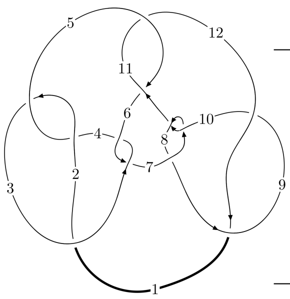
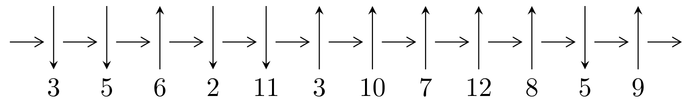
$12n_{0130}$ $(K12n_{0130})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I^u_1 = \langle 3.76813\times10^{29}u^{45} - 2.42336\times10^{30}u^{44} + \cdots + 4.57009\times10^{29}b - 9.07426\times10^{29},$$
$$-3.88039\times10^{29}u^{45} + 2.51360\times10^{30}u^{44} + \cdots + 4.57009\times10^{29}a + 2.62337\times10^{30},\ u^{46} - 7u^{45} + \cdots - 4u -$$
$$I^u_2 = \langle b,\ 3u^8 - 5u^7 - u^6 + 9u^5 - 6u^4 - 3u^3 + 10u^2 + a - 8u + 4,\ u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1\rangle$$
$$I^u_3 = \langle -a^4 + 6a^3 - 9a^2 + b + 8a - 3,\ a^5 - 6a^4 + 9a^3 - 8a^2 + 4a - 1,\ u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 60 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.

$\boldsymbol{I_1^u = \langle 3.77\times10^{29}u^{45} - 2.42\times10^{30}u^{44} + \cdots + 4.57\times10^{29}b - 9.07\times10^{29},\ -3.88\times10^{29}u^{45} + 2.51\times10^{30}u^{44} + \cdots + 4.57\times10^{29}a + 2.62\times10^{30},\ u^{46} - 7u^{45} + \cdots - 4u + 1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.849084u^{45} - 5.50010u^{44} + \cdots + 6.33741u - 5.74030 \\ -0.824518u^{45} + 5.30264u^{44} + \cdots + 0.443856u + 1.98557 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.894837u^{45} - 6.29021u^{44} + \cdots + 2.76162u - 0.388790 \\ -0.321679u^{45} + 2.27756u^{44} + \cdots - 3.54255u + 1.78782 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.151962u^{45} + 1.36037u^{44} + \cdots + 11.0404u - 2.84289 \\ -1.07500u^{45} + 6.98658u^{44} + \cdots + 0.922265u + 2.06759 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1.14526u^{45} - 7.71445u^{44} + \cdots + 3.87163u - 0.363285 \\ -0.210798u^{45} + 1.90057u^{44} + \cdots - 3.49688u + 2.14201 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1.24464u^{45} + 8.36097u^{44} + \cdots - 6.15963u + 4.76903 \\ -0.0970325u^{45} + 0.230705u^{44} + \cdots - 1.32622u - 1.14760 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.625495u^{45} + 4.50917u^{44} + \cdots + 6.85570u - 3.05357 \\ -0.280998u^{45} + 1.72030u^{44} + \cdots + 4.29468u + 0.101646 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.760978u^{45} - 5.14121u^{44} + \cdots + 5.63281u - 3.53294 \\ -0.0351355u^{45} + 0.537169u^{44} + \cdots + 1.00892u + 1.13906 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.804859u^{45} - 1.44838u^{44} + \cdots + 36.2667u - 15.6976$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{46} + 61u^{45} + \cdots + 62504u + 1$
c_2, c_4	$u^{46} - 11u^{45} + \cdots + 260u - 1$
c_3, c_6	$u^{46} + 8u^{45} + \cdots + 9216u + 512$
c_5, c_{11}	$u^{46} - 3u^{45} + \cdots + 2u - 1$
c_7, c_{10}	$u^{46} + 7u^{45} + \cdots + 4u + 1$
c_8	$u^{46} - 17u^{45} + \cdots - 22u + 1$
c_9, c_{12}	$u^{46} + 2u^{45} + \cdots - 32u + 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{46} - 141y^{45} + \cdots - 3903085204y + 1$
c_2, c_4	$y^{46} - 61y^{45} + \cdots - 62504y + 1$
c_3, c_6	$y^{46} + 60y^{45} + \cdots - 71827456y + 262144$
c_5, c_{11}	$y^{46} - y^{45} + \cdots - 32y + 1$
c_7, c_{10}	$y^{46} - 17y^{45} + \cdots - 22y + 1$
c_8	$y^{46} + 31y^{45} + \cdots + 246y + 1$
c_9, c_{12}	$y^{46} + 36y^{45} + \cdots + 8704y + 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.814878 + 0.606452I$ $a = 0.433990 - 0.140786I$ $b = -0.472583 + 0.137648I$	$-2.08149 + 2.37209I$	$0.76660 - 4.29323I$
$u = 0.814878 - 0.606452I$ $a = 0.433990 + 0.140786I$ $b = -0.472583 - 0.137648I$	$-2.08149 - 2.37209I$	$0.76660 + 4.29323I$
$u = -0.874046$ $a = 11.2435$ $b = -0.211525$	-0.417366	104.440
$u = -1.144360 + 0.047071I$ $a = 1.135140 + 0.536251I$ $b = -0.050832 - 0.907635I$	$0.67146 - 1.37994I$	$-4.76488 + 1.12257I$
$u = -1.144360 - 0.047071I$ $a = 1.135140 - 0.536251I$ $b = -0.050832 + 0.907635I$	$0.67146 + 1.37994I$	$-4.76488 - 1.12257I$
$u = 0.843227 + 0.031667I$ $a = 0.420881 + 0.781766I$ $b = -0.461740 - 1.101880I$	$-4.57386 + 4.46577I$	$-14.2933 - 6.3376I$
$u = 0.843227 - 0.031667I$ $a = 0.420881 - 0.781766I$ $b = -0.461740 + 1.101880I$	$-4.57386 - 4.46577I$	$-14.2933 + 6.3376I$
$u = 0.826663 + 0.817264I$ $a = -0.67352 + 1.82579I$ $b = 0.460674 + 0.701336I$	$-5.00017 + 2.00257I$	$2.00000 - 8.95543I$
$u = 0.826663 - 0.817264I$ $a = -0.67352 - 1.82579I$ $b = 0.460674 - 0.701336I$	$-5.00017 - 2.00257I$	$2.00000 + 8.95543I$
$u = -1.113100 + 0.352595I$ $a = 0.007224 - 0.637262I$ $b = 0.601579 - 0.034830I$	$3.69426 - 1.19679I$	$10.96091 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.113100 - 0.352595I$ $a = \quad 0.007224 + 0.637262I$ $b = \quad 0.601579 + 0.034830I$	$3.69426 + 1.19679I$	$10.96091 + 0.I$
$u = -0.819753$ $a = \quad 0.799680$ $b = -0.0632515$	1.19409	8.46120
$u = -0.779990 + 0.229445I$ $a = \quad 2.81222 + 3.37657I$ $b = -0.084278 + 0.529431I$	$-0.282269 - 0.067141I$	$-3.72609 + 3.28540I$
$u = -0.779990 - 0.229445I$ $a = \quad 2.81222 - 3.37657I$ $b = -0.084278 - 0.529431I$	$-0.282269 + 0.067141I$	$-3.72609 - 3.28540I$
$u = \quad 0.773116 + 0.916562I$ $a = \quad 0.98201 - 1.48513I$ $b = -0.21958 - 2.31592I$	$-6.74889 - 1.48702I$	0
$u = \quad 0.773116 - 0.916562I$ $a = \quad 0.98201 + 1.48513I$ $b = -0.21958 + 2.31592I$	$-6.74889 + 1.48702I$	0
$u = -0.896390 + 0.827408I$ $a = \quad 0.85433 + 1.70162I$ $b = -0.57354 + 1.89707I$	$-9.88679 - 7.22887I$	0
$u = -0.896390 - 0.827408I$ $a = \quad 0.85433 - 1.70162I$ $b = -0.57354 - 1.89707I$	$-9.88679 + 7.22887I$	0
$u = -0.922092 + 0.823711I$ $a = -1.29796 - 1.16134I$ $b = -0.17166 - 1.89876I$	$-9.81126 + 1.05399I$	0
$u = -0.922092 - 0.823711I$ $a = -1.29796 + 1.16134I$ $b = -0.17166 + 1.89876I$	$-9.81126 - 1.05399I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.622771+0.441733I$ $a=-0.35659-2.46347I$ $b=-0.120390-1.382460I$	$-1.00247-2.85719I$	$-1.18117+7.51903I$
$u=-0.622771-0.441733I$ $a=-0.35659+2.46347I$ $b=-0.120390+1.382460I$	$-1.00247+2.85719I$	$-1.18117-7.51903I$
$u=\ 0.964014+0.778863I$ $a=\ 0.66372-1.28651I$ $b=\ 0.201748-0.896900I$	$-4.56947+3.99633I$	0
$u=\ 0.964014-0.778863I$ $a=\ 0.66372+1.28651I$ $b=\ 0.201748+0.896900I$	$-4.56947-3.99633I$	0
$u=\ 0.342222+0.659201I$ $a=\ 0.463828+0.469807I$ $b=\ 0.814960-0.187703I$	$0.00959-1.79095I$	$3.07595+1.44696I$
$u=\ 0.342222-0.659201I$ $a=\ 0.463828-0.469807I$ $b=\ 0.814960+0.187703I$	$0.00959+1.79095I$	$3.07595-1.44696I$
$u=\ 0.534580+1.140310I$ $a=-0.535482+1.204310I$ $b=-0.85043+2.04924I$	$-16.0716-8.0734I$	0
$u=\ 0.534580-1.140310I$ $a=-0.535482-1.204310I$ $b=-0.85043-2.04924I$	$-16.0716+8.0734I$	0
$u=\ 0.517745+1.151250I$ $a=\ 0.203460-1.234010I$ $b=\ 0.12527-2.07856I$	$-15.9425+0.1123I$	0
$u=\ 0.517745-1.151250I$ $a=\ 0.203460+1.234010I$ $b=\ 0.12527+2.07856I$	$-15.9425-0.1123I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.147030 + 0.542395I$ $a = -0.049293 + 0.460049I$ $b = 0.722105 - 0.124793I$	$2.40464 + 6.60583I$	0
$u = 1.147030 - 0.542395I$ $a = -0.049293 - 0.460049I$ $b = 0.722105 + 0.124793I$	$2.40464 - 6.60583I$	0
$u = 0.925590 + 0.893441I$ $a = -0.577793 - 1.098140I$ $b = -2.58550 + 0.33210I$	$-8.83417 + 3.29298I$	0
$u = 0.925590 - 0.893441I$ $a = -0.577793 + 1.098140I$ $b = -2.58550 - 0.33210I$	$-8.83417 - 3.29298I$	0
$u = 1.036590 + 0.818046I$ $a = -1.25167 + 1.21714I$ $b = 0.36479 + 2.31829I$	$-5.92831 + 7.90364I$	0
$u = 1.036590 - 0.818046I$ $a = -1.25167 - 1.21714I$ $b = 0.36479 - 2.31829I$	$-5.92831 - 7.90364I$	0
$u = 1.22395 + 0.78126I$ $a = 1.33482 - 1.20924I$ $b = -1.04750 - 1.85828I$	$-13.8837 + 14.9590I$	0
$u = 1.22395 - 0.78126I$ $a = 1.33482 + 1.20924I$ $b = -1.04750 + 1.85828I$	$-13.8837 - 14.9590I$	0
$u = 1.23972 + 0.77641I$ $a = -1.33618 + 0.62822I$ $b = 0.38179 + 1.86130I$	$-13.6512 + 6.7959I$	0
$u = 1.23972 - 0.77641I$ $a = -1.33618 - 0.62822I$ $b = 0.38179 - 1.86130I$	$-13.6512 - 6.7959I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.49819 + 0.01098I$ $a = 0.190759 - 0.578483I$ $b = -0.37515 + 1.84363I$	$-8.03047 - 4.15846I$	0
$u = -1.49819 - 0.01098I$ $a = 0.190759 + 0.578483I$ $b = -0.37515 - 1.84363I$	$-8.03047 + 4.15846I$	0
$u = 0.289365 + 0.082286I$ $a = -0.11001 + 1.91260I$ $b = 0.522176 - 0.667900I$	$-0.00303 - 1.48232I$	$-0.37531 + 3.95565I$
$u = 0.289365 - 0.082286I$ $a = -0.11001 - 1.91260I$ $b = 0.522176 + 0.667900I$	$-0.00303 + 1.48232I$	$-0.37531 - 3.95565I$
$u = -0.154903 + 0.210713I$ $a = -1.33546 - 1.46982I$ $b = -1.044520 + 0.254535I$	$-2.59187 + 0.05584I$	$-4.82458 + 1.57408I$
$u = -0.154903 - 0.210713I$ $a = -1.33546 + 1.46982I$ $b = -1.044520 - 0.254535I$	$-2.59187 - 0.05584I$	$-4.82458 - 1.57408I$

II.

$$\boldsymbol{I_2^u = \langle b,\ 3u^8 - 5u^7 + \cdots + a + 4,\ u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1\rangle}$$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -3u^8 + 5u^7 + u^6 - 9u^5 + 6u^4 + 3u^3 - 10u^2 + 8u - 4 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -3u^8 + 5u^7 + u^6 - 9u^5 + 6u^4 + 3u^3 - 10u^2 + 8u - 4 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^4 - u^2 + 1 \\ -u^6 + 2u^4 - u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^7 - 2u^5 + 2u^3 \\ -u^8 + u^7 + 3u^6 - 2u^5 - 3u^4 + 2u^3 + 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -3u^8 + 5u^7 + u^6 - 9u^5 + 5u^4 + 3u^3 - 9u^2 + 8u - 5 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^4 + u^2 - 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -42u^8 + 74u^7 + 19u^6 - 137u^5 + 75u^4 + 54u^3 - 135u^2 + 112u - 56$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.772920 + 0.510351I$ $a = -0.920144 - 0.598375I$ $b = 0$	$-3.42837 + 2.09337I$	$-5.34027 - 4.50528I$
$u = 0.772920 - 0.510351I$ $a = -0.920144 + 0.598375I$ $b = 0$	$-3.42837 - 2.09337I$	$-5.34027 + 4.50528I$
$u = -0.825933$ $a = -14.5113$ $b = 0$	-0.446489	-205.930
$u = -1.173910 + 0.391555I$ $a = 0.719281 + 0.119276I$ $b = 0$	$2.72642 - 1.33617I$	$1.00050 + 1.13735I$
$u = -1.173910 - 0.391555I$ $a = 0.719281 - 0.119276I$ $b = 0$	$2.72642 + 1.33617I$	$1.00050 - 1.13735I$
$u = 0.141484 + 0.739668I$ $a = 0.590648 + 0.449402I$ $b = 0$	$-1.02799 - 2.45442I$	$-2.30315 + 4.13179I$
$u = 0.141484 - 0.739668I$ $a = 0.590648 - 0.449402I$ $b = 0$	$-1.02799 + 2.45442I$	$-2.30315 - 4.13179I$
$u = 1.172470 + 0.500383I$ $a = 0.365868 - 0.247975I$ $b = 0$	$1.95319 + 7.08493I$	$-0.39190 - 10.48669I$
$u = 1.172470 - 0.500383I$ $a = 0.365868 + 0.247975I$ $b = 0$	$1.95319 - 7.08493I$	$-0.39190 + 10.48669I$

III. $\boldsymbol{I_3^u = \langle -a^4+6a^3-9a^2+b+8a-3,\ a^5-6a^4+9a^3-8a^2+4a-1,\ u+1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ a^4-6a^3+9a^2-8a+3 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -a+2 \\ 2a^4-11a^3+12a^2-7a+1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 2a^4-12a^3+18a^2-14a+5 \\ a^3-5a^2+3a-1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 2a^4-11a^3+12a^2-8a+3 \\ 2a^4-11a^3+12a^2-7a+1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ 3a^4-16a^3+15a^2-7a+1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a^3-5a^2+5a-2 \\ 2a^4-12a^3+17a^2-11a+3 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0 \\ 3a^4-16a^3+15a^2-7a+1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -9a^4+48a^3-48a^2+32a$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_2, c_4	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_3, c_6	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_5, c_{11}	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_7, c_8, c_{10}	$(y-1)^5$
c_9, c_{12}	y^5

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 0.313425 + 0.691081I$ $b = -0.455697 - 1.200150I$	$-4.22763 + 4.40083I$	$8.55516 - 1.78781I$
$u = -1.00000$ $a = 0.313425 - 0.691081I$ $b = -0.455697 + 1.200150I$	$-4.22763 - 4.40083I$	$8.55516 + 1.78781I$
$u = -1.00000$ $a = 0.542256 + 0.333011I$ $b = 0.339110 - 0.822375I$	$1.31583 - 1.53058I$	$8.42731 + 4.45807I$
$u = -1.00000$ $a = 0.542256 - 0.333011I$ $b = 0.339110 + 0.822375I$	$1.31583 + 1.53058I$	$8.42731 - 4.45807I$
$u = -1.00000$ $a = 4.28864$ $b = -0.766826$	-0.756147	-3.96490

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^9)(u^5-5u^4+\cdots-u-1)(u^{46}+61u^{45}+\cdots+62504u+1)$
c_2	$((u-1)^9)(u^5+u^4+\cdots+u-1)(u^{46}-11u^{45}+\cdots+260u-1)$
c_3	$u^9(u^5-u^4+\cdots+u-1)(u^{46}+8u^{45}+\cdots+9216u+512)$
c_4	$((u+1)^9)(u^5-u^4+\cdots+u+1)(u^{46}-11u^{45}+\cdots+260u-1)$
c_5	$(u^5+3u^4+4u^3+u^2-u-1)$ $\cdot(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{46}-3u^{45}+\cdots+2u-1)$
c_6	$u^9(u^5+u^4+\cdots+u+1)(u^{46}+8u^{45}+\cdots+9216u+512)$
c_7	$(u+1)^5(u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1)$ $\cdot(u^{46}+7u^{45}+\cdots+4u+1)$
c_8	$(u-1)^5(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(u^{46}-17u^{45}+\cdots-22u+1)$
c_9	$u^5(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)$ $\cdot(u^{46}+2u^{45}+\cdots-32u+32)$
c_{10}	$(u-1)^5(u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1)$ $\cdot(u^{46}+7u^{45}+\cdots+4u+1)$
c_{11}	$(u^5-3u^4+4u^3-u^2-u+1)$ $\cdot(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{46}-3u^{45}+\cdots+2u-1)$
c_{12}	$u^5(u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1)$ $\cdot(u^{46}+2u^{45}+\cdots-32u+32)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^9(y^5-9y^4+32y^3-35y^2-5y-1)$ $\cdot(y^{46}-141y^{45}+\cdots-3903085204y+1)$
c_2, c_4	$((y-1)^9)(y^5-5y^4+\cdots-y-1)(y^{46}-61y^{45}+\cdots-62504y+1)$
c_3, c_6	$y^9(y^5+3y^4+4y^3+y^2-y-1)$ $\cdot(y^{46}+60y^{45}+\cdots-71827456y+262144)$
c_5, c_{11}	$(y^5-y^4+8y^3-3y^2+3y-1)$ $\cdot(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{46}-y^{45}+\cdots-32y+1)$
c_7, c_{10}	$(y-1)^5(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{46}-17y^{45}+\cdots-22y+1)$
c_8	$(y-1)^5(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{46}+31y^{45}+\cdots+246y+1)$
c_9, c_{12}	$y^5(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{46}+36y^{45}+\cdots+8704y+1024)$