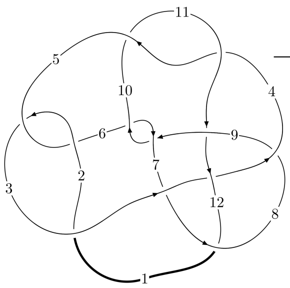
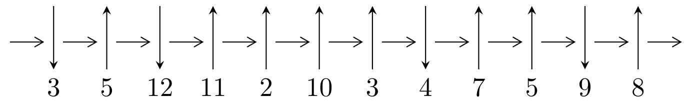
$12n_{0355}$ ($K12n_{0355}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$
\begin{aligned}
I_1^u &= \langle 1448u^{11} - 622u^{10} + \cdots + 1059b - 1564,\ a+1,\\
&\quad u^{12} - u^{11} + 2u^9 + 4u^8 - 4u^7 - 3u^6 + 9u^5 + u^4 - 4u^3 + 5u^2 - 2u + 1\rangle\\
I_2^u &= \langle u^4 + u^3 + 2u^2 + b + u + 2,\ a+1,\ u^5 + u^4 + 2u^3 + 2u - 1\rangle\\
I_3^u &= \langle -28u^9 - 75u^8 - 50u^7 + 61u^6 - 14u^5 - 212u^4 - 214u^3 - 47u^2 + 23b - 10u + 13,\\
&\quad 20u^9 + 70u^8 + 108u^7 + 55u^6 + 10u^5 + 89u^4 + 304u^3 + 372u^2 + 23a + 224u + 17,\\
&\quad u^{10} + 4u^9 + 6u^8 + 2u^7 - u^6 + 7u^5 + 18u^4 + 17u^3 + 9u^2 + 3u + 1\rangle\\
I_4^u &= \langle b-1,\ a+1,\ u^2 + u + 1\rangle\\
I_5^u &= \langle 38u^9 - 23u^8 + 194u^7 - 237u^6 + 606u^5 + 194u^4 + 1010u^3 + 389u^2 + 563b + 442u + 545,\\
&\quad 412u^9 - 842u^8 + 1570u^7 - 1651u^6 + 4022u^5 - 2371u^4 + 4076u^3 - 2894u^2 + 1689a + 1592u - 3425,\\
&\quad u^{10} - 2u^9 + 4u^8 - 4u^7 + 11u^6 - 7u^5 + 14u^4 - 5u^3 + 11u^2 - 5u + 3\rangle
\end{aligned}
$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 39 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.

$$\boldsymbol{I_1^u = \langle 1448u^{11} - 622u^{10} + \cdots + 1059b - 1564,\ a + 1,\ u^{12} - u^{11} + \cdots - 2u + 1\rangle}$$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1 \\ -1.36733u^{11} + 0.587347u^{10} + \cdots - 1.97734u + 1.47686 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1.36733u^{11} + 0.587347u^{10} + \cdots - 1.97734u + 0.476865 \\ -1.36733u^{11} + 0.587347u^{10} + \cdots - 1.97734u + 1.47686 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1.41171u^{11} + 0.928234u^{10} + \cdots - 3.16997u + 2.25685 \\ -2.19169u^{11} + 1.66383u^{10} + \cdots - 4.42776u + 3.62417 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0443815u^{11} - 0.340888u^{10} + \cdots + 0.192635u - 1.77998 \\ -1.20113u^{11} + 0.864023u^{10} + \cdots - 1.53258u + 1.96034 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ 0.779981u^{11} - 0.735600u^{10} + \cdots + 2.25779u - 1.36733 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0443815u^{11} + 0.340888u^{10} + \cdots - 0.192635u + 1.77998 \\ 0.483475u^{11} - 0.649669u^{10} + \cdots + 0.566572u - 1.41171 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.613787u^{11} - 1.01228u^{10} + \cdots + 0.813031u - 1.85080 \\ -1.47498u^{11} + 1.66950u^{10} + \cdots - 2.57224u + 3.70916 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.972616u^{11} + 2.61945u^{10} + \cdots - 1.79603u + 6.62512 \\ 3.39754u^{11} - 4.62795u^{10} + \cdots + 6.51275u - 9.75260 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.613787u^{11} + 1.01228u^{10} + \cdots - 0.813031u + 1.85080 \\ 1.37205u^{11} - 1.68744u^{10} + \cdots + 3.52975u - 3.64495 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{2459}{1059}u^{11} + \frac{3149}{1059}u^{10} - \frac{3035}{1059}u^9 + \frac{1248}{353}u^8 + \frac{20198}{1059}u^7 + \frac{17837}{1059}u^6 - \frac{17579}{1059}u^5 + \frac{1070}{1059}u^4 + \frac{14089}{353}u^3 + \frac{14917}{1059}u^2 + \frac{238}{353}u + \frac{13700}{1059}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} - 12u^{11} + \cdots + u + 1$
c_2, c_5, c_6 c_9	$u^{12} - 6u^{10} + \cdots - u + 1$
c_3, c_{11}	$u^{12} - u^{11} + 2u^9 + 4u^8 - 4u^7 - 3u^6 + 9u^5 + u^4 - 4u^3 + 5u^2 - 2u + 1$
c_4, c_{10}, c_{12}	$u^{12} + u^{10} + 12u^9 + 21u^8 + 30u^7 + 38u^6 + 39u^5 + 33u^4 + 4u^3 + 4u + 4$
c_7	$u^{12} - u^{11} + \cdots - 184u + 141$
c_8	$u^{12} - 15u^{11} + \cdots - 576u + 96$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{12} + 36y^{11} + \cdots + 133y + 1$
c_2, c_5, c_6 c_9	$y^{12} - 12y^{11} + \cdots + y + 1$
c_3, c_{11}	$y^{12} - y^{11} + \cdots + 6y + 1$
c_4, c_{10}, c_{12}	$y^{12} + 2y^{11} + \cdots - 16y + 16$
c_7	$y^{12} - 23y^{11} + \cdots + 130832y + 19881$
c_8	$y^{12} - 13y^{11} + \cdots + 10752y + 9216$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.059120 + 0.307461I$ $a = -1.00000$ $b = \ \ 0.644594 - 0.475500I$	$-3.44334 + 1.44611I$	$-3.96135 - 4.34110I$
$u = -1.059120 - 0.307461I$ $a = -1.00000$ $b = \ \ 0.644594 + 0.475500I$	$-3.44334 - 1.44611I$	$-3.96135 + 4.34110I$
$u = \ \ 0.962226 + 0.662974I$ $a = -1.00000$ $b = \ \ 1.29438 + 1.01679I$	$-8.42695 - 4.69761I$	$-5.39873 + 4.74294I$
$u = \ \ 0.962226 - 0.662974I$ $a = -1.00000$ $b = \ \ 1.29438 - 1.01679I$	$-8.42695 + 4.69761I$	$-5.39873 - 4.74294I$
$u = \ \ 0.441542 + 0.466191I$ $a = -1.00000$ $b = \ \ 2.80322 - 1.33490I$	$7.39753 - 0.41539I$	$6.7393 + 12.7489I$
$u = \ \ 0.441542 - 0.466191I$ $a = -1.00000$ $b = \ \ 2.80322 + 1.33490I$	$7.39753 + 0.41539I$	$6.7393 - 12.7489I$
$u = -0.93584 + 1.09970I$ $a = -1.00000$ $b = \ \ 1.28519 - 0.74878I$	$-2.29460 + 6.83767I$	$0.069399 - 0.397217I$
$u = -0.93584 - 1.09970I$ $a = -1.00000$ $b = \ \ 1.28519 + 0.74878I$	$-2.29460 - 6.83767I$	$0.069399 + 0.397217I$
$u = \ \ 0.037712 + 0.516478I$ $a = -1.00000$ $b = \ \ 0.213856 + 0.762227I$	$0.825162 + 0.816210I$	$7.49070 - 5.15552I$
$u = \ \ 0.037712 - 0.516478I$ $a = -1.00000$ $b = \ \ 0.213856 - 0.762227I$	$0.825162 - 0.816210I$	$7.49070 + 5.15552I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.05347 + 1.22560I$ $a = -1.00000$ $b = 1.25877 + 1.59603I$	$10.0545 - 12.2992I$	$3.06065 + 5.11148I$
$u = 1.05347 - 1.22560I$ $a = -1.00000$ $b = 1.25877 - 1.59603I$	$10.0545 + 12.2992I$	$3.06065 - 5.11148I$

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

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1 \\ -u^4 - u^3 - 2u^2 - u - 2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^4 - u^3 - 2u^2 - u - 3 \\ -u^4 - u^3 - 2u^2 - u - 2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^4 + 2u^3 + 4u^2 + 3u + 4 \\ u^4 + 2u^3 + 3u^2 + 3u + 3 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^3 + u^2 + u - 1 \\ -u^4 - u^3 - 2u^2 - 3 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ u^2 + u + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^3 - u^2 - u + 1 \\ -u^4 - 2u^3 - 3u^2 - 2u - 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^4 - u^3 - u^2 + u \\ u^4 + 2u^3 + 3u^2 + 3u + 4 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ -5u^4 - 7u^3 - 13u^2 - 5u - 12 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^4 + u^3 + u^2 - u \\ 2u^4 + 3u^3 + 5u^2 + u + 4 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^4 + 10u^2 + u + 10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - 36y^4 + 30y^3 - 12y^2 - 7y - 1$
c_2, c_5, c_6 c_9	$y^5 - 4y^4 - 10y^3 - 8y^2 - 3y - 1$
c_3, c_{11}	$y^5 + 3y^4 + 8y^3 + 10y^2 + 4y - 1$
c_4, c_{10}, c_{12}	$y^5 + 3y^4 - 2y^3 - 17y^2 - 24y - 16$
c_7	$y^5 - 12y^4 - 2y^3 - 5y^2 - 21y - 25$
c_8	$y^5 - 11y^4 + 29y^3 - 46y^2 + 12y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.205345 + 1.022070I$ $a = -1.00000$ $b = -0.394292 - 0.081621I$	$-4.76566 - 1.63339I$	$1.00951 + 4.37803I$
$u = 0.205345 - 1.022070I$ $a = -1.00000$ $b = -0.394292 + 0.081621I$	$-4.76566 + 1.63339I$	$1.00951 - 4.37803I$
$u = -0.91068 + 1.18795I$ $a = -1.00000$ $b = 1.31714 - 0.65774I$	$-2.30891 + 7.29116I$	$-1.0723 - 17.9309I$
$u = -0.91068 - 1.18795I$ $a = -1.00000$ $b = 1.31714 + 0.65774I$	$-2.30891 - 7.29116I$	$-1.0723 + 17.9309I$
$u = 0.410675$ $a = -1.00000$ $b = -2.84569$	7.56942	12.1260

III. $I_3^u = \langle -28u^9 - 75u^8 + \cdots + 23b + 13,\ 20u^9 + 70u^8 + \cdots + 23a + 17,\ u^{10} + 4u^9 + \cdots + 3u + 1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-0.869565u^9 - 3.04348u^8 + \cdots - 9.73913u - 0.739130\\ 1.21739u^9 + 3.26087u^8 + \cdots + 0.434783u - 0.565217\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0.347826u^9 + 0.217391u^8 + \cdots - 9.30435u - 1.30435\\ 1.21739u^9 + 3.26087u^8 + \cdots + 0.434783u - 0.565217\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-2.91304u^9 - 11.6957u^8 + \cdots - 20.8261u - 2.82609\\ -0.130435u^9 + 0.0434783u^8 + \cdots - 1.26087u - 0.260870\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.956522u^9 - 4.34783u^8 + \cdots - 12.9130u - 1.91304\\ 1.04348u^9 + 3.65217u^8 + \cdots + 1.08696u + 0.0869565\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-1.13043u^9 - 5.95652u^8 + \cdots - 11.2609u - 0.260870\\ -1.65217u^9 - 5.78261u^8 + \cdots - 6.30435u - 2.30435\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-2.82609u^9 - 9.39130u^8 + \cdots + 3.34783u + 2.34783\\ -0.565217u^9 - 1.47826u^8 + \cdots - 1.13043u + 0.869565\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-3.30435u^9 - 13.5652u^8 + \cdots - 22.6087u - 2.60870\\ -0.782609u^9 - 1.73913u^8 + \cdots - 2.56522u - 0.565217\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-2.65217u^9 - 9.78261u^8 + \cdots - 16.3043u - 6.30435\\ -0.304348u^9 + 0.434783u^8 + \cdots + 1.39130u + 1.39130\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-1.34783u^9 - 3.21739u^8 + \cdots + 3.30435u + 3.30435\\ 1.95652u^9 + 6.34783u^8 + \cdots + 3.91304u + 1.91304\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -\frac{122}{23}u^9 - \frac{289}{23}u^8 - \frac{139}{23}u^7 + \frac{297}{23}u^6 - \frac{107}{23}u^5 - \frac{835}{23}u^4 - \frac{755}{23}u^3 - \frac{75}{23}u^2 + \frac{101}{23}u + \frac{124}{23}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10} - 9u^9 + 31u^8 - 56u^7 + 73u^6 - 86u^5 + 65u^4 - 12u^3 - 9u^2 + 2u + 1$
c_2, c_6	$u^{10} + u^9 + 5u^8 + 4u^7 + 7u^6 + 2u^5 + 3u^4 - 4u^3 + u^2 - 2u + 1$
c_3, c_{11}	$u^{10} + 4u^9 + 6u^8 + 2u^7 - u^6 + 7u^5 + 18u^4 + 17u^3 + 9u^2 + 3u + 1$
c_4, c_{12}	$u^{10} + 3u^9 + 6u^8 + 8u^7 + 7u^6 + 2u^5 + 6u^4 + 5u^3 + 15u^2 + 7u + 7$
c_5, c_9	$u^{10} - u^9 + 5u^8 - 4u^7 + 7u^6 - 2u^5 + 3u^4 + 4u^3 + u^2 + 2u + 1$
c_7	$u^{10} - 3u^9 + \cdots - 66u + 17$
c_8	$(u^5 - 3u^4 + 4u^3 - u^2 - u + 1)^2$
c_{10}	$u^{10} - 3u^9 + 6u^8 - 8u^7 + 7u^6 - 2u^5 + 6u^4 - 5u^3 + 15u^2 - 7u + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{10} - 19y^9 + \cdots - 22y + 1$
c_2, c_5, c_6 c_9	$y^{10} + 9y^9 + 31y^8 + 56y^7 + 73y^6 + 86y^5 + 65y^4 + 12y^3 - 9y^2 - 2y + 1$
c_3, c_{11}	$y^{10} - 4y^9 + 18y^8 - 36y^7 + 71y^6 - 67y^5 + 68y^4 - 9y^3 + 15y^2 + 9y + 1$
c_4, c_{10}, c_{12}	$y^{10} + 3y^9 + \cdots + 161y + 49$
c_7	$y^{10} + 21y^9 + \cdots + 302y + 289$
c_8	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.637527 + 0.563270I$ $a = 1.53949 + 0.13288I$ $b = -1.23271 + 1.09381I$	$-7.51750 + 4.40083I$	$4.55516 - 1.78781I$
$u = -0.637527 - 0.563270I$ $a = 1.53949 - 0.13288I$ $b = -1.23271 - 1.09381I$	$-7.51750 - 4.40083I$	$4.55516 + 1.78781I$
$u = -1.108870 + 0.598693I$ $a = -0.548579 - 0.836099I$ $b = 0.588022$	-4.04602	$-7.96494 + 0.I$
$u = -1.108870 - 0.598693I$ $a = -0.548579 + 0.836099I$ $b = 0.588022$	-4.04602	$-7.96494 + 0.I$
$u = 1.056310 + 0.782435I$ $a = 0.644763 + 0.055651I$ $b = -1.23271 - 1.09381I$	$-7.51750 - 4.40083I$	$4.55516 + 1.78781I$
$u = 1.056310 - 0.782435I$ $a = 0.644763 - 0.055651I$ $b = -1.23271 + 1.09381I$	$-7.51750 + 4.40083I$	$4.55516 - 1.78781I$
$u = -0.008215 + 0.434693I$ $a = 2.20767 - 3.03625I$ $b = -0.561306 - 0.557752I$	$-1.97403 - 1.53058I$	$4.42731 + 4.45807I$
$u = -0.008215 - 0.434693I$ $a = 2.20767 + 3.03625I$ $b = -0.561306 + 0.557752I$	$-1.97403 + 1.53058I$	$4.42731 - 4.45807I$
$u = -1.30170 + 0.98460I$ $a = 0.156654 - 0.215449I$ $b = -0.561306 + 0.557752I$	$-1.97403 + 1.53058I$	$4.42731 - 4.45807I$
$u = -1.30170 - 0.98460I$ $a = 0.156654 + 0.215449I$ $b = -0.561306 - 0.557752I$	$-1.97403 - 1.53058I$	$4.42731 + 4.45807I$

IV. $I_4^u = \langle b-1,\ a+1,\ u^2+u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8u + 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = -1.00000$ $b = \ \ 1.00000$	$4.05977I$	$6.00000 - 6.92820I$
$u = -0.500000 - 0.866025I$ $a = -1.00000$ $b = \ \ 1.00000$	$-4.05977I$	$6.00000 + 6.92820I$

V. $I^u_5 = \langle 38u^9 - 23u^8 + \cdots + 563b + 545,\ 412u^9 - 842u^8 + \cdots + 1689a - 3425,\ u^{10} - 2u^9 + \cdots - 5u + 3\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.243931u^9 + 0.498520u^8 + \cdots - 0.942570u + 2.02783 \\ -0.0674956u^9 + 0.0408526u^8 + \cdots - 0.785080u - 0.968028 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.311427u^9 + 0.539372u^8 + \cdots - 1.72765u + 1.05980 \\ -0.0674956u^9 + 0.0408526u^8 + \cdots - 0.785080u - 0.968028 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.461220u^9 + 1.11249u^8 + \cdots - 3.36471u + 2.88514 \\ -0.346359u^9 + 0.499112u^8 + \cdots - 0.765542u + 0.216696 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.0485494u^9 + 0.0118413u^8 + \cdots - 1.45944u + 1.77738 \\ 0.277087u^9 - 0.799290u^8 + \cdots + 0.0124334u - 0.973357 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.169331u^9 + 0.178212u^8 + \cdots + 1.28538u + 1.84962 \\ -0.284192u^9 + 0.435169u^8 + \cdots - 1.88455u + 0.818828 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.366489u^9 + 0.967436u^8 + \cdots - 1.73653u + 0.612197 \\ -0.165187u^9 + 0.284192u^8 + \cdots - 1.02664u + 0.657194 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.985198u^9 + 1.50858u^8 + \cdots - 4.93310u + 3.23860 \\ -0.884547u^9 + 0.166963u^8 + \cdots + 0.921847u - 1.73890 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -4.03848u^9 + 6.27768u^8 + \cdots - 10.9739u + 2.57963 \\ -1.03197u^9 - 0.138544u^8 + \cdots + 0.575488u - 4.19538 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.07697u^9 + 2.55536u^8 + \cdots - 1.94790u + 3.15927 \\ -1.22025u^9 + 1.71226u^8 + \cdots - 4.03552u + 0.209591 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{630}{563}u^9 - \frac{1211}{563}u^8 + \frac{2357}{563}u^7 - \frac{1855}{563}u^6 + \frac{5691}{563}u^5 - \frac{2147}{563}u^4 + \frac{6107}{563}u^3 + \frac{997}{563}u^2 + \frac{3861}{563}u + \frac{2724}{563}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10} - 19u^9 + \cdots + 2834u + 441$
c_2, c_5, c_6 c_9	$u^{10} - 3u^9 + \cdots + 8u + 21$
c_3, c_{11}	$u^{10} - 2u^9 + 4u^8 - 4u^7 + 11u^6 - 7u^5 + 14u^4 - 5u^3 + 11u^2 - 5u + 3$
c_4, c_{10}, c_{12}	$u^{10} + u^9 + \cdots + 55u + 43$
c_7	$u^{10} + 5u^9 + \cdots + 248u + 59$
c_8	$(u^5 - u^4 + u^2 + u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{10} + 173y^9 + \cdots + 10034450y + 194481$
c_2, c_5, c_6 c_9	$y^{10} - 19y^9 + \cdots + 2834y + 441$
c_3, c_{11}	$y^{10} + 4y^9 + \cdots + 41y + 9$
c_4, c_{10}, c_{12}	$y^{10} + 7y^9 + \cdots - 875y + 1849$
c_7	$y^{10} - 15y^9 + \cdots + 9178y + 3481$
c_8	$(y^5 - y^4 + 4y^3 - 3y^2 + 3y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.597158 + 0.899620I$ $a = 0.542169 + 0.003339I$ $b = -0.758138 + 0.584034I$	$0.17487 + 2.21397I$	$5.11913 - 4.04855I$
$u = -0.597158 - 0.899620I$ $a = 0.542169 - 0.003339I$ $b = -0.758138 - 0.584034I$	$0.17487 - 2.21397I$	$5.11913 + 4.04855I$
$u = 0.453573 + 1.045560I$ $a = 0.50995 + 1.56353I$ $b = 0.935538 + 0.903908I$	$9.31336 - 3.33174I$	$4.71334 + 2.53508I$
$u = 0.453573 - 1.045560I$ $a = 0.50995 - 1.56353I$ $b = 0.935538 - 0.903908I$	$9.31336 + 3.33174I$	$4.71334 - 2.53508I$
$u = -0.586646 + 1.140630I$ $a = 0.581627 - 0.813455I$ $b = 0.645200$	-2.52712	$4.33506 + 0.I$
$u = -0.586646 - 1.140630I$ $a = 0.581627 + 0.813455I$ $b = 0.645200$	-2.52712	$4.33506 + 0.I$
$u = 0.326764 + 0.485752I$ $a = 1.84438 + 0.01136I$ $b = -0.758138 - 0.584034I$	$0.17487 - 2.21397I$	$5.11913 + 4.04855I$
$u = 0.326764 - 0.485752I$ $a = 1.84438 - 0.01136I$ $b = -0.758138 + 0.584034I$	$0.17487 + 2.21397I$	$5.11913 - 4.04855I$
$u = 1.40347 + 1.24236I$ $a = 0.188544 + 0.578083I$ $b = 0.935538 - 0.903908I$	$9.31336 + 3.33174I$	$4.71334 - 2.53508I$
$u = 1.40347 - 1.24236I$ $a = 0.188544 - 0.578083I$ $b = 0.935538 + 0.903908I$	$9.31336 - 3.33174I$	$4.71334 + 2.53508I$

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)(u^5+4u^4-10u^3+8u^2-3u+1)$ $\cdot(u^{10}-19u^9+\cdots+2834u+441)$ $\cdot(u^{10}-9u^9+31u^8-56u^7+73u^6-86u^5+65u^4-12u^3-9u^2+2u+1)$ $\cdot(u^{12}-12u^{11}+\cdots+u+1)$
c_2, c_6	$(u^2+u+1)(u^5+2u^4+2u^2-u+1)(u^{10}-3u^9+\cdots+8u+21)$ $\cdot(u^{10}+u^9+5u^8+4u^7+7u^6+2u^5+3u^4-4u^3+u^2-2u+1)$ $\cdot(u^{12}-6u^{10}+\cdots-u+1)$
c_3, c_{11}	$(u^2+u+1)(u^5+u^4+2u^3+2u-1)$ $\cdot(u^{10}-2u^9+4u^8-4u^7+11u^6-7u^5+14u^4-5u^3+11u^2-5u+3)$ $\cdot(u^{10}+4u^9+6u^8+2u^7-u^6+7u^5+18u^4+17u^3+9u^2+3u+1)$ $\cdot(u^{12}-u^{11}+2u^9+4u^8-4u^7-3u^6+9u^5+u^4-4u^3+5u^2-2u+1)$
c_4, c_{12}	$u^2(u^5-u^4+2u^3-3u^2-4)(u^{10}+u^9+\cdots+55u+43)$ $\cdot(u^{10}+3u^9+6u^8+8u^7+7u^6+2u^5+6u^4+5u^3+15u^2+7u+7)$ $\cdot(u^{12}+u^{10}+12u^9+21u^8+30u^7+38u^6+39u^5+33u^4+4u^3+4u+4)$
c_5, c_9	$(u^2-u+1)(u^5-2u^4-2u^2-u-1)(u^{10}-3u^9+\cdots+8u+21)$ $\cdot(u^{10}-u^9+5u^8-4u^7+7u^6-2u^5+3u^4+4u^3+u^2+2u+1)$ $\cdot(u^{12}-6u^{10}+\cdots-u+1)$
c_7	$((u+1)^2)(u^5-2u^4+\cdots-3u-5)(u^{10}-3u^9+\cdots-66u+17)$ $\cdot(u^{10}+5u^9+\cdots+248u+59)(u^{12}-u^{11}+\cdots-184u+141)$
c_8	$(u+1)^2(u^5-3u^4+4u^3-u^2-u+1)^2(u^5-u^4+u^2+u-1)^2$ $\cdot(u^5-u^4-5u^3-2u^2+4u-1)(u^{12}-15u^{11}+\cdots-576u+96)$
c_{10}	$u^2(u^5+u^4+2u^3+3u^2+4)$ $\cdot(u^{10}-3u^9+6u^8-8u^7+7u^6-2u^5+6u^4-5u^3+15u^2-7u+7)$ $\cdot(u^{10}+u^9+\cdots+55u+43)$ $\cdot(u^{12}+u^{10}+12u^9+21u^8+30u^7+38u^6+39u^5+33u^4+4u^3+4u+4)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)(y^5-36y^4+30y^3-12y^2-7y-1)$ $\cdot(y^{10}-19y^9+\cdots-22y+1)$ $\cdot(y^{10}+173y^9+\cdots+10034450y+194481)$ $\cdot(y^{12}+36y^{11}+\cdots+133y+1)$
c_2, c_5, c_6 c_9	$(y^2+y+1)(y^5-4y^4-10y^3-8y^2-3y-1)$ $\cdot(y^{10}-19y^9+\cdots+2834y+441)$ $\cdot(y^{10}+9y^9+31y^8+56y^7+73y^6+86y^5+65y^4+12y^3-9y^2-2y+1)$ $\cdot(y^{12}-12y^{11}+\cdots+y+1)$
c_3, c_{11}	$(y^2+y+1)(y^5+3y^4+8y^3+10y^2+4y-1)$ $\cdot(y^{10}-4y^9+18y^8-36y^7+71y^6-67y^5+68y^4-9y^3+15y^2+9y+1)$ $\cdot(y^{10}+4y^9+\cdots+41y+9)(y^{12}-y^{11}+\cdots+6y+1)$
c_4, c_{10}, c_{12}	$y^2(y^5+3y^4+\cdots-24y-16)(y^{10}+3y^9+\cdots+161y+49)$ $\cdot(y^{10}+7y^9+\cdots-875y+1849)(y^{12}+2y^{11}+\cdots-16y+16)$
c_7	$(y-1)^2(y^5-12y^4-2y^3-5y^2-21y-25)$ $\cdot(y^{10}-15y^9+\cdots+9178y+3481)(y^{10}+21y^9+\cdots+302y+289)$ $\cdot(y^{12}-23y^{11}+\cdots+130832y+19881)$
c_8	$(y-1)^2(y^5-11y^4+29y^3-46y^2+12y-1)$ $\cdot(y^5-y^4+4y^3-3y^2+3y-1)^2(y^5-y^4+8y^3-3y^2+3y-1)^2$ $\cdot(y^{12}-13y^{11}+\cdots+10752y+9216)$