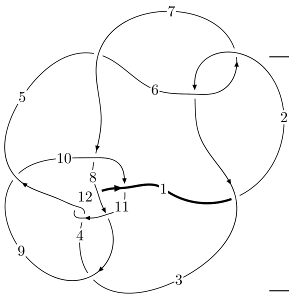
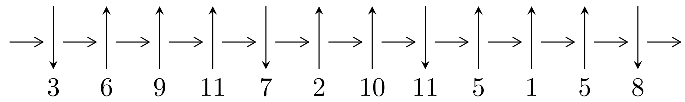
$12n_{0505}$ ($K12n_{0505}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 &= \langle -19u^{31} + 110u^{30} + \cdots + b + 35,\ -27u^{31} + 170u^{30} + \cdots + 2a + 74,\ u^{32} - 6u^{31} + \cdots + 2u + 2\rangle \\
I^u_2 &= \langle 2u^{14} + 4u^{12} - u^{11} + 9u^{10} + 2u^9 + 8u^8 + 2u^7 + 5u^6 + 7u^5 + 2u^4 + 3u^3 - 2u^2 + b + u - 1, \\
&\quad 3u^{14} - u^{13} + 5u^{12} - 4u^{11} + 11u^{10} - 3u^9 + 6u^8 - 6u^7 - u^6 - 5u^4 - 4u^3 - 11u^2 + 2a - 3u - 4, \\
&\quad u^{15} - u^{14} + 3u^{13} - 2u^{12} + 7u^{11} - 3u^{10} + 8u^9 + 7u^7 + 4u^6 + 3u^5 + 6u^4 + u^3 + 5u^2 + 2\rangle \\
I^u_3 &= \langle -u^{15} - u^{14} - 2u^{13} - u^{12} - 4u^{11} - 2u^{10} - 4u^9 - u^8 - 4u^7 - 2u^5 + u^2a - 2u^3 + au + b + 1, \\
&\quad u^{15}a - 5u^{15} + \cdots - 2a + 8, \\
&\quad u^{16} + u^{15} + 3u^{14} + 2u^{13} + 7u^{12} + 4u^{11} + 10u^{10} + 4u^9 + 11u^8 + 2u^7 + 8u^6 + 4u^4 - 2u^3 - 2u - 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 79 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. $I^u_1 = \langle -19u^{31} + 110u^{30} + \cdots + b + 35,\ -27u^{31} + 170u^{30} + \cdots + 2a + 74,\ u^{32} - 6u^{31} + \cdots + 2u + 2\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} \frac{27}{2}u^{31} - 85u^{30} + \cdots - 58u - 37 \\ 19u^{31} - 110u^{30} + \cdots - 45u - 35 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{5}{2}u^{31} - 15u^{30} + \cdots - 9u - 6 \\ 2u^{31} - 13u^{30} + \cdots - 5u - 5 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{17}{2}u^{31} - 50u^{30} + \cdots - 23u - 16 \\ 10u^{31} - 55u^{30} + \cdots - 19u - 15 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -\frac{7}{2}u^{31} + 16u^{30} + \cdots - u + 1 \\ -u^{31} + 4u^{29} + \cdots - 11u - 5 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{7}{2}u^{31} - 16u^{30} + \cdots + 4u - 1 \\ -4u^{31} + 19u^{30} + \cdots + 2u + 3 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} \frac{21}{2}u^{31} - 65u^{30} + \cdots - 41u - 26 \\ 16u^{31} - 89u^{30} + \cdots - 30u - 25 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -16u^{31} + 83u^{30} - 289u^{29} + 706u^{28} - 1480u^{27} + 2622u^{26} - 4235u^{25} + 6012u^{24} - 7923u^{23} + 9315u^{22} - 10193u^{21} + 9679u^{20} - 8295u^{19} + 5507u^{18} - 2564u^{17} - 852u^{16} + 3101u^{15} - 4711u^{14} + 4654u^{13} - 4018u^{12} + 2292u^{11} - 761u^{10} - 695u^9 + 1289u^8 - 1440u^7 + 990u^6 - 534u^5 + 157u^4 - 23u^3 - 26u^2 + 2u + 16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{32} + 10u^{31} + \cdots - 12u + 4$
c_2, c_6	$u^{32} - 6u^{31} + \cdots + 2u + 2$
c_3, c_4, c_{11}	$u^{32} + u^{31} + \cdots - 2u + 1$
c_7, c_{10}	$u^{32} + 3u^{31} + \cdots - 4u + 1$
c_8	$u^{32} - 15u^{31} + \cdots + 330u + 50$
c_9	$u^{32} - u^{31} + \cdots + 7u + 4$
c_{12}	$u^{32} + 30u^{31} + \cdots + 983040u + 65536$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{32} + 26y^{31} + \cdots + 336y + 16$
c_2, c_6	$y^{32} + 10y^{31} + \cdots - 12y + 4$
c_3, c_4, c_{11}	$y^{32} + 45y^{31} + \cdots + 10y + 1$
c_7, c_{10}	$y^{32} + 5y^{31} + \cdots - 12y + 1$
c_8	$y^{32} - 23y^{31} + \cdots - 127900y + 2500$
c_9	$y^{32} + 9y^{31} + \cdots + 151y + 16$
c_{12}	$y^{32} - 24y^{30} + \cdots + 4294967296y + 4294967296$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.683755 + 0.852208I$ $a = 0.487406 + 0.002344I$ $b = -0.211885 + 0.982398I$	$1.307790 - 0.204998I$	$8.20443 + 1.69179I$
$u = -0.683755 - 0.852208I$ $a = 0.487406 - 0.002344I$ $b = -0.211885 - 0.982398I$	$1.307790 + 0.204998I$	$8.20443 - 1.69179I$
$u = 0.779459 + 0.786382I$ $a = -1.93860 - 1.52370I$ $b = -2.20178 - 0.35212I$	$4.25545 - 1.80010I$	$6.28414 + 0.97881I$
$u = 0.779459 - 0.786382I$ $a = -1.93860 + 1.52370I$ $b = -2.20178 + 0.35212I$	$4.25545 + 1.80010I$	$6.28414 - 0.97881I$
$u = -0.015119 + 0.891995I$ $a = 0.067954 + 0.845861I$ $b = -0.724294 + 0.722479I$	$-2.42371 + 1.04680I$	$-1.12616 - 4.02159I$
$u = -0.015119 - 0.891995I$ $a = 0.067954 - 0.845861I$ $b = -0.724294 - 0.722479I$	$-2.42371 - 1.04680I$	$-1.12616 + 4.02159I$
$u = -0.127331 + 0.878306I$ $a = 0.247595 - 1.216250I$ $b = 1.49574 - 0.49081I$	$-1.46153 - 3.39079I$	$-2.40633 + 1.52334I$
$u = -0.127331 - 0.878306I$ $a = 0.247595 + 1.216250I$ $b = 1.49574 + 0.49081I$	$-1.46153 + 3.39079I$	$-2.40633 - 1.52334I$
$u = 0.755098 + 0.457354I$ $a = 0.394809 - 0.506304I$ $b = 0.037452 - 0.291658I$	$1.48779 + 0.53337I$	$11.99767 - 5.02878I$
$u = 0.755098 - 0.457354I$ $a = 0.394809 + 0.506304I$ $b = 0.037452 + 0.291658I$	$1.48779 - 0.53337I$	$11.99767 + 5.02878I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.686701+0.891793I$ $a=-0.391138-0.204261I$ $b=\ \ 0.574304-0.753738I$	$1.18083-5.07845I$	$7.57041+6.17791I$
$u=-0.686701-0.891793I$ $a=-0.391138+0.204261I$ $b=\ \ 0.574304+0.753738I$	$1.18083+5.07845I$	$7.57041-6.17791I$
$u=\ \ 0.884596+0.702295I$ $a=\ \ 1.55531+1.46424I$ $b=\ \ 1.71686+0.03149I$	$-2.61872-9.73264I$	$5.09358+3.95758I$
$u=\ \ 0.884596-0.702295I$ $a=\ \ 1.55531-1.46424I$ $b=\ \ 1.71686-0.03149I$	$-2.61872+9.73264I$	$5.09358-3.95758I$
$u=\ \ 0.719909+0.881933I$ $a=\ \ 0.89512+1.20915I$ $b=\ \ 1.34574+0.83709I$	$1.47719+2.75279I$	$4.12705-2.54789I$
$u=\ \ 0.719909-0.881933I$ $a=\ \ 0.89512-1.20915I$ $b=\ \ 1.34574-0.83709I$	$1.47719-2.75279I$	$4.12705+2.54789I$
$u=-0.232859+1.122020I$ $a=-0.327320+0.701313I$ $b=-1.47146+0.14327I$	$-10.17100-9.66976I$	$-1.12021+6.59590I$
$u=-0.232859-1.122020I$ $a=-0.327320-0.701313I$ $b=-1.47146-0.14327I$	$-10.17100+9.66976I$	$-1.12021-6.59590I$
$u=-0.815946+0.102282I$ $a=\ \ 0.523040-0.339256I$ $b=-0.678199+0.639931I$	$-6.02453-6.28492I$	$4.69674+5.01750I$
$u=-0.815946-0.102282I$ $a=\ \ 0.523040+0.339256I$ $b=-0.678199-0.639931I$	$-6.02453+6.28492I$	$4.69674-5.01750I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.359796 + 1.131210I$ $a = -0.396826 - 0.243138I$ $b = 0.159308 - 0.964091I$	$-9.40796 + 2.11722I$	$-1.44983 - 2.28702I$
$u = -0.359796 - 1.131210I$ $a = -0.396826 + 0.243138I$ $b = 0.159308 + 0.964091I$	$-9.40796 - 2.11722I$	$-1.44983 + 2.28702I$
$u = 0.738924 + 0.951964I$ $a = -1.23531 - 2.20933I$ $b = -2.36280 - 1.86645I$	$3.74678 + 7.53753I$	$5.07954 - 6.16050I$
$u = 0.738924 - 0.951964I$ $a = -1.23531 + 2.20933I$ $b = -2.36280 + 1.86645I$	$3.74678 - 7.53753I$	$5.07954 + 6.16050I$
$u = 0.908160 + 0.896082I$ $a = 0.386593 + 0.792958I$ $b = 0.922704 + 0.420064I$	$0.14826 + 3.30667I$	$11.82122 - 5.07419I$
$u = 0.908160 - 0.896082I$ $a = 0.386593 - 0.792958I$ $b = 0.922704 - 0.420064I$	$0.14826 - 3.30667I$	$11.82122 + 5.07419I$
$u = 0.759511 + 1.036240I$ $a = 1.17713 + 1.86108I$ $b = 2.47993 + 1.70524I$	$-3.6530 + 15.8290I$	$3.56651 - 8.43512I$
$u = 0.759511 - 1.036240I$ $a = 1.17713 - 1.86108I$ $b = 2.47993 - 1.70524I$	$-3.6530 - 15.8290I$	$3.56651 + 8.43512I$
$u = 0.722062 + 1.151000I$ $a = -0.296051 - 0.228149I$ $b = -0.568245 - 0.196699I$	$-0.61804 + 5.20487I$	$14.5642 - 21.0319I$
$u = 0.722062 - 1.151000I$ $a = -0.296051 + 0.228149I$ $b = -0.568245 + 0.196699I$	$-0.61804 - 5.20487I$	$14.5642 + 21.0319I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.346211 + 0.168211I$ $a = -0.14971 - 1.47915I$ $b = 0.486627 + 0.604920I$	$0.56782 + 1.66520I$	$4.09705 - 5.80076I$
$u = -0.346211 - 0.168211I$ $a = -0.14971 + 1.47915I$ $b = 0.486627 - 0.604920I$	$0.56782 - 1.66520I$	$4.09705 + 5.80076I$

II.

$$\boldsymbol{I_2^u = \langle 2u^{14}+4u^{12}+\cdots+b-1,\ 3u^{14}-u^{13}+\cdots+2a-4,\ u^{15}-u^{14}+\cdots+5u^2+2\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{3}{2}u^{14} + \frac{1}{2}u^{13} + \cdots + \frac{3}{2}u + 2 \\ -2u^{14} - 4u^{12} + \cdots - u + 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{2}u^{14} + \frac{1}{2}u^{13} + \cdots - \frac{1}{2}u - 1 \\ u^{14} + u^{13} + \cdots + u + 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{1}{2}u^{14} - \frac{1}{2}u^{13} + \cdots + \frac{1}{2}u - 1 \\ -u^{14} - 2u^{12} + \cdots - u - 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -\frac{1}{2}u^{14} - \frac{3}{2}u^{13} + \cdots - \frac{11}{2}u - 4 \\ -u^{14} - 2u^{12} + \cdots - 3u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{2}u^{14} - \frac{3}{2}u^{13} + \cdots + \frac{3}{2}u - 2 \\ -u^9 - u^7 - 2u^5 - u^4 - u^2 - 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -\frac{3}{2}u^{14} + \frac{1}{2}u^{13} + \cdots + \frac{1}{2}u + 1 \\ -2u^{14} - 4u^{12} + \cdots - 2u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= 4u^{14}-6u^{13}+12u^{12}-12u^{11}+24u^{10}-24u^9+22u^8-14u^7+8u^6-8u^5-8u^4-u^3-12u^2+2u-4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{15} - 5u^{14} + \cdots - 20u + 4$
c_2	$u^{15} - u^{14} + \cdots + 5u^2 + 2$
c_3, c_{11}	$u^{15} - u^{14} + \cdots - 3u + 1$
c_4	$u^{15} + u^{14} + \cdots - 3u - 1$
c_6	$u^{15} + u^{14} + \cdots - 5u^2 - 2$
c_7, c_{10}	$u^{15} + 3u^{14} + \cdots + 3u + 1$
c_8	$u^{15} - 12u^{14} + \cdots + 12u - 2$
c_9	$u^{15} + u^{14} + \cdots + u - 1$
c_{12}	$u^{15} + 3u^{14} + \cdots + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{15} + 13y^{14} + \cdots + 8y - 16$
c_2, c_6	$y^{15} + 5y^{14} + \cdots - 20y - 4$
c_3, c_4, c_{11}	$y^{15} + 9y^{14} + \cdots + y - 1$
c_7, c_{10}	$y^{15} - 7y^{14} + \cdots - y - 1$
c_8	$y^{15} - 16y^{14} + \cdots - 12y - 4$
c_9	$y^{15} + 13y^{14} + \cdots + 9y - 1$
c_{12}	$y^{15} + y^{14} + \cdots + 7y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.280327 + 0.923287I$ $a = 0.052905 - 0.728078I$ $b = 1.075220 - 0.283109I$	$-0.70220 - 4.00075I$	$5.18084 + 7.73675I$
$u = -0.280327 - 0.923287I$ $a = 0.052905 + 0.728078I$ $b = 1.075220 + 0.283109I$	$-0.70220 + 4.00075I$	$5.18084 - 7.73675I$
$u = -0.571277 + 0.761420I$ $a = 0.483935 - 0.067367I$ $b = -0.043929 + 0.810898I$	$0.370462 + 0.285171I$	$1.32756 - 0.80118I$
$u = -0.571277 - 0.761420I$ $a = 0.483935 + 0.067367I$ $b = -0.043929 - 0.810898I$	$0.370462 - 0.285171I$	$1.32756 + 0.80118I$
$u = 0.692893 + 0.869031I$ $a = 2.38866 + 2.52848I$ $b = 3.15994 + 1.64676I$	$-4.59955 + 2.66562I$	$7.43536 - 3.52497I$
$u = 0.692893 - 0.869031I$ $a = 2.38866 - 2.52848I$ $b = 3.15994 - 1.64676I$	$-4.59955 - 2.66562I$	$7.43536 + 3.52497I$
$u = -0.877263$ $a = -0.247126$ $b = 0.406981$	1.99799	22.9980
$u = 0.852657 + 0.760960I$ $a = -1.19418 - 1.44954I$ $b = -1.61952 - 0.38054I$	$6.57862 - 2.60076I$	$11.64016 + 2.05519I$
$u = 0.852657 - 0.760960I$ $a = -1.19418 + 1.44954I$ $b = -1.61952 + 0.38054I$	$6.57862 + 2.60076I$	$11.64016 - 2.05519I$
$u = 0.142705 + 0.800687I$ $a = -1.76224 + 0.77168I$ $b = -1.78689 - 0.41916I$	$-7.67025 + 0.63840I$	$-0.866787 + 0.877859I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.142705 - 0.800687I$	$-7.67025 - 0.63840I$	$-0.866787 - 0.877859I$
$a = -1.76224 - 0.77168I$		
$b = -1.78689 + 0.41916I$		
$u = 0.769086 + 0.992896I$	$5.85838 + 8.64297I$	$10.04873 - 7.11633I$
$a = -1.22437 - 1.54363I$		
$b = -2.24931 - 1.14168I$		
$u = 0.769086 - 0.992896I$	$5.85838 - 8.64297I$	$10.04873 + 7.11633I$
$a = -1.22437 + 1.54363I$		
$b = -2.24931 + 1.14168I$		
$u = -0.667106 + 1.077180I$	$-0.83445 - 4.97703I$	$-3.26494 + 1.29068I$
$a = -0.121148 - 0.106125I$		
$b = 0.261000 - 0.309723I$		
$u = -0.667106 - 1.077180I$	$-0.83445 + 4.97703I$	$-3.26494 - 1.29068I$
$a = -0.121148 + 0.106125I$		
$b = 0.261000 + 0.309723I$		

III.

$\boldsymbol{I^u_3 = \langle -u^{15} - u^{14} + \cdots + b + 1,\ u^{15}a - 5u^{15} + \cdots - 2a + 8,\ u^{16} + u^{15} + \cdots - 2u - 1 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} a \\ u^{15} + u^{14} + \cdots - au - 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{15} + u^{14} + \cdots - a + 2 \\ -u^{13}a + 2u^{13} + \cdots + au + 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{15} - u^{14} + \cdots + a - 1 \\ -2u^{13} - 2u^{12} + \cdots + u - 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^3 \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 3u^{15} + u^{14} + \cdots + a - 5 \\ u^{15} + u^{14} + \cdots + au - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{15} - u^{14} + \cdots + u^3 + a \\ -2u^{13} - 2u^{12} + \cdots + u - 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{15} - u^{14} + \cdots + a - 1 \\ u^{13}a - 2u^{13} + \cdots - au - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $=$
$-4u^{15} - 8u^{13} + 4u^{12} - 20u^{11} + 8u^{10} - 24u^9 + 16u^8 - 28u^7 + 20u^6 - 20u^5 + 16u^4 - 12u^3 + 12u^2 + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^{16} + 5u^{15} + \cdots - 4u + 1)^2$
c_2, c_6	$(u^{16} + u^{15} + \cdots - 2u - 1)^2$
c_3, c_4, c_{11}	$u^{32} + u^{31} + \cdots - 27u + 286$
c_7, c_{10}	$u^{32} + 13u^{31} + \cdots - 41u - 2$
c_8	$(u^{16} + 13u^{15} + \cdots + 44u - 7)^2$
c_9	$u^{32} - u^{31} + \cdots - 5662u - 169$
c_{12}	$(u - 1)^{32}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{16} + 13y^{15} + \cdots - 48y + 1)^2$
c_2, c_6	$(y^{16} + 5y^{15} + \cdots - 4y + 1)^2$
c_3, c_4, c_{11}	$y^{32} + 39y^{31} + \cdots + 1346331y + 81796$
c_7, c_{10}	$y^{32} - 9y^{31} + \cdots - 53y + 4$
c_8	$(y^{16} - 31y^{15} + \cdots - 704y + 49)^2$
c_9	$y^{32} + 19y^{31} + \cdots - 25101866y + 28561$
c_{12}	$(y - 1)^{32}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.254861 + 1.023380I$ $a = 0.166841 + 0.823281I$ $b = 0.776440 + 0.691048I$	$-1.88017 + 3.12434I$	$-2.05940 - 3.66013I$
$u = 0.254861 + 1.023380I$ $a = 0.013723 - 0.175484I$ $b = -0.878070 + 0.201017I$	$-1.88017 + 3.12434I$	$-2.05940 - 3.66013I$
$u = 0.254861 - 1.023380I$ $a = 0.166841 - 0.823281I$ $b = 0.776440 - 0.691048I$	$-1.88017 - 3.12434I$	$-2.05940 + 3.66013I$
$u = 0.254861 - 1.023380I$ $a = 0.013723 + 0.175484I$ $b = -0.878070 - 0.201017I$	$-1.88017 - 3.12434I$	$-2.05940 + 3.66013I$
$u = 0.750689 + 0.759364I$ $a = 0.24992 + 1.51155I$ $b = -0.196588 + 0.591384I$	$-2.97876 - 0.48968I$	$2.35607 + 1.43137I$
$u = 0.750689 + 0.759364I$ $a = -0.69577 + 1.84479I$ $b = 1.13391 + 2.14189I$	$-2.97876 - 0.48968I$	$2.35607 + 1.43137I$
$u = 0.750689 - 0.759364I$ $a = 0.24992 - 1.51155I$ $b = -0.196588 - 0.591384I$	$-2.97876 + 0.48968I$	$2.35607 - 1.43137I$
$u = 0.750689 - 0.759364I$ $a = -0.69577 - 1.84479I$ $b = 1.13391 - 2.14189I$	$-2.97876 + 0.48968I$	$2.35607 - 1.43137I$
$u = -0.099165 + 0.920214I$ $a = 0.057858 + 1.349270I$ $b = 0.976760 - 0.554322I$	$-8.46679 - 1.52971I$	$-6.72737 + 5.08772I$
$u = -0.099165 + 0.920214I$ $a = -1.95590 - 1.06565I$ $b = -2.68988 - 1.32943I$	$-8.46679 - 1.52971I$	$-6.72737 + 5.08772I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.099165-0.920214I$ $a=\ \ 0.057858-1.349270I$ $b=\ \ 0.976760+0.554322I$	$-8.46679+1.52971I$	$-6.72737-5.08772I$
$u=-0.099165-0.920214I$ $a=-1.95590+1.06565I$ $b=-2.68988+1.32943I$	$-8.46679+1.52971I$	$-6.72737-5.08772I$
$u=-0.665350+0.873267I$ $a=\ \ 2.10683-2.08817I$ $b=\ \ 2.12567-2.22461I$	$-5.56244-2.57669I$	$-3.30756+2.71681I$
$u=-0.665350+0.873267I$ $a=-2.36347+2.91711I$ $b=-3.72419+1.41589I$	$-5.56244-2.57669I$	$-3.30756+2.71681I$
$u=-0.665350-0.873267I$ $a=\ \ 2.10683+2.08817I$ $b=\ \ 2.12567+2.22461I$	$-5.56244+2.57669I$	$-3.30756-2.71681I$
$u=-0.665350-0.873267I$ $a=-2.36347-2.91711I$ $b=-3.72419-1.41589I$	$-5.56244+2.57669I$	$-3.30756-2.71681I$
$u=-0.847960+0.745397I$ $a=-1.07862+1.20524I$ $b=-1.287070+0.510746I$	$5.32084+2.28357I$	$3.92472-0.30826I$
$u=-0.847960+0.745397I$ $a=\ \ 1.17114-1.41311I$ $b=\ \ 1.61121-0.11458I$	$5.32084+2.28357I$	$3.92472-0.30826I$
$u=-0.847960-0.745397I$ $a=-1.07862-1.20524I$ $b=-1.287070-0.510746I$	$5.32084-2.28357I$	$3.92472+0.30826I$
$u=-0.847960-0.745397I$ $a=\ \ 1.17114+1.41311I$ $b=\ \ 1.61121+0.11458I$	$5.32084-2.28357I$	$3.92472+0.30826I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.716556 + 0.957138I$ $a = 1.273310 - 0.043889I$ $b = 2.08123 + 0.26719I$	$-3.57736 + 6.07197I$	$0.61575 - 7.02814I$
$u = 0.716556 + 0.957138I$ $a = 2.17649 - 0.07224I$ $b = 1.73170 - 1.82727I$	$-3.57736 + 6.07197I$	$0.61575 - 7.02814I$
$u = 0.716556 - 0.957138I$ $a = 1.273310 + 0.043889I$ $b = 2.08123 - 0.26719I$	$-3.57736 - 6.07197I$	$0.61575 + 7.02814I$
$u = 0.716556 - 0.957138I$ $a = 2.17649 + 0.07224I$ $b = 1.73170 + 1.82727I$	$-3.57736 - 6.07197I$	$0.61575 + 7.02814I$
$u = -0.761782 + 1.000110I$ $a = -1.07483 + 1.36444I$ $b = -1.75138 + 1.17047I$	$4.53468 - 8.28859I$	$2.57708 + 5.27135I$
$u = -0.761782 + 1.000110I$ $a = 1.03895 - 1.57028I$ $b = 2.28316 - 1.19066I$	$4.53468 - 8.28859I$	$2.57708 + 5.27135I$
$u = -0.761782 - 1.000110I$ $a = -1.07483 - 1.36444I$ $b = -1.75138 - 1.17047I$	$4.53468 + 8.28859I$	$2.57708 - 5.27135I$
$u = -0.761782 - 1.000110I$ $a = 1.03895 + 1.57028I$ $b = 2.28316 + 1.19066I$	$4.53468 + 8.28859I$	$2.57708 - 5.27135I$
$u = 0.689113$ $a = 0.757498$ $b = -0.278882$	1.42684	4.14780
$u = 0.689113$ $a = 0.117305$ $b = 0.466296$	1.42684	4.14780

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.384812$ $a = \quad 1.47613 + 2.83234I$ $b = -0.786617 + 0.670506I$	-5.81564	5.09360
$u = -0.384812$ $a = \quad 1.47613 - 2.83234I$ $b = -0.786617 - 0.670506I$	-5.81564	5.09360

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^{15}-5u^{14}+\cdots-20u+4)(u^{16}+5u^{15}+\cdots-4u+1)^2$ $\cdot(u^{32}+10u^{31}+\cdots-12u+4)$
c_2	$(u^{15}-u^{14}+\cdots+5u^2+2)(u^{16}+u^{15}+\cdots-2u-1)^2$ $\cdot(u^{32}-6u^{31}+\cdots+2u+2)$
c_3, c_{11}	$(u^{15}-u^{14}+\cdots-3u+1)(u^{32}+u^{31}+\cdots-27u+286)$ $\cdot(u^{32}+u^{31}+\cdots-2u+1)$
c_4	$(u^{15}+u^{14}+\cdots-3u-1)(u^{32}+u^{31}+\cdots-27u+286)$ $\cdot(u^{32}+u^{31}+\cdots-2u+1)$
c_6	$(u^{15}+u^{14}+\cdots-5u^2-2)(u^{16}+u^{15}+\cdots-2u-1)^2$ $\cdot(u^{32}-6u^{31}+\cdots+2u+2)$
c_7, c_{10}	$(u^{15}+3u^{14}+\cdots+3u+1)(u^{32}+3u^{31}+\cdots-4u+1)$ $\cdot(u^{32}+13u^{31}+\cdots-41u-2)$
c_8	$(u^{15}-12u^{14}+\cdots+12u-2)(u^{16}+13u^{15}+\cdots+44u-7)^2$ $\cdot(u^{32}-15u^{31}+\cdots+330u+50)$
c_9	$(u^{15}+u^{14}+\cdots+u-1)(u^{32}-u^{31}+\cdots+7u+4)$ $\cdot(u^{32}-u^{31}+\cdots-5662u-169)$
c_{12}	$((u-1)^{32})(u^{15}+3u^{14}+\cdots+3u+1)$ $\cdot(u^{32}+30u^{31}+\cdots+983040u+65536)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{15}+13y^{14}+\cdots+8y-16)(y^{16}+13y^{15}+\cdots-48y+1)^2$ $\cdot(y^{32}+26y^{31}+\cdots+336y+16)$
c_2, c_6	$(y^{15}+5y^{14}+\cdots-20y-4)(y^{16}+5y^{15}+\cdots-4y+1)^2$ $\cdot(y^{32}+10y^{31}+\cdots-12y+4)$
c_3, c_4, c_{11}	$(y^{15}+9y^{14}+\cdots+y-1)(y^{32}+39y^{31}+\cdots+1346331y+81796)$ $\cdot(y^{32}+45y^{31}+\cdots+10y+1)$
c_7, c_{10}	$(y^{15}-7y^{14}+\cdots-y-1)(y^{32}-9y^{31}+\cdots-53y+4)$ $\cdot(y^{32}+5y^{31}+\cdots-12y+1)$
c_8	$(y^{15}-16y^{14}+\cdots-12y-4)(y^{16}-31y^{15}+\cdots-704y+49)^2$ $\cdot(y^{32}-23y^{31}+\cdots-127900y+2500)$
c_9	$(y^{15}+13y^{14}+\cdots+9y-1)(y^{32}+9y^{31}+\cdots+151y+16)$ $\cdot(y^{32}+19y^{31}+\cdots-25101866y+28561)$
c_{12}	$((y-1)^{32})(y^{15}+y^{14}+\cdots+7y-1)$ $\cdot(y^{32}-24y^{30}+\cdots+4294967296y+4294967296)$