005308 - 0.404634I$	$3.88624 + 2.72415I$	$0.13151 - 3.72503I$
$u = 0.182846 + 0.331511I$ $a = 0.690101 + 0.486506I$ $b = 0.182846 + 0.331511I$	$-0.224067 - 0.893165I$	$-4.75660 + 7.55885I$
$u = 0.182846 - 0.331511I$ $a = 0.690101 - 0.486506I$ $b = 0.182846 - 0.331511I$	$-0.224067 + 0.893165I$	$-4.75660 - 7.55885I$
$u = -0.50624 + 1.65356I$ $a = 0.039303 - 0.997212I$ $b = -0.50624 + 1.65356I$	$-0.51665 + 9.12206I$	0
$u = -0.50624 - 1.65356I$ $a = 0.039303 + 0.997212I$ $b = -0.50624 - 1.65356I$	$-0.51665 - 9.12206I$	0
$u = 0.35393 + 1.72346I$ $a = -0.116049 - 0.916399I$ $b = 0.35393 + 1.72346I$	$3.78322 - 6.15036I$	0
$u = 0.35393 - 1.72346I$ $a = -0.116049 + 0.916399I$ $b = 0.35393 - 1.72346I$	$3.78322 + 6.15036I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.62895 + 1.78797I$ $a = -0.052590 - 0.928175I$ $b = -0.62895 + 1.78797I$	$5.5259 + 15.3858I$	0
$u = -0.62895 - 1.78797I$ $a = -0.052590 + 0.928175I$ $b = -0.62895 - 1.78797I$	$5.5259 - 15.3858I$	0
$u = 0.57825 + 1.81066I$ $a = 0.026177 - 0.911601I$ $b = 0.57825 + 1.81066I$	$6.63527 - 9.39925I$	0
$u = 0.57825 - 1.81066I$ $a = 0.026177 + 0.911601I$ $b = 0.57825 - 1.81066I$	$6.63527 + 9.39925I$	0
$u = 0.16208 + 1.89611I$ $a = 0.245895 - 0.654376I$ $b = 0.16208 + 1.89611I$	$9.28183 - 2.22011I$	0
$u = 0.16208 - 1.89611I$ $a = 0.245895 + 0.654376I$ $b = 0.16208 - 1.89611I$	$9.28183 + 2.22011I$	0
$u = -0.03905 + 1.92499I$ $a = -0.203229 - 0.694596I$ $b = -0.03905 + 1.92499I$	$9.65564 - 4.10797I$	0
$u = -0.03905 - 1.92499I$ $a = -0.203229 + 0.694596I$ $b = -0.03905 - 1.92499I$	$9.65564 + 4.10797I$	0

II. $I_2^u = \langle b + u,\ 5u^{16} + u^{15} + \cdots + a - 5,\ u^{17} + 3u^{15} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -5u^{16} - u^{15} + \cdots + 12u + 5 \\ -u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 5u^{16} + 5u^{15} + \cdots + u - 16 \\ u^2 + 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -5u^{16} - u^{15} + \cdots + 11u + 5 \\ -u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -5u^{16} - u^{15} + \cdots + 11u + 5 \\ -u^{16} - 3u^{14} + \cdots + 3u + 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 12u^{16} + 4u^{15} + \cdots - 17u - 11 \\ -u^{16} - 3u^{14} + \cdots + 5u + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 11u^{16} + 4u^{15} + \cdots - 12u - 10 \\ -u^{16} - 3u^{14} + \cdots + 5u + 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -10u^{16} - 11u^{15} + \cdots - 5u + 23 \\ u^{16} + u^{15} + \cdots + 13u^2 - 6 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -16u^{16} - 10u^{15} + \cdots + 13u + 29 \\ -23u^{16} - 10u^{15} + \cdots + 22u + 18 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 9u^{16} + 13u^{15} + \cdots + 12u - 21 \\ u^{16} + 2u^{15} + \cdots + 3u + 4 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 45u^{16} + 45u^{15} + 162u^{14} + 117u^{13} - 128u^{12} - 110u^{11} - 304u^{10} - 68u^9 + 533u^8 + 181u^7 - 36u^6 - 69u^5 - 426u^4 + u^3 + 315u^2 - u - 77$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{17} - 6u^{16} + \cdots - 18u^2 + 1$
c_2	$u^{17} + 3u^{15} + \cdots + 2u - 1$
c_3, c_{10}	$u^{17} - u^{16} + \cdots + 3u^2 + 1$
c_4, c_9	$u^{17} + 3u^{15} + \cdots - u + 1$
c_5, c_{11}	$u^{17} + u^{16} + \cdots - 3u^2 - 1$
c_7	$u^{17} + 3u^{15} + \cdots + 2u + 1$
c_8	$u^{17} - u^{15} + \cdots + 2u + 1$
c_{12}	$u^{17} - 6u^{16} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{17} + 14y^{16} + \cdots + 36y - 1$
c_2, c_7	$y^{17} + 6y^{16} + \cdots + 18y^2 - 1$
c_3, c_5, c_{10} c_{11}	$y^{17} - 11y^{16} + \cdots - 6y - 1$
c_4, c_9	$y^{17} + 6y^{16} + \cdots + 11y - 1$
c_8	$y^{17} - 2y^{16} + \cdots - 2y - 1$
c_{12}	$y^{17} - 14y^{16} + \cdots + 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.944344+0.346033I$ $a=\ \ 0.447652-0.512355I$ $b=\ \ 0.944344-0.346033I$	$-1.03956-1.63645I$	$-7.74530+1.55839I$
$u=-0.944344-0.346033I$ $a=\ \ 0.447652+0.512355I$ $b=\ \ 0.944344+0.346033I$	$-1.03956+1.63645I$	$-7.74530-1.55839I$
$u=\ \ 0.864585+0.379164I$ $a=-0.583910-0.698557I$ $b=-0.864585-0.379164I$	$-2.10829+7.37198I$	$-8.93029-5.91248I$
$u=\ \ 0.864585-0.379164I$ $a=-0.583910+0.698557I$ $b=-0.864585+0.379164I$	$-2.10829-7.37198I$	$-8.93029+5.91248I$
$u=-0.037669+1.084830I$ $a=\ \ 0.11324+1.69832I$ $b=\ \ 0.037669-1.084830I$	$5.48501-2.53801I$	$5.54821+3.82197I$
$u=-0.037669-1.084830I$ $a=\ \ 0.11324-1.69832I$ $b=\ \ 0.037669+1.084830I$	$5.48501+2.53801I$	$5.54821-3.82197I$
$u=-0.878247$ $a=-0.337583$ $b=\ \ 0.878247$	-3.63803	-10.5770
$u=\ \ 0.791817+0.212409I$ $a=\ \ 0.104106-0.968399I$ $b=-0.791817-0.212409I$	$-7.18587+1.52748I$	$-14.7986-1.1989I$
$u=\ \ 0.791817-0.212409I$ $a=\ \ 0.104106+0.968399I$ $b=-0.791817+0.212409I$	$-7.18587-1.52748I$	$-14.7986+1.1989I$
$u=-0.714015+0.074924I$ $a=-1.185250-0.688415I$ $b=\ \ 0.714015-0.074924I$	$-3.09442-0.79036I$	$-5.12753-0.89506I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.714015 - 0.074924I$ $a = -1.185250 + 0.688415I$ $b = 0.714015 + 0.074924I$	$-3.09442 + 0.79036I$	$-5.12753 + 0.89506I$
$u = 0.704468 + 0.121688I$ $a = 1.00603 - 1.10552I$ $b = -0.704468 - 0.121688I$	$-3.93940 - 4.16488I$	$-8.44169 + 5.58918I$
$u = 0.704468 - 0.121688I$ $a = 1.00603 + 1.10552I$ $b = -0.704468 + 0.121688I$	$-3.93940 + 4.16488I$	$-8.44169 - 5.58918I$
$u = -0.145937 + 1.315070I$ $a = 0.223886 + 1.159350I$ $b = 0.145937 - 1.315070I$	$2.99124 + 0.77564I$	$-5.07814 + 0.88442I$
$u = -0.145937 - 1.315070I$ $a = 0.223886 - 1.159350I$ $b = 0.145937 + 1.315070I$	$2.99124 - 0.77564I$	$-5.07814 - 0.88442I$
$u = -0.07978 + 1.85790I$ $a = 0.043035 + 0.691466I$ $b = 0.07978 - 1.85790I$	$9.06537 + 3.10101I$	$-4.13830 - 3.69699I$
$u = -0.07978 - 1.85790I$ $a = 0.043035 - 0.691466I$ $b = 0.07978 + 1.85790I$	$9.06537 - 3.10101I$	$-4.13830 + 3.69699I$

III. $I^u_3 =$
$\langle 1.91\times10^{76}u^{35}+2.50\times10^{76}u^{34}+\cdots+5.35\times10^{78}b-7.63\times10^{78},\ 4.20\times10^{66}u^{35}+2.74\times10^{66}u^{34}+\cdots+1.04\times10^{69}a-1.38\times10^{70},\ u^{36}+u^{35}+\cdots-2560u+121\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.00403497u^{35}-0.00263353u^{34}+\cdots-21.5564u+13.2691\\-0.00356648u^{35}-0.00468188u^{34}+\cdots-4.09637u+1.42748\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.00793734u^{35}-0.00974330u^{34}+\cdots-11.1664u+16.8486\\0.00140145u^{35}+0.000977635u^{34}+\cdots+2.93952u+1.48823\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-0.00760145u^{35}-0.00731541u^{34}+\cdots-25.6527u+14.6965\\-0.00356648u^{35}-0.00468188u^{34}+\cdots-4.09637u+1.42748\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-0.00760145u^{35}-0.00731541u^{34}+\cdots-25.6527u+14.6965\\-0.00295648u^{35}-0.00407097u^{34}+\cdots-2.44432u+1.39287\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.00422949u^{35}+0.00563094u^{34}+\cdots+7.10480u-7.88797\\0.00138215u^{35}+0.000407795u^{34}+\cdots+8.54688u-1.12999\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0.00561164u^{35}+0.00603873u^{34}+\cdots+15.6517u-9.01796\\0.00138215u^{35}+0.000407795u^{34}+\cdots+8.54688u-1.12999\end{pmatrix}$$
$$a_3 = \begin{pmatrix}0.00402228u^{35}+0.00505346u^{34}+\cdots+1.24783u-5.21219\\-0.00145650u^{35}-0.0000469624u^{34}+\cdots-9.38769u-0.107969\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.00308517u^{35}-0.00518618u^{34}+\cdots+5.15203u-1.65668\\0.00104331u^{35}+0.000744287u^{34}+\cdots+5.57828u-0.357559\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.00764445u^{35}-0.00742781u^{34}+\cdots-19.3477u+13.7010\\0.00208970u^{35}+0.00142347u^{34}+\cdots+4.84956u+1.05281\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0117322u^{35}-0.0177224u^{34}+\cdots+5.37839u+0.170272$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u^9 + 3u^8 + 8u^7 + 13u^6 + 17u^5 + 17u^4 + 12u^3 + 6u^2 + u - 1)^4$
c_2, c_7	$(u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1)^4$
c_3, c_5, c_{10} c_{11}	$u^{36} + u^{35} + \cdots - 356u - 31$
c_4, c_9	$u^{36} - u^{35} + \cdots + 2560u + 121$
c_8	$(u^9 + 5u^8 + 12u^7 + 15u^6 + 9u^5 - u^4 - 4u^3 - 2u^2 + u + 1)^4$
c_{12}	$(u^2 - u - 1)^{18}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1)^4$
c_2, c_7	$(y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1)^4$
c_3, c_5, c_{10} c_{11}	$y^{36} - 13y^{35} + \cdots - 49856y + 961$
c_4, c_9	$y^{36} + 23y^{35} + \cdots - 5714344y + 14641$
c_8	$(y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1)^4$
c_{12}	$(y^2 - 3y + 1)^{18}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.780953+0.638783I$ $a = 0.474153-0.387835I$ $b = -1.009880+0.558025I$	$-3.33090+2.45442I$	$-5.67208-2.91298I$
$u = 0.780953-0.638783I$ $a = 0.474153+0.387835I$ $b = -1.009880-0.558025I$	$-3.33090-2.45442I$	$-5.67208+2.91298I$
$u = 0.132026+0.843379I$ $a = -0.29315+1.87262I$ $b = -0.044584-1.300520I$	$4.56478+2.45442I$	$-5.67208-2.91298I$
$u = 0.132026-0.843379I$ $a = -0.29315-1.87262I$ $b = -0.044584+1.300520I$	$4.56478-2.45442I$	$-5.67208+2.91298I$
$u = -1.009880+0.558025I$ $a = -0.468838-0.259064I$ $b = 0.780953+0.638783I$	$-3.33090+2.45442I$	$-5.67208-2.91298I$
$u = -1.009880-0.558025I$ $a = -0.468838+0.259064I$ $b = 0.780953-0.638783I$	$-3.33090-2.45442I$	$-5.67208+2.91298I$
$u = -0.358853+0.748546I$ $a = -0.321847-0.671353I$ $b = -1.53825+0.06109I$	$-0.34972-7.08493I$	$-2.42320+5.91335I$
$u = -0.358853-0.748546I$ $a = -0.321847+0.671353I$ $b = -1.53825-0.06109I$	$-0.34972+7.08493I$	$-2.42320-5.91335I$
$u = 0.417017+0.614890I$ $a = 0.466909-0.688456I$ $b = 1.48241+0.01866I$	$0.423507+1.336170I$	$-0.715907-0.701750I$
$u = 0.417017-0.614890I$ $a = 0.466909+0.688456I$ $b = 1.48241-0.01866I$	$0.423507-1.336170I$	$-0.715907+0.701750I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.28654$ $a = 0.480385$ $b = 0.0498474$	-2.74940	0.652350
$u = -0.044584 + 1.300520I$ $a = 0.042601 + 1.242690I$ $b = 0.132026 - 0.843379I$	$4.56478 - 2.45442I$	$-5.67208 + 2.91298I$
$u = -0.044584 - 1.300520I$ $a = 0.042601 - 1.242690I$ $b = 0.132026 + 0.843379I$	$4.56478 + 2.45442I$	$-5.67208 - 2.91298I$
$u = 0.491968 + 1.251860I$ $a = -0.439989 + 1.119590I$ $b = -0.01428 - 1.56727I$	$2.16441 - 2.09337I$	$-8.51499 + 4.16283I$
$u = 0.491968 - 1.251860I$ $a = -0.439989 - 1.119590I$ $b = -0.01428 + 1.56727I$	$2.16441 + 2.09337I$	$-8.51499 - 4.16283I$
$u = -1.357600 + 0.226779I$ $a = -0.442882 - 0.073981I$ $b = 0.106990 + 0.598986I$	$-5.73128 - 2.09337I$	$-8.51499 + 4.16283I$
$u = -1.357600 - 0.226779I$ $a = -0.442882 + 0.073981I$ $b = 0.106990 - 0.598986I$	$-5.73128 + 2.09337I$	$-8.51499 - 4.16283I$
$u = 0.106990 + 0.598986I$ $a = 0.178600 - 0.999899I$ $b = -1.357600 + 0.226779I$	$-5.73128 - 2.09337I$	$-8.51499 + 4.16283I$
$u = 0.106990 - 0.598986I$ $a = 0.178600 + 0.999899I$ $b = -1.357600 - 0.226779I$	$-5.73128 + 2.09337I$	$-8.51499 - 4.16283I$
$u = 1.48241 + 0.01866I$ $a = 0.416845 - 0.005247I$ $b = 0.417017 + 0.614890I$	$0.423507 + 1.336170I$	$-0.715907 - 0.701750I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.48241 - 0.01866I$ $a = 0.416845 + 0.005247I$ $b = 0.417017 - 0.614890I$	$0.423507 - 1.336170I$	$-0.715907 + 0.701750I$
$u = -0.25523 + 1.49501I$ $a = 0.179535 + 1.051640I$ $b = -0.25523 - 1.49501I$	5.14629	$-60.652349 + 0.10I$
$u = -0.25523 - 1.49501I$ $a = 0.179535 - 1.051640I$ $b = -0.25523 + 1.49501I$	5.14629	$-60.652349 + 0.10I$
$u = -1.53825 + 0.06109I$ $a = -0.401145 - 0.015931I$ $b = -0.358853 + 0.748546I$	$-0.34972 - 7.08493I$	$-2.42320 + 5.91335I$
$u = -1.53825 - 0.06109I$ $a = -0.401145 + 0.015931I$ $b = -0.358853 - 0.748546I$	$-0.34972 + 7.08493I$	$-2.42320 - 5.91335I$
$u = -0.01428 + 1.56727I$ $a = 0.009404 + 1.032300I$ $b = 0.491968 - 1.251860I$	$2.16441 + 2.09337I$	$-8.51499 - 4.16283I$
$u = -0.01428 - 1.56727I$ $a = 0.009404 - 1.032300I$ $b = 0.491968 + 1.251860I$	$2.16441 - 2.09337I$	$-8.51499 + 4.16283I$
$u = 0.68303 + 1.50001I$ $a = -0.406822 + 0.893434I$ $b = 0.04160 - 1.80927I$	$7.54597 - 7.08493I$	$-2.42320 + 5.91335I$
$u = 0.68303 - 1.50001I$ $a = -0.406822 - 0.893434I$ $b = 0.04160 + 1.80927I$	$7.54597 + 7.08493I$	$-2.42320 - 5.91335I$
$u = -0.61176 + 1.54868I$ $a = 0.357003 + 0.903756I$ $b = -0.11375 - 1.79068I$	$8.31919 + 1.33617I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.61176-1.54868I$ $a=\ 0.357003-0.903756I$ $b=-0.11375+1.79068I$	$8.31919-1.33617I$	0
$u=-0.11375+1.79068I$ $a=\ 0.057170+0.899955I$ $b=-0.61176-1.54868I$	$8.31919-1.33617I$	0
$u=-0.11375-1.79068I$ $a=\ 0.057170-0.899955I$ $b=-0.61176+1.54868I$	$8.31919+1.33617I$	0
$u=\ 0.04160+1.80927I$ $a=-0.020553+0.893830I$ $b=\ 0.68303-1.50001I$	$7.54597+7.08493I$	$-4.00000-5.91335I$
$u=\ 0.04160-1.80927I$ $a=-0.020553-0.893830I$ $b=\ 0.68303+1.50001I$	$7.54597-7.08493I$	$-4.00000+5.91335I$
$u=\ 0.0498474$ $a=\ 12.3985$ $b=\ 1.28654$	-2.74940	0.652350

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)^4$ $\cdot(u^{17}-6u^{16}+\cdots-18u^2+1)(u^{28}+9u^{27}+\cdots+84u+16)$
c_2	$(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)^4$ $\cdot(u^{17}+3u^{15}+\cdots+2u-1)(u^{28}+5u^{27}+\cdots+2u+4)$
c_3, c_{10}	$(u^{17}-u^{16}+\cdots+3u^2+1)(u^{28}+u^{27}+\cdots+4u+1)$ $\cdot(u^{36}+u^{35}+\cdots-356u-31)$
c_4, c_9	$(u^{17}+3u^{15}+\cdots-u+1)(u^{28}+23u^{26}+\cdots+3u+1)$ $\cdot(u^{36}-u^{35}+\cdots+2560u+121)$
c_5, c_{11}	$(u^{17}+u^{16}+\cdots-3u^2-1)(u^{28}+u^{27}+\cdots+4u+1)$ $\cdot(u^{36}+u^{35}+\cdots-356u-31)$
c_7	$(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)^4$ $\cdot(u^{17}+3u^{15}+\cdots+2u+1)(u^{28}+5u^{27}+\cdots+2u+4)$
c_8	$(u^9+5u^8+12u^7+15u^6+9u^5-u^4-4u^3-2u^2+u+1)^4$ $\cdot(u^{17}-u^{15}+\cdots+2u+1)(u^{28}-25u^{27}+\cdots-98862u+9028)$
c_{12}	$((u^2-u-1)^{18})(u^{17}-6u^{16}+\cdots+2u+1)$ $\cdot(u^{28}+21u^{27}+\cdots+3584u+512)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)^4$ $\cdot\,(y^{17}+14y^{16}+\cdots+36y-1)(y^{28}+21y^{27}+\cdots+2064y+256)$
c_2, c_7	$(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)^4$ $\cdot\,(y^{17}+6y^{16}+\cdots+18y^2-1)(y^{28}+9y^{27}+\cdots+84y+16)$
c_3, c_5, c_{10} c_{11}	$(y^{17}-11y^{16}+\cdots-6y-1)(y^{28}-11y^{27}+\cdots-6y+1)$ $\cdot\,(y^{36}-13y^{35}+\cdots-49856y+961)$
c_4, c_9	$(y^{17}+6y^{16}+\cdots+11y-1)(y^{28}+46y^{27}+\cdots+49y+1)$ $\cdot\,(y^{36}+23y^{35}+\cdots-5714344y+14641)$
c_8	$(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)^4$ $\cdot\,(y^{17}-2y^{16}+\cdots-2y-1)$ $\cdot\,(y^{28}-3y^{27}+\cdots+785869044y+81504784)$
c_{12}	$((y^2-3y+1)^{18})(y^{17}-14y^{16}+\cdots+8y-1)$ $\cdot\,(y^{28}-17y^{27}+\cdots+4456448y+262144)$