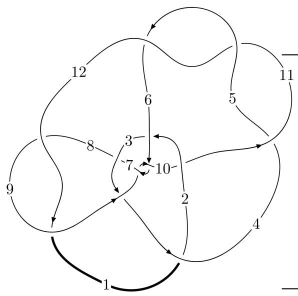
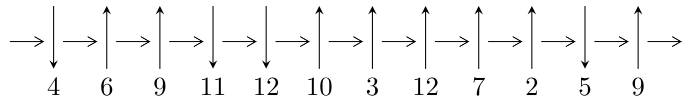
$12n_{0777}$ ($K12n_{0777}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 4585u^{29} - 53373u^{28} + \cdots + 32b - 211552,\ 13955u^{29} - 160849u^{28} + \cdots + 64a - 593856,$$
$$u^{30} - 13u^{29} + \cdots - 96u + 64\rangle$$
$$I_2^u = \langle 3u^{21} - 2u^{20} + \cdots + b + 1,\ 5u^{21} - 6u^{20} + \cdots + a + 4,\ u^{22} - 12u^{20} + \cdots + 2u + 1\rangle$$
$$I_3^u = \langle -8.71806 \times 10^{22} a^{11} u + 1.90564 \times 10^{22} a^{10} u + \cdots + 4.42015 \times 10^{24} a + 2.07365 \times 10^{24},$$
$$- a^{11} u - 8a^{10} u + \cdots - 155a + 597,\ u^2 + u - 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 76 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. $\boldsymbol{I_1^u = \langle 4585u^{29} - 53373u^{28} + \cdots + 32b - 211552,\ 13955u^{29} - 160849u^{28} + \cdots + 64a - 593856,\ u^{30} - 13u^{29} + \cdots - 96u + 64\rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -218.047u^{29} + 2513.27u^{28} + \cdots - 7883.75u + 9279 \\ -143.281u^{29} + 1667.91u^{28} + \cdots - 5240.50u + 6611 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -12u^{29} + \frac{583}{4}u^{28} + \cdots - \frac{961}{2}u + \frac{1409}{2} \\ \frac{31}{4}u^{29} - \frac{325}{4}u^{28} + \cdots + \frac{465}{2}u - 112 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 12u^{29} - \frac{583}{4}u^{28} + \cdots + \frac{959}{2}u - \frac{1407}{2} \\ -\frac{31}{4}u^{29} + \frac{325}{4}u^{28} + \cdots - \frac{463}{2}u + 112 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{79}{4}u^{29} + 227u^{28} + \cdots - 713u + \frac{1633}{2} \\ \frac{31}{4}u^{29} - \frac{325}{4}u^{28} + \cdots + \frac{465}{2}u - 112 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -412.797u^{29} + 4786.39u^{28} + \cdots - 15027.8u + 18449 \\ -282.531u^{29} + 3320.78u^{28} + \cdots - 10460.5u + 13993 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -\frac{1425}{8}u^{29} + \frac{32277}{16}u^{28} + \cdots - 6300u + 6463 \\ -\frac{3901}{16}u^{29} + \frac{5761}{2}u^{28} + \cdots - 9090u + 12556 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{77}{4}u^{29} + \frac{825}{4}u^{28} + \cdots - \frac{2465}{4}u + 368 \\ -90u^{29} + \frac{4209}{4}u^{28} + \cdots - 3335u + 4240 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{3861}{4}u^{29} + \frac{22479}{2}u^{28} + \cdots - 35492u + 44366$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 14u^{29} + \cdots - 1674u + 180$
c_2, c_{10}	$u^{30} - u^{29} + \cdots - 4u + 1$
c_3, c_8, c_{12}	$u^{30} + 25u^{28} + \cdots + 14u^2 + 1$
c_4, c_5, c_{11}	$u^{30} - 13u^{29} + \cdots - 96u + 64$
c_6, c_9	$u^{30} + 9u^{29} + \cdots + 58u + 4$
c_7	$u^{30} + u^{29} + \cdots + 134u + 43$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} - 42y^{29} + \cdots - 660636y + 32400$
c_2, c_{10}	$y^{30} + 27y^{29} + \cdots + 10y + 1$
c_3, c_8, c_{12}	$y^{30} + 50y^{29} + \cdots + 28y + 1$
c_4, c_5, c_{11}	$y^{30} - 27y^{29} + \cdots + 7168y + 4096$
c_6, c_9	$y^{30} + 21y^{29} + \cdots - 204y + 16$
c_7	$y^{30} + 37y^{29} + \cdots - 12796y + 1849$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.712100+0.956564I$ $a=\ \ 0.866632-0.189288I$ $b=-0.17533-2.06721I$	$-12.2909+9.4994I$	$0.-5.67165I$
$u=-0.712100-0.956564I$ $a=\ \ 0.866632+0.189288I$ $b=-0.17533+2.06721I$	$-12.2909-9.4994I$	$0.+5.67165I$
$u=\ \ 1.076880+0.516113I$ $a=\ \ 1.16983+0.89905I$ $b=-0.750113+0.531557I$	$-0.60829-5.16519I$	$7.68800-3.17301I$
$u=\ \ 1.076880-0.516113I$ $a=\ \ 1.16983-0.89905I$ $b=-0.750113-0.531557I$	$-0.60829+5.16519I$	$7.68800+3.17301I$
$u=-1.179430+0.197792I$ $a=-0.198189+0.197833I$ $b=-0.370253+0.632453I$	$-2.67535+1.28324I$	0
$u=-1.179430-0.197792I$ $a=-0.198189-0.197833I$ $b=-0.370253-0.632453I$	$-2.67535-1.28324I$	0
$u=-0.576495+1.064220I$ $a=\ \ 0.893792-0.009633I$ $b=-0.22203-2.04575I$	$-11.81400-2.89439I$	0
$u=-0.576495-1.064220I$ $a=\ \ 0.893792+0.009633I$ $b=-0.22203+2.04575I$	$-11.81400+2.89439I$	0
$u=-0.695385+1.054340I$ $a=-0.834599+0.093305I$ $b=\ \ 0.17902+2.11004I$	$-7.50297+3.48252I$	0
$u=-0.695385-1.054340I$ $a=-0.834599-0.093305I$ $b=\ \ 0.17902-2.11004I$	$-7.50297-3.48252I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.405900 + 0.604201I$ $a = -1.206390 - 0.215475I$ $b = 0.706818 + 0.267801I$	$1.34273 + 0.69486I$	$10.73680 - 5.94826I$
$u = 0.405900 - 0.604201I$ $a = -1.206390 + 0.215475I$ $b = 0.706818 - 0.267801I$	$1.34273 - 0.69486I$	$10.73680 + 5.94826I$
$u = -0.349023 + 0.634623I$ $a = 0.391030 + 0.430038I$ $b = 0.490044 - 0.392098I$	$-2.73365 + 3.23503I$	$0.14526 - 3.30647I$
$u = -0.349023 - 0.634623I$ $a = 0.391030 - 0.430038I$ $b = 0.490044 + 0.392098I$	$-2.73365 - 3.23503I$	$0.14526 + 3.30647I$
$u = -0.473468 + 0.455765I$ $a = 0.178820 - 0.624865I$ $b = -0.466864 - 0.464807I$	$-3.35774 + 0.41602I$	$-0.28518 - 3.29821I$
$u = -0.473468 - 0.455765I$ $a = 0.178820 + 0.624865I$ $b = -0.466864 + 0.464807I$	$-3.35774 - 0.41602I$	$-0.28518 + 3.29821I$
$u = -0.241152 + 0.560887I$ $a = -0.450417 + 0.043597I$ $b = 0.043133 + 0.373812I$	$0.155530 + 1.274890I$	$2.11047 - 6.19395I$
$u = -0.241152 - 0.560887I$ $a = -0.450417 - 0.043597I$ $b = 0.043133 - 0.373812I$	$0.155530 - 1.274890I$	$2.11047 + 6.19395I$
$u = 1.40597 + 0.22506I$ $a = 0.363023 + 0.409362I$ $b = 0.021884 + 0.360955I$	$-5.15833 - 4.20213I$	0
$u = 1.40597 - 0.22506I$ $a = 0.363023 - 0.409362I$ $b = 0.021884 - 0.360955I$	$-5.15833 + 4.20213I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.42237 + 0.17547I$ $a = 0.152611 - 0.928981I$ $b = 0.387688 - 0.480108I$	$-9.29324 - 2.70234I$	0
$u = 1.42237 - 0.17547I$ $a = 0.152611 + 0.928981I$ $b = 0.387688 + 0.480108I$	$-9.29324 + 2.70234I$	0
$u = 1.43366 + 0.23827I$ $a = -0.798085 + 0.019961I$ $b = -0.459766 - 0.343812I$	$-8.45070 - 6.42278I$	0
$u = 1.43366 - 0.23827I$ $a = -0.798085 - 0.019961I$ $b = -0.459766 + 0.343812I$	$-8.45070 + 6.42278I$	0
$u = 1.64901 + 0.32277I$ $a = -0.70265 - 1.71037I$ $b = 0.58983 - 2.17349I$	$19.4368 - 14.3151I$	0
$u = 1.64901 - 0.32277I$ $a = -0.70265 + 1.71037I$ $b = 0.58983 + 2.17349I$	$19.4368 + 14.3151I$	0
$u = 1.67171 + 0.34503I$ $a = 0.67299 + 1.59613I$ $b = -0.61499 + 2.14641I$	$-15.2886 - 8.7374I$	0
$u = 1.67171 - 0.34503I$ $a = 0.67299 - 1.59613I$ $b = -0.61499 - 2.14641I$	$-15.2886 + 8.7374I$	0
$u = 1.66154 + 0.39521I$ $a = -0.74838 - 1.46675I$ $b = 0.64093 - 2.07022I$	$-19.0732 - 2.6309I$	0
$u = 1.66154 - 0.39521I$ $a = -0.74838 + 1.46675I$ $b = 0.64093 + 2.07022I$	$-19.0732 + 2.6309I$	0

II.

$\boldsymbol{I_2^u = \langle 3u^{21} - 2u^{20} + \cdots + b + 1,\ 5u^{21} - 6u^{20} + \cdots + a + 4,\ u^{22} - 12u^{20} + \cdots + 2u + 1\rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -5u^{21} + 6u^{20} + \cdots - 3u - 4 \\ -3u^{21} + 2u^{20} + \cdots - u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{21} + u^{20} + \cdots - 6u - 5 \\ -u^{19} + 10u^{17} + \cdots - 8u^2 - 3u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{21} + u^{20} + \cdots - 5u - 4 \\ -u^{19} + 10u^{17} + \cdots - 8u^2 - 4u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{21} + u^{20} + \cdots - 3u - 5 \\ -u^{19} + 10u^{17} + \cdots - 8u^2 - 3u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -7u^{21} + 10u^{20} + \cdots - 8u - 7 \\ -4u^{21} + 4u^{20} + \cdots - 2u - 2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -3u^{21} + 5u^{20} + \cdots + 6u - 2 \\ -3u^{21} + 5u^{20} + \cdots - 3u - 3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{21} - 14u^{19} + \cdots + 3u + 3 \\ 3u^{20} - 31u^{18} + \cdots - 6u - 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -3u^{21} + 8u^{20} + 26u^{19} - 80u^{18} - 95u^{17} + 329u^{16} + 225u^{15} - 730u^{14} - 469u^{13} + 949u^{12} + 835u^{11} - 674u^{10} - 1053u^9 + 119u^8 + 859u^7 + 156u^6 - 388u^5 - 102u^4 + 54u^3 + 43u^2 - 18u$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22} - 19u^{21} + \cdots + 33u + 11$
c_2, c_{10}	$u^{22} - u^{21} + \cdots - 5u^2 - 1$
c_3, c_8	$u^{22} + 8u^{20} + \cdots + 6u^2 - 1$
c_4, c_5	$u^{22} - 12u^{20} + \cdots + 2u + 1$
c_6	$u^{22} + 6u^{21} + \cdots + 26u + 5$
c_7	$u^{22} - u^{21} + \cdots + 6u^2 - 1$
c_9	$u^{22} - 6u^{21} + \cdots - 26u + 5$
c_{11}	$u^{22} - 12u^{20} + \cdots - 2u + 1$
c_{12}	$u^{22} + 8u^{20} + \cdots + 6u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} - 31y^{21} + \cdots - 19833y + 121$
c_2, c_{10}	$y^{22} - 3y^{21} + \cdots + 10y + 1$
c_3, c_8, c_{12}	$y^{22} + 16y^{21} + \cdots - 12y + 1$
c_4, c_5, c_{11}	$y^{22} - 24y^{21} + \cdots - 16y + 1$
c_6, c_9	$y^{22} + 16y^{21} + \cdots + 44y + 25$
c_7	$y^{22} + 15y^{21} + \cdots - 12y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.952998 + 0.363147I$ $a = 0.447217 + 0.580843I$ $b = 0.16042 + 1.47642I$	$-5.37181 - 1.39365I$	$-0.44374 + 4.45166I$
$u = 0.952998 - 0.363147I$ $a = 0.447217 - 0.580843I$ $b = 0.16042 - 1.47642I$	$-5.37181 + 1.39365I$	$-0.44374 - 4.45166I$
$u = -0.411052 + 0.829761I$ $a = 0.908472 - 0.306162I$ $b = -0.800223 + 0.419012I$	$0.886074 - 0.327914I$	$-1.50287 - 2.30603I$
$u = -0.411052 - 0.829761I$ $a = 0.908472 + 0.306162I$ $b = -0.800223 - 0.419012I$	$0.886074 + 0.327914I$	$-1.50287 + 2.30603I$
$u = -0.991893 + 0.557470I$ $a = -1.33261 + 0.73674I$ $b = 0.828904 + 0.495963I$	$-0.76850 + 5.48421I$	$-1.6991 - 16.1374I$
$u = -0.991893 - 0.557470I$ $a = -1.33261 - 0.73674I$ $b = 0.828904 - 0.495963I$	$-0.76850 - 5.48421I$	$-1.6991 + 16.1374I$
$u = -1.26981$ $a = 1.47162$ $b = 0.504182$	-0.523875	1.69110
$u = -1.283890 + 0.044119I$ $a = -1.67687 + 0.65247I$ $b = -0.562792 + 0.352530I$	$-4.65589 - 4.05576I$	$-3.08182 + 3.35198I$
$u = -1.283890 - 0.044119I$ $a = -1.67687 - 0.65247I$ $b = -0.562792 - 0.352530I$	$-4.65589 + 4.05576I$	$-3.08182 - 3.35198I$
$u = 1.281110 + 0.143729I$ $a = -0.023735 - 0.409037I$ $b = 0.140554 - 1.199050I$	$-11.14630 - 3.12297I$	$-7.71456 + 3.43607I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.281110 - 0.143729I$ $a = -0.023735 + 0.409037I$ $b = 0.140554 + 1.199050I$	$-11.14630 + 3.12297I$	$-7.71456 - 3.43607I$
$u = -0.542807$ $a = 2.74234$ $b = -0.680559$	2.28404	18.6410
$u = 1.44169 + 0.27299I$ $a = 0.190001 + 0.084721I$ $b = 0.564861 + 0.493339I$	$-5.07635 - 3.48825I$	$-0.374917 - 1.318569I$
$u = 1.44169 - 0.27299I$ $a = 0.190001 - 0.084721I$ $b = 0.564861 - 0.493339I$	$-5.07635 + 3.48825I$	$-0.374917 + 1.318569I$
$u = 1.46316 + 0.17821I$ $a = -0.211286 + 0.093946I$ $b = -0.820499 + 0.187762I$	$-7.43021 - 6.90057I$	$0.73795 + 6.43274I$
$u = 1.46316 - 0.17821I$ $a = -0.211286 - 0.093946I$ $b = -0.820499 - 0.187762I$	$-7.43021 + 6.90057I$	$0.73795 - 6.43274I$
$u = 0.392750 + 0.252362I$ $a = -1.72917 - 1.60391I$ $b = -0.11303 - 1.55435I$	$-8.04498 + 1.60371I$	$2.68984 + 0.68205I$
$u = 0.392750 - 0.252362I$ $a = -1.72917 + 1.60391I$ $b = -0.11303 + 1.55435I$	$-8.04498 - 1.60371I$	$2.68984 - 0.68205I$
$u = -0.322581 + 0.260655I$ $a = -1.85686 - 1.81617I$ $b = 0.699900 + 0.348525I$	$-1.38244 + 4.88830I$	$7.02230 - 6.99712I$
$u = -0.322581 - 0.260655I$ $a = -1.85686 + 1.81617I$ $b = 0.699900 - 0.348525I$	$-1.38244 - 4.88830I$	$7.02230 + 6.99712I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.61599 + 0.03920I$ $a = 0.17786 - 2.13380I$ $b = -0.00990 - 2.13633I$	$-15.4624 - 0.5787I$	$-3.29897 - 0.02802I$
$u = -1.61599 - 0.03920I$ $a = 0.17786 + 2.13380I$ $b = -0.00990 + 2.13633I$	$-15.4624 + 0.5787I$	$-3.29897 + 0.02802I$

III. $\boldsymbol{I_3^u = \langle -8.72\times 10^{22}a^{11}u + 1.91\times 10^{22}a^{10}u + \cdots + 4.42\times 10^{24}a + 2.07\times 10^{24},\ -a^{11}u - 8a^{10}u + \cdots - 155a + 597,\ u^2 + u - 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\-u+1\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-u\\-u+1\end{pmatrix}$$
$$a_6 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}a\\0.0214307a^{11}u - 0.00468444a^{10}u + \cdots - 1.08656a - 0.509744\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.00917669a^{11}u + 0.0325719a^{10}u + \cdots - 0.675635a - 3.24372\\-0.00286472a^{11}u + 0.00833889a^{10}u + \cdots + 0.562457a - 0.832737\end{pmatrix}$$
$$a_3 = \begin{pmatrix}0.00602071a^{11}u - 0.0204554a^{10}u + \cdots + 0.0565892a + 1.03823\\0.00946796a^{11}u - 0.0363495a^{10}u + \cdots + 1.85714a + 2.61648\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.00631197a^{11}u + 0.0242330a^{10}u + \cdots - 1.23809a - 2.41098\\-0.00286472a^{11}u + 0.00833889a^{10}u + \cdots + 0.562457a - 0.832737\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-0.0535869a^{11}u + 0.00623328a^{10}u + \cdots + 5.66354a - 0.143400\\-0.0643124a^{11}u + 0.00309767a^{10}u + \cdots + 7.15396a - 1.30629\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.0183450a^{11}u + 0.214734a^{10}u + \cdots + 1.71015a - 3.10299\\-0.00922299a^{11}u + 0.168170a^{10}u + \cdots + 1.41669a - 2.28054\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.107560a^{11}u - 0.0410873a^{10}u + \cdots - 1.69236a - 2.46606\\0.0907209a^{11}u - 0.0394227a^{10}u + \cdots - 1.61846a - 0.543159\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{1332841164324541299086660}{4068027487962543539939429}a^{11}u + \frac{1093266323961776835486728}{4068027487962543539939429}a^{10}u + \cdots + \frac{951425022740197151332024 8}{4068027487962543539939429}a - \frac{3238545162445689995613257 4}{4068027487962543539939429}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^6+5u^5+7u^4-2u^2+3u-1)^4$
c_2, c_{10}	$u^{24}-5u^{23}+\cdots-70u-359$
c_3, c_8, c_{12}	$u^{24}-u^{23}+\cdots-4244u+59$
c_4, c_5, c_{11}	$(u^2+u-1)^{12}$
c_6, c_9	$(u^6-u^5+3u^4-2u^3+2u^2-u-1)^4$
c_7	$u^{24}+u^{23}+\cdots-34758u-11549$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^6 - 11y^5 + 45y^4 - 60y^3 - 10y^2 - 5y + 1)^4$
c_2, c_{10}	$y^{24} - y^{23} + \cdots + 306712y + 128881$
c_3, c_8, c_{12}	$y^{24} + 35y^{23} + \cdots - 17208900y + 3481$
c_4, c_5, c_{11}	$(y^2 - 3y + 1)^{12}$
c_6, c_9	$(y^6 + 5y^5 + 9y^4 + 4y^3 - 6y^2 - 5y + 1)^4$
c_7	$y^{24} + 27y^{23} + \cdots - 597684620y + 133379401$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -0.449650 + 0.833274I$ $b = 0.34833 + 1.76411I$	$-8.88201 + 1.97241I$	$-7.42428 - 3.68478I$
$u = 0.618034$ $a = -0.449650 - 0.833274I$ $b = 0.34833 - 1.76411I$	$-8.88201 - 1.97241I$	$-7.42428 + 3.68478I$
$u = 0.618034$ $a = 1.40776 + 0.25253I$ $b = -1.053060 + 0.516427I$	$-2.22618 - 4.59213I$	$-3.41886 + 3.20482I$
$u = 0.618034$ $a = 1.40776 - 0.25253I$ $b = -1.053060 - 0.516427I$	$-2.22618 + 4.59213I$	$-3.41886 - 3.20482I$
$u = 0.618034$ $a = -1.55325$ $b = 0.936974$	1.73832	0.269500
$u = 0.618034$ $a = 0.63314 + 1.45797I$ $b = -0.14946 + 1.45797I$	-5.18291	$1.41678 + 0.I$
$u = 0.618034$ $a = 0.63314 - 1.45797I$ $b = -0.14946 - 1.45797I$	-5.18291	$1.41678 + 0.I$
$u = 0.618034$ $a = -2.47602$ $b = 0.0142072$	1.73832	0.269500
$u = 0.618034$ $a = -0.84151 + 2.33940I$ $b = -0.043531 + 1.408560I$	$-8.88201 - 1.97241I$	$-7.42428 + 3.68478I$
$u = 0.618034$ $a = -0.84151 - 2.33940I$ $b = -0.043531 - 1.408560I$	$-8.88201 + 1.97241I$	$-7.42428 - 3.68478I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = 2.57392 + 0.67952I$ $b = 0.113108 + 0.415629I$	$-2.22618 + 4.59213I$	$-3.41886 - 3.20482I$
$u = 0.618034$ $a = 2.57392 - 0.67952I$ $b = 0.113108 - 0.415629I$	$-2.22618 - 4.59213I$	$-3.41886 + 3.20482I$
$u = -1.61803$ $a = -0.119315 + 0.970364I$ $b = 0.820632 + 0.869565I$	$-10.12190 - 4.59213I$	$-3.41886 + 3.20482I$
$u = -1.61803$ $a = -0.119315 - 0.970364I$ $b = 0.820632 - 0.869565I$	$-10.12190 + 4.59213I$	$-3.41886 - 3.20482I$
$u = -1.61803$ $a = -0.293931 + 0.836107I$ $b = -1.24511 + 0.83611I$	-6.15736	$-60.269499 + 0.10I$
$u = -1.61803$ $a = -0.293931 - 0.836107I$ $b = -1.24511 - 0.83611I$	-6.15736	$-60.269499 + 0.10I$
$u = -1.61803$ $a = 0.700234 + 1.032660I$ $b = 1.64018 + 1.13346I$	$-10.12190 + 4.59213I$	$-3.41886 - 3.20482I$
$u = -1.61803$ $a = 0.700234 - 1.032660I$ $b = 1.64018 - 1.13346I$	$-10.12190 - 4.59213I$	$-3.41886 + 3.20482I$
$u = -1.61803$ $a = 0.09237 + 2.05693I$ $b = 0.39130 + 2.05693I$	-13.0786	$1.41678 + 0.I$
$u = -1.61803$ $a = 0.09237 - 2.05693I$ $b = 0.39130 - 2.05693I$	-13.0786	$1.41678 + 0.I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.61803$ $a=\ \ 0.11987+2.08307I$ $b=-0.18493+1.72753I$	$-16.7777+1.9724I$	$-7.42428-3.68478I$
$u=-1.61803$ $a=\ \ 0.11987-2.08307I$ $b=-0.18493-1.72753I$	$-16.7777-1.9724I$	$-7.42428+3.68478I$
$u=-1.61803$ $a=-0.30825+2.30281I$ $b=-0.61305+2.65836I$	$-16.7777-1.9724I$	$-7.42428+3.68478I$
$u=-1.61803$ $a=-0.30825-2.30281I$ $b=-0.61305-2.65836I$	$-16.7777+1.9724I$	$-7.42428-3.68478I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^6+5u^5+7u^4-2u^2+3u-1)^4)(u^{22}-19u^{21}+\cdots+33u+11)$ $\cdot(u^{30}-14u^{29}+\cdots-1674u+180)$
c_2, c_{10}	$(u^{22}-u^{21}+\cdots-5u^2-1)(u^{24}-5u^{23}+\cdots-70u-359)$ $\cdot(u^{30}-u^{29}+\cdots-4u+1)$
c_3, c_8	$(u^{22}+8u^{20}+\cdots+6u^2-1)(u^{24}-u^{23}+\cdots-4244u+59)$ $\cdot(u^{30}+25u^{28}+\cdots+14u^2+1)$
c_4, c_5	$((u^2+u-1)^{12})(u^{22}-12u^{20}+\cdots+2u+1)$ $\cdot(u^{30}-13u^{29}+\cdots-96u+64)$
c_6	$((u^6-u^5+3u^4-2u^3+2u^2-u-1)^4)(u^{22}+6u^{21}+\cdots+26u+5)$ $\cdot(u^{30}+9u^{29}+\cdots+58u+4)$
c_7	$(u^{22}-u^{21}+\cdots+6u^2-1)(u^{24}+u^{23}+\cdots-34758u-11549)$ $\cdot(u^{30}+u^{29}+\cdots+134u+43)$
c_9	$((u^6-u^5+3u^4-2u^3+2u^2-u-1)^4)(u^{22}-6u^{21}+\cdots-26u+5)$ $\cdot(u^{30}+9u^{29}+\cdots+58u+4)$
c_{11}	$((u^2+u-1)^{12})(u^{22}-12u^{20}+\cdots-2u+1)$ $\cdot(u^{30}-13u^{29}+\cdots-96u+64)$
c_{12}	$(u^{22}+8u^{20}+\cdots+6u^2-1)(u^{24}-u^{23}+\cdots-4244u+59)$ $\cdot(u^{30}+25u^{28}+\cdots+14u^2+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^6 - 11y^5 + 45y^4 - 60y^3 - 10y^2 - 5y + 1)^4$ $\cdot (y^{22} - 31y^{21} + \cdots - 19833y + 121)$ $\cdot (y^{30} - 42y^{29} + \cdots - 660636y + 32400)$
c_2, c_{10}	$(y^{22} - 3y^{21} + \cdots + 10y + 1)(y^{24} - y^{23} + \cdots + 306712y + 128881)$ $\cdot (y^{30} + 27y^{29} + \cdots + 10y + 1)$
c_3, c_8, c_{12}	$(y^{22} + 16y^{21} + \cdots - 12y + 1)(y^{24} + 35y^{23} + \cdots - 17208900y + 3481)$ $\cdot (y^{30} + 50y^{29} + \cdots + 28y + 1)$
c_4, c_5, c_{11}	$((y^2 - 3y + 1)^{12})(y^{22} - 24y^{21} + \cdots - 16y + 1)$ $\cdot (y^{30} - 27y^{29} + \cdots + 7168y + 4096)$
c_6, c_9	$((y^6 + 5y^5 + \cdots - 5y + 1)^4)(y^{22} + 16y^{21} + \cdots + 44y + 25)$ $\cdot (y^{30} + 21y^{29} + \cdots - 204y + 16)$
c_7	$(y^{22} + 15y^{21} + \cdots - 12y + 1)$ $\cdot (y^{24} + 27y^{23} + \cdots - 597684620y + 133379401)$ $\cdot (y^{30} + 37y^{29} + \cdots - 12796y + 1849)$