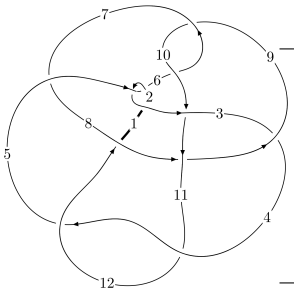
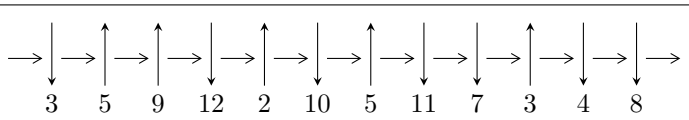
$12n_{0540}$ $(K12n_{0540})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -3.47946 \times 10^{114} u^{67} + 5.80911 \times 10^{114} u^{66} + \cdots + 2.34165 \times 10^{114} b + 9.83922 \times 10^{115}, \\ & 1.83497 \times 10^{116} u^{67} - 3.18289 \times 10^{116} u^{66} + \cdots + 1.63915 \times 10^{115} a - 6.53773 \times 10^{117}, \\ & u^{68} - 2u^{67} + \cdots - 116u + 7 \rangle \\ I_2^u = \langle & 5848837527 u^{22} + 13674615497 u^{21} + \cdots + 52233066871 b + 111138789648, \\ & 7655480010 u^{22} + 231901700034 u^{21} + \cdots + 679029869323 a + 1495389378052, \\ & u^{23} - u^{22} + \cdots + 7u - 13 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 91 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. $\boldsymbol{I_1^u = \langle -3.48 \times 10^{114} u^{67} + 5.81 \times 10^{114} u^{66} + \cdots + 2.34 \times 10^{114} b + 9.84 \times 10^{115},\ 1.83 \times 10^{116} u^{67} - 3.18 \times 10^{116} u^{66} + \cdots + 1.64 \times 10^{115} a - 6.54 \times 10^{117},\ u^{68} - 2u^{67} + \cdots - 116u + 7 \rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -11.1946u^{67} + 19.4179u^{66} + \cdots - 4458.06u + 398.848 \\ 1.48590u^{67} - 2.48078u^{66} + \cdots + 478.228u - 42.0184 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 2.99528u^{67} - 8.06816u^{66} + \cdots + 2059.11u - 186.296 \\ -2.40290u^{67} + 3.48812u^{66} + \cdots - 722.342u + 62.8761 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 2.86290u^{67} - 7.77263u^{66} + \cdots + 1979.48u - 179.800 \\ -1.95630u^{67} + 3.03856u^{66} + \cdots - 638.210u + 56.1653 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 6.23282u^{67} - 9.22792u^{66} + \cdots + 1916.42u - 165.385 \\ 0.664956u^{67} - 0.0247150u^{66} + \cdots - 88.8156u + 11.7141 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -9.70871u^{67} + 16.9371u^{66} + \cdots - 3979.83u + 356.830 \\ 1.48590u^{67} - 2.48078u^{66} + \cdots + 478.228u - 42.0184 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3.04846u^{67} - 9.72123u^{66} + \cdots + 2742.54u - 254.243 \\ -2.53855u^{67} + 3.80062u^{66} + \cdots - 783.316u + 67.5088 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -10.5542u^{67} + 17.7616u^{66} + \cdots - 3993.89u + 354.809 \\ 1.59941u^{67} - 2.25196u^{66} + \cdots + 397.680u - 33.9317 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.77331u^{67} + 5.28127u^{66} + \cdots - 1350.34u + 125.631 \\ 1.09656u^{67} - 0.524123u^{66} + \cdots - 2.65244u + 2.93062 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3.24479u^{67} + 8.28537u^{66} + \cdots - 1873.76u + 165.568$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{68} + 83u^{67} + \cdots + 50717133u + 1247689$
c_2, c_5	$u^{68} + 3u^{67} + \cdots + 2197u + 1117$
c_3	$u^{68} + u^{67} + \cdots + 3064u + 911$
c_4, c_{11}	$u^{68} + 2u^{67} + \cdots + 116u + 7$
c_6, c_9	$u^{68} + 4u^{67} + \cdots - 34u + 3$
c_7	$u^{68} + 12u^{67} + \cdots + 789947u + 129293$
c_8	$u^{68} - 9u^{66} + \cdots - 28u + 88$
c_{10}	$u^{68} - 2u^{67} + \cdots + 1328829u + 2269219$
c_{12}	$u^{68} + u^{67} + \cdots - 3738678u + 370609$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{68} - 177y^{67} + \cdots - 202908028705639y + 1556727840721$
c_2, c_5	$y^{68} + 83y^{67} + \cdots + 50717133y + 1247689$
c_3	$y^{68} + 21y^{67} + \cdots + 24920164y + 829921$
c_4, c_{11}	$y^{68} - 48y^{67} + \cdots - 2858y + 49$
c_6, c_9	$y^{68} + 8y^{67} + \cdots - 220y + 9$
c_7	$y^{68} + 68y^{67} + \cdots + 2855259918707y + 16716679849$
c_8	$y^{68} - 18y^{67} + \cdots + 160432y + 7744$
c_{10}	$y^{68} + 52y^{67} + \cdots + 220850551819415y + 5149354869961$
c_{12}	$y^{68} - 45y^{67} + \cdots - 1916711732460y + 137351030881$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.947765 + 0.357665I$ $a = 0.040563 + 1.213920I$ $b = -0.628775 - 0.554793I$	$-1.10242 - 1.88768I$	0
$u = 0.947765 - 0.357665I$ $a = 0.040563 - 1.213920I$ $b = -0.628775 + 0.554793I$	$-1.10242 + 1.88768I$	0
$u = -0.206261 + 1.007020I$ $a = 0.906803 - 0.883651I$ $b = -1.166080 + 0.709081I$	$-9.04368 + 2.56194I$	0
$u = -0.206261 - 1.007020I$ $a = 0.906803 + 0.883651I$ $b = -1.166080 - 0.709081I$	$-9.04368 - 2.56194I$	0
$u = -0.952275 + 0.015155I$ $a = -0.389347 + 1.110760I$ $b = -1.51867 - 0.44627I$	$-6.56999 + 0.14060I$	$-5.76756 + 0.I$
$u = -0.952275 - 0.015155I$ $a = -0.389347 - 1.110760I$ $b = -1.51867 + 0.44627I$	$-6.56999 - 0.14060I$	$-5.76756 + 0.I$
$u = 0.119156 + 1.120550I$ $a = 0.632936 + 0.272438I$ $b = -0.526423 + 0.033002I$	$0.601823 - 0.891457I$	0
$u = 0.119156 - 1.120550I$ $a = 0.632936 - 0.272438I$ $b = -0.526423 - 0.033002I$	$0.601823 + 0.891457I$	0
$u = 1.131540 + 0.066351I$ $a = -1.34290 - 1.03710I$ $b = -0.842012 + 0.236969I$	$-3.61434 - 1.69153I$	0
$u = 1.131540 - 0.066351I$ $a = -1.34290 + 1.03710I$ $b = -0.842012 - 0.236969I$	$-3.61434 + 1.69153I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.125430 + 0.171124I$ $a = -0.153836 + 0.563315I$ $b = 1.11877 - 2.59647I$	$-10.13300 - 5.69758I$	0
$u = 1.125430 - 0.171124I$ $a = -0.153836 - 0.563315I$ $b = 1.11877 + 2.59647I$	$-10.13300 + 5.69758I$	0
$u = 0.175099 + 0.838478I$ $a = 0.638073 + 0.706860I$ $b = -0.333831 - 0.671397I$	$0.31102 - 1.89447I$	$-2.64082 + 6.58964I$
$u = 0.175099 - 0.838478I$ $a = 0.638073 - 0.706860I$ $b = -0.333831 + 0.671397I$	$0.31102 + 1.89447I$	$-2.64082 - 6.58964I$
$u = -1.088590 + 0.350394I$ $a = 0.578583 + 0.954503I$ $b = 1.31358 - 0.94934I$	$1.42621 + 5.22038I$	0
$u = -1.088590 - 0.350394I$ $a = 0.578583 - 0.954503I$ $b = 1.31358 + 0.94934I$	$1.42621 - 5.22038I$	0
$u = 1.141830 + 0.179993I$ $a = 0.82568 - 1.37936I$ $b = 0.908474 + 0.921235I$	$-0.61521 - 4.20240I$	0
$u = 1.141830 - 0.179993I$ $a = 0.82568 + 1.37936I$ $b = 0.908474 - 0.921235I$	$-0.61521 + 4.20240I$	0
$u = -0.043094 + 1.162240I$ $a = -0.911498 + 0.621527I$ $b = 1.098450 - 0.740956I$	$-8.72944 + 10.14780I$	0
$u = -0.043094 - 1.162240I$ $a = -0.911498 - 0.621527I$ $b = 1.098450 + 0.740956I$	$-8.72944 - 10.14780I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.730243 + 0.911092I$ $a = 0.436558 - 0.057088I$ $b = -0.035935 + 0.195728I$	$-0.33349 - 2.89073I$	0
$u = 0.730243 - 0.911092I$ $a = 0.436558 + 0.057088I$ $b = -0.035935 - 0.195728I$	$-0.33349 + 2.89073I$	0
$u = -1.180250 + 0.039699I$ $a = -0.322263 - 0.642592I$ $b = -1.36957 + 0.98710I$	$-4.90609 + 1.45309I$	0
$u = -1.180250 - 0.039699I$ $a = -0.322263 + 0.642592I$ $b = -1.36957 - 0.98710I$	$-4.90609 - 1.45309I$	0
$u = -1.176600 + 0.191135I$ $a = -1.93965 + 0.51920I$ $b = -0.695306 + 0.367890I$	$-10.52210 + 6.41640I$	0
$u = -1.176600 - 0.191135I$ $a = -1.93965 - 0.51920I$ $b = -0.695306 - 0.367890I$	$-10.52210 - 6.41640I$	0
$u = 0.060621 + 1.190540I$ $a = -0.571573 - 0.371721I$ $b = 0.867630 + 0.303277I$	$-0.46876 - 4.20757I$	0
$u = 0.060621 - 1.190540I$ $a = -0.571573 + 0.371721I$ $b = 0.867630 - 0.303277I$	$-0.46876 + 4.20757I$	0
$u = -1.182210 + 0.170919I$ $a = 0.088084 - 0.589191I$ $b = 0.714259 + 1.051810I$	$-2.89595 + 4.08070I$	0
$u = -1.182210 - 0.170919I$ $a = 0.088084 + 0.589191I$ $b = 0.714259 - 1.051810I$	$-2.89595 - 4.08070I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.404834+0.685829I$ $a=-0.940474-0.323677I$ $b=\ 0.693348+0.865586I$	$3.55477-1.28710I$	$5.05160+1.04556I$
$u=-0.404834-0.685829I$ $a=-0.940474+0.323677I$ $b=\ 0.693348-0.865586I$	$3.55477+1.28710I$	$5.05160-1.04556I$
$u=\ 1.223450+0.114208I$ $a=\ 0.838650+0.592410I$ $b=\ 0.466055-0.033333I$	$-3.07031-0.92088I$	0
$u=\ 1.223450-0.114208I$ $a=\ 0.838650-0.592410I$ $b=\ 0.466055+0.033333I$	$-3.07031+0.92088I$	0
$u=\ 1.242620+0.025631I$ $a=\ 0.032890-0.504754I$ $b=-1.72206+2.06580I$	$-11.42940+2.92629I$	0
$u=\ 1.242620-0.025631I$ $a=\ 0.032890+0.504754I$ $b=-1.72206-2.06580I$	$-11.42940-2.92629I$	0
$u=-1.275810+0.008672I$ $a=\ 1.30907+1.34723I$ $b=\ 0.772778+0.039008I$	$-12.42140+2.86949I$	0
$u=-1.275810-0.008672I$ $a=\ 1.30907-1.34723I$ $b=\ 0.772778-0.039008I$	$-12.42140-2.86949I$	0
$u=\ 1.091170+0.758270I$ $a=-0.048055-0.621973I$ $b=\ 1.388680+0.122425I$	$-5.10581-3.43321I$	0
$u=\ 1.091170-0.758270I$ $a=-0.048055+0.621973I$ $b=\ 1.388680-0.122425I$	$-5.10581+3.43321I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.269780+0.488456I$ $a=\ \ 0.006811-1.078700I$ $b=-0.742033+0.701033I$	$-3.69503+6.20269I$	0
$u=-1.269780-0.488456I$ $a=\ \ 0.006811+1.078700I$ $b=-0.742033-0.701033I$	$-3.69503-6.20269I$	0
$u=\ \ 0.011349+0.622403I$ $a=\ \ 0.565810+1.046550I$ $b=\ \ 0.180164-0.381969I$	$0.84600-1.53956I$	$1.33813+2.18949I$
$u=\ \ 0.011349-0.622403I$ $a=\ \ 0.565810-1.046550I$ $b=\ \ 0.180164+0.381969I$	$0.84600+1.53956I$	$1.33813-2.18949I$
$u=\ \ 1.38641+0.42602I$ $a=-0.380161+1.136250I$ $b=-1.45552-0.92583I$	$-14.0339-7.5741I$	0
$u=\ \ 1.38641-0.42602I$ $a=-0.380161-1.136250I$ $b=-1.45552+0.92583I$	$-14.0339+7.5741I$	0
$u=-1.38018+0.44717I$ $a=-0.180863-0.851166I$ $b=-1.05821+1.05211I$	$-4.53688+6.71623I$	0
$u=-1.38018-0.44717I$ $a=-0.180863+0.851166I$ $b=-1.05821-1.05211I$	$-4.53688-6.71623I$	0
$u=-1.30930+0.68061I$ $a=\ \ 0.466558-0.599062I$ $b=-1.119230-0.290691I$	$-12.20000+3.56524I$	0
$u=-1.30930-0.68061I$ $a=\ \ 0.466558+0.599062I$ $b=-1.119230+0.290691I$	$-12.20000-3.56524I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.39983+0.51827I$ $a=\ 0.251477+0.976417I$ $b=\ 1.203380-0.632990I$	$-5.13007+10.12020I$	0
$u=-1.39983-0.51827I$ $a=\ 0.251477-0.976417I$ $b=\ 1.203380+0.632990I$	$-5.13007-10.12020I$	0
$u=\ 1.39753+0.53362I$ $a=\ 0.246829-1.107490I$ $b=\ 1.48762+0.95191I$	$-13.2811-16.0932I$	0
$u=\ 1.39753-0.53362I$ $a=\ 0.246829+1.107490I$ $b=\ 1.48762-0.95191I$	$-13.2811+16.0932I$	0
$u=\ 1.40478+0.55900I$ $a=\ 0.067000+0.648345I$ $b=-1.010050-0.582448I$	$-3.60803-5.31106I$	0
$u=\ 1.40478-0.55900I$ $a=\ 0.067000-0.648345I$ $b=-1.010050+0.582448I$	$-3.60803+5.31106I$	0
$u=\ 1.44778+0.50507I$ $a=\ 0.107561-0.627005I$ $b=\ 1.060660+0.226591I$	$-5.13201-2.07157I$	0
$u=\ 1.44778-0.50507I$ $a=\ 0.107561+0.627005I$ $b=\ 1.060660-0.226591I$	$-5.13201+2.07157I$	0
$u=\ 0.373319+0.206165I$ $a=-2.73778-0.45710I$ $b=\ 0.508605-0.537274I$	$1.78723+2.33202I$	$-4.39316-1.89690I$
$u=\ 0.373319-0.206165I$ $a=-2.73778+0.45710I$ $b=\ 0.508605+0.537274I$	$1.78723-2.33202I$	$-4.39316+1.89690I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.249284 + 0.339745I$ $a = 2.71001 - 0.73800I$ $b = 0.947188 + 1.031140I$	$-7.68973 + 3.58621I$	$-2.25293 - 1.72671I$
$u = 0.249284 - 0.339745I$ $a = 2.71001 + 0.73800I$ $b = 0.947188 - 1.031140I$	$-7.68973 - 3.58621I$	$-2.25293 + 1.72671I$
$u = -1.47747 + 0.55770I$ $a = -0.303874 + 0.589982I$ $b = 0.961351 + 0.168628I$	$-13.22700 - 3.78980I$	0
$u = -1.47747 - 0.55770I$ $a = -0.303874 - 0.589982I$ $b = 0.961351 - 0.168628I$	$-13.22700 + 3.78980I$	0
$u = -0.097604 + 0.392483I$ $a = -1.27273 + 2.72091I$ $b = -0.788066 - 1.085820I$	$-7.38084 - 4.11631I$	$-1.81227 + 1.53073I$
$u = -0.097604 - 0.392483I$ $a = -1.27273 - 2.72091I$ $b = -0.788066 + 1.085820I$	$-7.38084 + 4.11631I$	$-1.81227 - 1.53073I$
$u = 0.184696 + 0.005265I$ $a = 1.31649 - 3.97124I$ $b = -0.679221 + 0.376391I$	$-1.19167 + 1.07394I$	$-6.06832 - 1.82745I$
$u = 0.184696 - 0.005265I$ $a = 1.31649 + 3.97124I$ $b = -0.679221 - 0.376391I$	$-1.19167 - 1.07394I$	$-6.06832 + 1.82745I$

II.

$\boldsymbol{I_2^u = \langle 5.85\times 10^{9}u^{22}+1.37\times 10^{10}u^{21}+\cdots+5.22\times 10^{10}b+1.11\times 10^{11},\ 7.66\times 10^{9}u^{22}+2.32\times 10^{11}u^{21}+\cdots+6.79\times 10^{11}a+1.50\times 10^{12},\ u^{23}-u^{22}+\cdots+7u-13\rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0112741u^{22}-0.341519u^{21}+\cdots+2.14006u-2.20224 \\ -0.111976u^{22}-0.261800u^{21}+\cdots-0.447275u-2.12775 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0163823u^{22}-0.0636141u^{21}+\cdots-0.852866u-1.60142 \\ -0.148727u^{22}+0.400493u^{21}+\cdots-3.53623u+2.19107 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.154088u^{22}-0.430776u^{21}+\cdots+3.46615u-3.13359 \\ -0.226792u^{22}+0.342331u^{21}+\cdots-4.26229u+1.16625 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0904796u^{22}-0.375433u^{21}+\cdots+3.26034u-4.38124 \\ 0.114745u^{22}-0.0830532u^{21}+\cdots-0.980044u+1.04095 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.123250u^{22}-0.603319u^{21}+\cdots+1.69278u-4.32999 \\ -0.111976u^{22}-0.261800u^{21}+\cdots-0.447275u-2.12775 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.173695u^{22}-0.175316u^{21}+\cdots+2.07803u-0.322177 \\ 0.170470u^{22}-0.367162u^{21}+\cdots+4.31902u-2.53217 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.194704u^{22}-0.406398u^{21}+\cdots+2.57044u-5.26720 \\ -0.327036u^{22}+0.120016u^{21}+\cdots-3.13210u+0.440540 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.157270u^{22}+0.341210u^{21}+\cdots-0.873536u+7.44134 \\ -0.0234918u^{22}-0.0729096u^{21}+\cdots+1.55156u-0.643684 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{68841542409}{52233066871}u^{22}-\frac{22063841362}{52233066871}u^{21}+\cdots+\frac{22905478578}{52233066871}u-\frac{1118269147194}{52233066871}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{23} - 24u^{22} + \cdots + 8u + 1$
c_2	$u^{23} + 12u^{21} + \cdots - 6u - 1$
c_3	$u^{23} + u^{21} + \cdots + u - 1$
c_4	$u^{23} + u^{22} + \cdots + 7u + 13$
c_5	$u^{23} + 12u^{21} + \cdots - 6u + 1$
c_6	$u^{23} - 9u^{22} + \cdots + u - 1$
c_7	$u^{23} + u^{22} + \cdots + 34u - 1$
c_8	$u^{23} - u^{22} + \cdots + 5u - 1$
c_9	$u^{23} + 9u^{22} + \cdots + u + 1$
c_{10}	$u^{23} - 3u^{22} + \cdots + 64u - 1$
c_{11}	$u^{23} - u^{22} + \cdots + 7u - 13$
c_{12}	$u^{23} - 2u^{21} + \cdots - 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{23} - 32y^{22} + \cdots + 176y - 1$
c_2, c_5	$y^{23} + 24y^{22} + \cdots + 8y - 1$
c_3	$y^{23} + 2y^{22} + \cdots - 7y - 1$
c_4, c_{11}	$y^{23} - 15y^{22} + \cdots + 491y - 169$
c_6, c_9	$y^{23} + 13y^{22} + \cdots + y - 1$
c_7	$y^{23} + 9y^{22} + \cdots + 942y - 1$
c_8	$y^{23} + 3y^{22} + \cdots - 5y - 1$
c_{10}	$y^{23} + 5y^{22} + \cdots + 3818y - 1$
c_{12}	$y^{23} - 4y^{22} + \cdots - 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.969649+0.208739I$ $a=\ 0.893035+0.002983I$ $b=\ 0.41251+1.38099I$	$-9.35694+4.88290I$	$-5.47805-2.39578I$
$u=-0.969649-0.208739I$ $a=\ 0.893035-0.002983I$ $b=\ 0.41251-1.38099I$	$-9.35694-4.88290I$	$-5.47805+2.39578I$
$u=\ 0.706367+0.694290I$ $a=-0.864887+0.128919I$ $b=\ 0.755463-0.588126I$	$1.99473+0.42434I$	$-2.96732-0.54228I$
$u=\ 0.706367-0.694290I$ $a=-0.864887-0.128919I$ $b=\ 0.755463+0.588126I$	$1.99473-0.42434I$	$-2.96732+0.54228I$
$u=\ 1.029520+0.311855I$ $a=\ 0.87335-1.12980I$ $b=\ 1.081290+0.659632I$	$0.92294-4.26461I$	$-2.79214+3.19246I$
$u=\ 1.029520-0.311855I$ $a=\ 0.87335+1.12980I$ $b=\ 1.081290-0.659632I$	$0.92294+4.26461I$	$-2.79214-3.19246I$
$u=\ 0.085426+1.108690I$ $a=\ 0.650193+0.335735I$ $b=-0.394580-0.446615I$	$1.04180-1.37739I$	$5.17336+4.62822I$
$u=\ 0.085426-1.108690I$ $a=\ 0.650193-0.335735I$ $b=-0.394580+0.446615I$	$1.04180+1.37739I$	$5.17336-4.62822I$
$u=\ 0.612586+0.954643I$ $a=\ 0.394296+0.065832I$ $b=-0.526420-0.116699I$	$-0.74547-3.07047I$	$-10.34573+5.68741I$
$u=\ 0.612586-0.954643I$ $a=\ 0.394296-0.065832I$ $b=-0.526420+0.116699I$	$-0.74547+3.07047I$	$-10.34573-5.68741I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.182480+0.093811I$ $a=-0.716499+0.295092I$ $b=-0.51191-1.36850I$	$-10.36280-3.44481I$	$-6.30851+2.84638I$
$u=-1.182480-0.093811I$ $a=-0.716499-0.295092I$ $b=-0.51191+1.36850I$	$-10.36280+3.44481I$	$-6.30851-2.84638I$
$u=1.187240+0.178894I$ $a=0.373081+1.093460I$ $b=-0.009372-0.431374I$	$-2.75856-2.80899I$	$-6.25715+4.22155I$
$u=1.187240-0.178894I$ $a=0.373081-1.093460I$ $b=-0.009372+0.431374I$	$-2.75856+2.80899I$	$-6.25715-4.22155I$
$u=1.22751$ $a=-1.00654$ $b=-0.980403$	-4.04467	-10.7930
$u=-1.201890+0.352374I$ $a=0.494720+1.043980I$ $b=0.98036-1.32039I$	$-0.35223+6.37887I$	$-3.58506-6.94969I$
$u=-1.201890-0.352374I$ $a=0.494720-1.043980I$ $b=0.98036+1.32039I$	$-0.35223-6.37887I$	$-3.58506+6.94969I$
$u=-0.213051+0.598073I$ $a=-1.58672-0.80580I$ $b=0.443024+0.901041I$	$2.77756-2.68869I$	$3.20713+4.39726I$
$u=-0.213051-0.598073I$ $a=-1.58672+0.80580I$ $b=0.443024-0.901041I$	$2.77756+2.68869I$	$3.20713-4.39726I$
$u=1.25272+0.66973I$ $a=0.005234+0.556877I$ $b=-1.356660-0.234537I$	$-5.31688-3.17755I$	$-16.2847-1.1732I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.25272 - 0.66973I$ $a = 0.005234 - 0.556877I$ $b = -1.356660 + 0.234537I$	$-5.31688 + 3.17755I$	$-16.2847 + 1.1732I$
$u = -1.42054 + 0.53423I$ $a = -0.050993 - 0.825192I$ $b = -0.883498 + 0.890898I$	$-3.78568 + 7.28747I$	$-1.96558 - 11.65600I$
$u = -1.42054 - 0.53423I$ $a = -0.050993 + 0.825192I$ $b = -0.883498 - 0.890898I$	$-3.78568 - 7.28747I$	$-1.96558 + 11.65600I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{23}-24u^{22}+\cdots+8u+1)$ $\cdot(u^{68}+83u^{67}+\cdots+50717133u+1247689)$
c_2	$(u^{23}+12u^{21}+\cdots-6u-1)(u^{68}+3u^{67}+\cdots+2197u+1117)$
c_3	$(u^{23}+u^{21}+\cdots+u-1)(u^{68}+u^{67}+\cdots+3064u+911)$
c_4	$(u^{23}+u^{22}+\cdots+7u+13)(u^{68}+2u^{67}+\cdots+116u+7)$
c_5	$(u^{23}+12u^{21}+\cdots-6u+1)(u^{68}+3u^{67}+\cdots+2197u+1117)$
c_6	$(u^{23}-9u^{22}+\cdots+u-1)(u^{68}+4u^{67}+\cdots-34u+3)$
c_7	$(u^{23}+u^{22}+\cdots+34u-1)(u^{68}+12u^{67}+\cdots+789947u+129293)$
c_8	$(u^{23}-u^{22}+\cdots+5u-1)(u^{68}-9u^{66}+\cdots-28u+88)$
c_9	$(u^{23}+9u^{22}+\cdots+u+1)(u^{68}+4u^{67}+\cdots-34u+3)$
c_{10}	$(u^{23}-3u^{22}+\cdots+64u-1)(u^{68}-2u^{67}+\cdots+1328829u+2269219)$
c_{11}	$(u^{23}-u^{22}+\cdots+7u-13)(u^{68}+2u^{67}+\cdots+116u+7)$
c_{12}	$(u^{23}-2u^{21}+\cdots-3u-1)(u^{68}+u^{67}+\cdots-3738678u+370609)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{23} - 32y^{22} + \cdots + 176y - 1)$ $\cdot (y^{68} - 177y^{67} + \cdots - 202908028705639y + 1556727840721)$
c_2, c_5	$(y^{23} + 24y^{22} + \cdots + 8y - 1)$ $\cdot (y^{68} + 83y^{67} + \cdots + 50717133y + 1247689)$
c_3	$(y^{23} + 2y^{22} + \cdots - 7y - 1)(y^{68} + 21y^{67} + \cdots + 2.49202 \times 10^7 y + 829921)$
c_4, c_{11}	$(y^{23} - 15y^{22} + \cdots + 491y - 169)(y^{68} - 48y^{67} + \cdots - 2858y + 49)$
c_6, c_9	$(y^{23} + 13y^{22} + \cdots + y - 1)(y^{68} + 8y^{67} + \cdots - 220y + 9)$
c_7	$(y^{23} + 9y^{22} + \cdots + 942y - 1)$ $\cdot (y^{68} + 68y^{67} + \cdots + 2855259918707y + 16716679849)$
c_8	$(y^{23} + 3y^{22} + \cdots - 5y - 1)(y^{68} - 18y^{67} + \cdots + 160432y + 7744)$
c_{10}	$(y^{23} + 5y^{22} + \cdots + 3818y - 1)$ $\cdot (y^{68} + 52y^{67} + \cdots + 220850551819415y + 5149354869961)$
c_{12}	$(y^{23} - 4y^{22} + \cdots - 3y - 1)$ $\cdot (y^{68} - 45y^{67} + \cdots - 1916711732460y + 137351030881)$