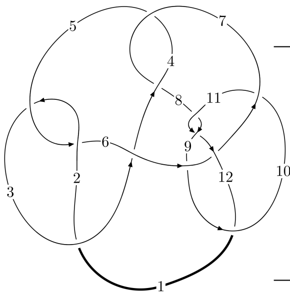
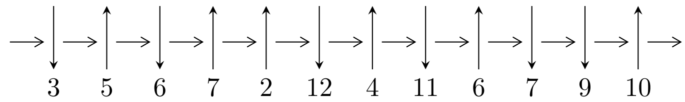
$12n_{0023}$ ($K12n_{0023}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -65383723517u^{23} - 453837508340u^{22} + \cdots + 2114755630640b - 190647925896, \\
& -283168958672u^{23} - 1828538327515u^{22} + \cdots + 422951126128a - 1427493398353, \\
& u^{24} + 7u^{23} + \cdots + 4u + 1\rangle \\
I_2^u = \langle & -u^3 - u^2 + b - u,\ -u^3 + a - u + 1,\ u^4 + u^2 - u + 1\rangle \\
I_3^u = \langle & 85a^4u - 127a^4 + 387a^3u - 586a^3 + 170a^2u - 254a^2 - 1331au + 661b + 690a - 639u + 76, \\
& a^5 + a^4u + 5a^4 + 3a^3u + 4a^3 + 4a^2u - 6a^2 + 4au - 7a + 3u - 1,\ u^2 - u + 1\rangle \\
I_4^u = \langle & -u^5 - u^4 - 2u^3 - u^2 + b - u - 1,\ -u^3 - 2u^2 + a - 2u - 1,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 44 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.

$$\boldsymbol{I_1^u = \langle -6.54\times10^{10}u^{23} - 4.54\times10^{11}u^{22} + \cdots + 2.11\times10^{11}b - 1.91\times10^{11},\ -2.83\times10^{11}u^{23} - 1.83\times10^{12}u^{22} + \cdots + 4.23\times10^{11}a - 1.43\times10^{12},\ u^{24} + 7u^{23} + \cdots + 4u + 1\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.669508u^{23} + 4.32329u^{22} + \cdots - 0.711116u + 3.37508 \\ 0.309179u^{23} + 2.14605u^{22} + \cdots + 1.09437u + 0.901513 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.360329u^{23} + 2.17723u^{22} + \cdots - 1.80549u + 2.47357 \\ 0.309179u^{23} + 2.14605u^{22} + \cdots + 1.09437u + 0.901513 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.954675u^{23} + 6.60431u^{22} + \cdots + 5.13017u + 0.682204 \\ 0.103867u^{23} + 0.631846u^{22} + \cdots + 1.92070u + 0.466780 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.379476u^{23} - 2.46625u^{22} + \cdots - 1.86572u - 1.71578 \\ -0.260086u^{23} - 1.75059u^{22} + \cdots - 0.202905u - 0.639562 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -0.336233u^{23} - 2.26307u^{22} + \cdots - 1.85658u - 1.73341 \\ -0.223668u^{23} - 1.41378u^{22} + \cdots + 0.416575u - 0.352405 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.406427u^{23} + 2.72175u^{22} + \cdots - 0.116545u + 1.59093 \\ 0.178954u^{23} + 1.12467u^{22} + \cdots + 1.69860u + 0.508208 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -\frac{372525508513}{422951126128}u^{23} - \frac{297894180927}{52868890766}u^{22} + \cdots - \frac{5224084603407}{422951126128}u - \frac{308570800851}{52868890766}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{24}+3u^{23}+\cdots-8u+1$
c_2, c_5	$u^{24}+7u^{23}+\cdots+4u+1$
c_3	$u^{24}-7u^{23}+\cdots+155372u+47236$
c_4, c_7	$u^{24}+2u^{23}+\cdots+7168u+1024$
c_6	$u^{24}-4u^{23}+\cdots-3u+1$
c_8, c_{11}	$u^{24}-13u^{23}+\cdots-2u+1$
c_9	$u^{24}-2u^{23}+\cdots+2185u+1831$
c_{10}	$u^{24}+4u^{23}+\cdots-3009503u+1672193$
c_{12}	$u^{24}+u^{23}+\cdots-5120u+1024$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{24} + 43y^{23} + \cdots + 60y + 1$
c_2, c_5	$y^{24} + 3y^{23} + \cdots - 8y + 1$
c_3	$y^{24} + 107y^{23} + \cdots - 359116296y + 2231239696$
c_4, c_7	$y^{24} - 30y^{23} + \cdots - 3145728y + 1048576$
c_6	$y^{24} + 30y^{22} + \cdots + y + 1$
c_8, c_{11}	$y^{24} - 27y^{23} + \cdots - 198y + 1$
c_9	$y^{24} + 20y^{23} + \cdots + 72680737y + 3352561$
c_{10}	$y^{24} + 132y^{23} + \cdots + 20945455419869y + 2796229429249$
c_{12}	$y^{24} - 57y^{23} + \cdots - 1572864y + 1048576$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.389764 + 0.874669I$ $a = -2.77917 - 3.58598I$ $b = 0.772730 + 0.886269I$	$-2.26240 + 2.45863I$	$-0.58956 - 2.80745I$
$u = 0.389764 - 0.874669I$ $a = -2.77917 + 3.58598I$ $b = 0.772730 - 0.886269I$	$-2.26240 - 2.45863I$	$-0.58956 + 2.80745I$
$u = 0.531670 + 0.965706I$ $a = -1.110060 - 0.431467I$ $b = 0.161827 - 0.572669I$	$-0.14272 + 2.78886I$	$1.24898 - 0.91559I$
$u = 0.531670 - 0.965706I$ $a = -1.110060 + 0.431467I$ $b = 0.161827 + 0.572669I$	$-0.14272 - 2.78886I$	$1.24898 + 0.91559I$
$u = 0.476195 + 0.627959I$ $a = -0.327508 + 0.824390I$ $b = 0.002656 + 0.357569I$	$0.84077 + 1.37467I$	$5.35239 - 4.26754I$
$u = 0.476195 - 0.627959I$ $a = -0.327508 - 0.824390I$ $b = 0.002656 - 0.357569I$	$0.84077 - 1.37467I$	$5.35239 + 4.26754I$
$u = -0.686903 + 1.011450I$ $a = -0.675553 - 0.075442I$ $b = 0.016958 + 1.263390I$	$-5.30004 - 7.06597I$	$-3.39619 + 6.37751I$
$u = -0.686903 - 1.011450I$ $a = -0.675553 + 0.075442I$ $b = 0.016958 - 1.263390I$	$-5.30004 + 7.06597I$	$-3.39619 - 6.37751I$
$u = -0.539649 + 1.181310I$ $a = 0.959620 - 0.350796I$ $b = -1.16629 - 1.15098I$	$-5.91731 + 1.32680I$	$-4.55064 - 0.68264I$
$u = -0.539649 - 1.181310I$ $a = 0.959620 + 0.350796I$ $b = -1.16629 + 1.15098I$	$-5.91731 - 1.32680I$	$-4.55064 + 0.68264I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.064580 + 0.846503I$ $a = -0.62366 - 1.42540I$ $b = 1.03585 - 3.55889I$	$0.03963 + 1.93559I$	$3.24137 - 4.51519I$
$u = 1.064580 - 0.846503I$ $a = -0.62366 + 1.42540I$ $b = 1.03585 + 3.55889I$	$0.03963 - 1.93559I$	$3.24137 + 4.51519I$
$u = -0.89305 + 1.24747I$ $a = -1.03439 - 1.00571I$ $b = -1.51651 + 1.14075I$	$13.6003 - 6.5164I$	$-1.83375 + 2.31506I$
$u = -0.89305 - 1.24747I$ $a = -1.03439 + 1.00571I$ $b = -1.51651 - 1.14075I$	$13.6003 + 6.5164I$	$-1.83375 - 2.31506I$
$u = -0.87342 + 1.29253I$ $a = 1.44913 + 1.22589I$ $b = 1.70664 - 2.23520I$	$13.5215 - 14.1664I$	$-1.97832 + 6.01811I$
$u = -0.87342 - 1.29253I$ $a = 1.44913 - 1.22589I$ $b = 1.70664 + 2.23520I$	$13.5215 + 14.1664I$	$-1.97832 - 6.01811I$
$u = -1.38451 + 0.86873I$ $a = -0.750407 - 0.670749I$ $b = -2.63229 - 0.87469I$	$15.2941 - 1.5620I$	$-0.87276 + 1.81859I$
$u = -1.38451 - 0.86873I$ $a = -0.750407 + 0.670749I$ $b = -2.63229 + 0.87469I$	$15.2941 + 1.5620I$	$-0.87276 - 1.81859I$
$u = -1.48666 + 0.74894I$ $a = 0.372127 + 0.956988I$ $b = 2.70664 + 2.90079I$	$15.6939 + 6.0170I$	$-0.56934 - 2.21062I$
$u = -1.48666 - 0.74894I$ $a = 0.372127 - 0.956988I$ $b = 2.70664 - 2.90079I$	$15.6939 - 6.0170I$	$-0.56934 + 2.21062I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.166881 + 0.257157I$ $a = 2.61727 - 2.58686I$ $b = -0.422595 + 0.308191I$	$-2.60162 - 0.06406I$	$-5.33602 - 1.30009I$
$u = 0.166881 - 0.257157I$ $a = 2.61727 + 2.58686I$ $b = -0.422595 - 0.308191I$	$-2.60162 + 0.06406I$	$-5.33602 + 1.30009I$
$u = -0.264909 + 0.086925I$ $a = 0.90260 + 2.62839I$ $b = 0.334375 + 0.643835I$	$0.00212 + 1.46917I$	$0.28384 - 4.39333I$
$u = -0.264909 - 0.086925I$ $a = 0.90260 - 2.62839I$ $b = 0.334375 - 0.643835I$	$0.00212 - 1.46917I$	$0.28384 + 4.39333I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^3 - 6u^2 + 2u - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.547424 + 0.585652I$ $a = -0.851808 + 0.911292I$ $b = 0.10488 + 1.55249I$	$-0.66484 + 1.39709I$	$-6.04449 - 2.35025I$
$u = 0.547424 - 0.585652I$ $a = -0.851808 - 0.911292I$ $b = 0.10488 - 1.55249I$	$-0.66484 - 1.39709I$	$-6.04449 + 2.35025I$
$u = -0.547424 + 1.120870I$ $a = 0.351808 + 0.720342I$ $b = 0.395123 - 0.506844I$	$-4.26996 - 7.64338I$	$-0.45551 + 9.20433I$
$u = -0.547424 - 1.120870I$ $a = 0.351808 - 0.720342I$ $b = 0.395123 + 0.506844I$	$-4.26996 + 7.64338I$	$-0.45551 - 9.20433I$

III.

$$\boldsymbol{I_3^u = \langle 85a^4u + 387a^3u + \cdots + 690a + 76,\ a^4u + 3a^3u + \cdots - 7a - 1,\ u^2 - u + 1\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

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

$$a_{10} = \begin{pmatrix} a \\ -0.128593a^4u - 0.585477a^3u + \cdots - 1.04387a - 0.114977 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.128593a^4u + 0.585477a^3u + \cdots + 2.04387a + 0.114977 \\ -0.128593a^4u - 0.585477a^3u + \cdots - 1.04387a - 0.114977 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.00605144a^4u - 0.0665658a^3u + \cdots - 0.715582a - 0.806354 \\ 0.337368a^4u + 1.28896a^3u + \cdots + 0.856278a - 0.204236 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0862330a^4u - 0.0514372a^3u + \cdots - 4.05295a + 0.240545 \\ 0.611195a^4u + 2.27685a^3u + \cdots + 2.72617a - 1.44175 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ u-1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0862330a^4u - 0.0514372a^3u + \cdots - 4.05295a + 0.240545 \\ 0.611195a^4u + 2.27685a^3u + \cdots + 2.72617a - 1.44175 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0226929a^4u + 0.249622a^3u + \cdots - 5.06657a - 0.726172 \\ 0.611195a^4u + 2.27685a^3u + \cdots + 2.72617a - 1.44175 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= \frac{1400}{661}a^4u - \frac{2675}{661}a^4 + \frac{3769}{661}a^3u - \frac{11557}{661}a^3 - \frac{4471}{661}a^2u - \frac{723}{661}a^2 - \frac{11463}{661}au + \frac{10937}{661}a - \frac{4148}{661}u - \frac{3453}{661}$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = 0.953786 - 0.485650I$ $b = 0.455697 + 1.200150I$	$-5.87256 + 6.43072I$	$-9.93110 - 1.72471I$
$u = 0.500000 + 0.866025I$ $a = -1.124940 - 0.303641I$ $b = 0.455697 - 1.200150I$	$-5.87256 - 2.37095I$	$-6.85700 + 6.98324I$
$u = 0.500000 + 0.866025I$ $a = -1.42401 + 0.21550I$ $b = -0.339110 - 0.822375I$	$-0.32910 + 3.56046I$	$-2.01870 - 9.75023I$
$u = 0.500000 + 0.866025I$ $a = 0.000387 + 0.371855I$ $b = -0.339110 + 0.822375I$	$-0.329100 + 0.499304I$	$-1.95395 - 0.91636I$
$u = 0.500000 + 0.866025I$ $a = -3.90523 - 0.66409I$ $b = 0.766826$	$-2.40108 + 2.02988I$	$2.76075 + 3.67600I$
$u = 0.500000 - 0.866025I$ $a = 0.953786 + 0.485650I$ $b = 0.455697 - 1.200150I$	$-5.87256 - 6.43072I$	$-9.93110 + 1.72471I$
$u = 0.500000 - 0.866025I$ $a = -1.124940 + 0.303641I$ $b = 0.455697 + 1.200150I$	$-5.87256 + 2.37095I$	$-6.85700 - 6.98324I$
$u = 0.500000 - 0.866025I$ $a = -1.42401 - 0.21550I$ $b = -0.339110 + 0.822375I$	$-0.32910 - 3.56046I$	$-2.01870 + 9.75023I$
$u = 0.500000 - 0.866025I$ $a = 0.000387 - 0.371855I$ $b = -0.339110 - 0.822375I$	$-0.329100 - 0.499304I$	$-1.95395 + 0.91636I$
$u = 0.500000 - 0.866025I$ $a = -3.90523 + 0.66409I$ $b = 0.766826$	$-2.40108 - 2.02988I$	$2.76075 - 3.67600I$

IV. $\boldsymbol{I_4^u = \langle -u^5 - u^4 - 2u^3 - u^2 + b - u - 1,\ -u^3 - 2u^2 + a - 2u - 1,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^3 + 2u^2 + 2u + 1 \\ u^5 + u^4 + 2u^3 + u^2 + u + 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^5 - u^4 - u^3 + u^2 + u \\ u^5 + u^4 + 2u^3 + u^2 + u + 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^4 + u^2 + u + 1 \\ -2u^5 - u^4 - 3u^3 - 2u^2 - 3u - 2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^3 \\ -u^5 - u^3 - u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^5 - u^4 + u^2 + u \\ 2u^5 + u^4 + 3u^3 + u^2 + 2u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^5 - u^4 - 8u^3 - 2u^2 - 5u - 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.498832 + 1.001300I$ $a = -0.88615 + 3.74409I$ $b = -1.14366 - 1.20015I$	$-1.91067 + 2.82812I$	$5.15973 - 2.26538I$
$u = 0.498832 - 1.001300I$ $a = -0.88615 - 3.74409I$ $b = -1.14366 + 1.20015I$	$-1.91067 - 2.82812I$	$5.15973 + 2.26538I$
$u = -0.284920 + 1.115140I$ $a = -0.854760 - 0.155763I$ $b = 0.662359 + 0.362106I$	-6.04826	$-7.59911 + 2.50363I$
$u = -0.284920 - 1.115140I$ $a = -0.854760 + 0.155763I$ $b = 0.662359 - 0.362106I$	-6.04826	$-7.59911 - 2.50363I$
$u = -0.713912 + 0.305839I$ $a = 0.240915 + 0.177333I$ $b = 0.481306 + 0.637866I$	$-1.91067 + 2.82812I$	$-0.06063 - 4.05868I$
$u = -0.713912 - 0.305839I$ $a = 0.240915 - 0.177333I$ $b = 0.481306 - 0.637866I$	$-1.91067 - 2.82812I$	$-0.06063 + 4.05868I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)^5(u^4-2u^3+3u^2-u+1)(u^6-3u^5+4u^4-2u^3+1)$ $\cdot(u^{24}+3u^{23}+\cdots-8u+1)$
c_2	$(u^2+u+1)^5(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{24}+7u^{23}+\cdots+4u+1)$
c_3	$(u^2-u+1)^5(u^3-u^2+1)^2(u^4+3u^3+4u^2+3u+2)$ $\cdot(u^{24}-7u^{23}+\cdots+155372u+47236)$
c_4	$u^{10}(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{24}+2u^{23}+\cdots+7168u+1024)$
c_5	$(u^2-u+1)^5(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{24}+7u^{23}+\cdots+4u+1)$
c_6	$(u^4+2u^3+3u^2+u+1)(u^5-3u^4+4u^3-u^2-u+1)^2$ $\cdot(u^6+3u^5+4u^4+2u^3+1)(u^{24}-4u^{23}+\cdots-3u+1)$
c_7	$u^{10}(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{24}+2u^{23}+\cdots+7168u+1024)$
c_8	$((u-1)^{10})(u^5+u^4+\cdots+u-1)^2(u^{24}-13u^{23}+\cdots-2u+1)$
c_9	$(u^4+u^3+3u^2+2u+1)(u^5+u^4+2u^3+u^2+u+1)^2$ $\cdot(u^6+2u^3+4u^2+3u+1)(u^{24}-2u^{23}+\cdots+2185u+1831)$
c_{10}	$(u^4+u^3+3u^2+2u+1)(u^5-u^4-2u^3+u^2+u+1)^2$ $\cdot(u^6+2u^3+4u^2+3u+1)(u^{24}+4u^{23}+\cdots-3009503u+1672193)$
c_{11}	$((u+1)^{10})(u^5-u^4+\cdots+u+1)^2(u^{24}-13u^{23}+\cdots-2u+1)$
c_{12}	$u^{10}(u^5+u^4+\cdots+u+1)^2(u^{24}+u^{23}+\cdots-5120u+1024)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^5)(y^4+2y^3+\cdots+5y+1)(y^6-y^5+\cdots+8y^2+1)$ $\cdot(y^{24}+43y^{23}+\cdots+60y+1)$
c_2, c_5	$(y^2+y+1)^5(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{24}+3y^{23}+\cdots-8y+1)$
c_3	$(y^2+y+1)^5(y^3-y^2+2y-1)^2(y^4-y^3+2y^2+7y+4)$ $\cdot(y^{24}+107y^{23}+\cdots-359116296y+2231239696)$
c_4, c_7	$y^{10}(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{24}-30y^{23}+\cdots-3145728y+1048576)$
c_6	$(y^4+2y^3+7y^2+5y+1)(y^5-y^4+8y^3-3y^2+3y-1)^2$ $\cdot(y^6-y^5+4y^4-2y^3+8y^2+1)(y^{24}+30y^{22}+\cdots+y+1)$
c_8, c_{11}	$(y-1)^{10}(y^5-5y^4+8y^3-3y^2-y-1)^2$ $\cdot(y^{24}-27y^{23}+\cdots-198y+1)$
c_9	$(y^4+5y^3+7y^2+2y+1)(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot(y^6+8y^4-2y^3+4y^2-y+1)$ $\cdot(y^{24}+20y^{23}+\cdots+72680737y+3352561)$
c_{10}	$(y^4+5y^3+7y^2+2y+1)(y^5-5y^4+8y^3-3y^2-y-1)^2$ $\cdot(y^6+8y^4-2y^3+4y^2-y+1)$ $\cdot(y^{24}+132y^{23}+\cdots+20945455419869y+2796229429249)$
c_{12}	$y^{10}(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot(y^{24}-57y^{23}+\cdots-1572864y+1048576)$