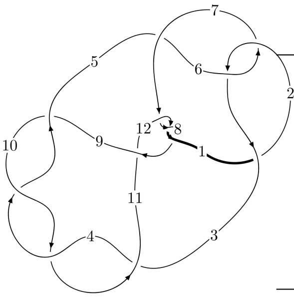
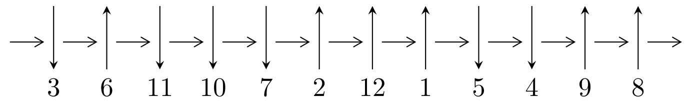
$12a_{0481}$ ($K12a_{0481}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 8.33546\times10^{45}u^{64} - 1.14445\times10^{46}u^{63} + \cdots + 2.27514\times10^{46}b + 7.73936\times10^{46},$$
$$-6.97340\times10^{45}u^{64} + 1.87570\times10^{46}u^{63} + \cdots + 6.82541\times10^{45}a - 1.64156\times10^{46},\ u^{65} - 3u^{64} + \cdots - 8u -$$
$$I_2^u = \langle a^2 + 2b - 2a + 1,\ a^4 - 4a^3 + 4a^2 + 3,\ u - 1\rangle$$
$$I_3^u = \langle b^2 - b + 1,\ a + 1,\ u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 71 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.
$\boldsymbol{I_1^u = \langle 8.34\times 10^{45}u^{64} - 1.14\times 10^{46}u^{63} + \cdots + 2.28\times 10^{46}b + 7.74\times 10^{46},\ -6.97\times 10^{45}u^{64} + 1.88\times 10^{46}u^{63} + \cdots + 6.83\times 10^{45}a - 1.64\times 10^{46},\ u^{65} - 3u^{64} + \cdots - 8u - 3\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1.02168u^{64} - 2.74811u^{63} + \cdots - 15.6860u + 2.40507 \\ -0.366372u^{64} + 0.503023u^{63} + \cdots - 12.2381u - 3.40171 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1.66172u^{64} - 2.35528u^{63} + \cdots + 8.61379u - 3.26790 \\ -0.319726u^{64} + 0.744780u^{63} + \cdots + 1.79163u - 1.12739 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 2.25408u^{64} - 3.92752u^{63} + \cdots + 15.8897u + 9.78314 \\ -1.38909u^{64} + 1.98660u^{63} + \cdots - 19.4141u - 3.51898 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1.34199u^{64} - 1.61050u^{63} + \cdots + 10.4054u - 4.39529 \\ -0.319726u^{64} + 0.744780u^{63} + \cdots + 1.79163u - 1.12739 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1.60989u^{64} - 4.21548u^{63} + \cdots - 32.4505u - 3.49651 \\ -0.276179u^{64} + 0.246100u^{63} + \cdots - 7.07338u - 3.16209 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1.03866u^{64} - 1.95917u^{63} + \cdots + 7.94157u + 7.99324 \\ -0.995853u^{64} + 1.35764u^{63} + \cdots - 16.0888u - 2.99309 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^5 + 2u^3 - u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.575409u^{64} - 1.03751u^{63} + \cdots - 12.2400u + 0.321049$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{65} + 22u^{64} + \cdots - 29u - 9$
c_2, c_6	$u^{65} - 2u^{64} + \cdots - u + 3$
c_3, c_4, c_9 c_{10}	$u^{65} + u^{64} + \cdots - 16u - 4$
c_7, c_8, c_{12}	$u^{65} - 3u^{64} + \cdots - 8u - 3$
c_{11}	$u^{65} + 15u^{64} + \cdots + 9984u + 2304$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{65} + 46y^{64} + \cdots - 2741y - 81$
c_2, c_6	$y^{65} + 22y^{64} + \cdots - 29y - 9$
c_3, c_4, c_9 c_{10}	$y^{65} + 75y^{64} + \cdots - 192y - 16$
c_7, c_8, c_{12}	$y^{65} - 59y^{64} + \cdots - 248y - 9$
c_{11}	$y^{65} - y^{64} + \cdots - 97026048y - 5308416$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.888082 + 0.410833I$ $a = 0.646410 - 0.203115I$ $b = -0.654237 + 0.917487I$	$2.60919 - 2.94570I$	$5.59381 + 4.95414I$
$u = 0.888082 - 0.410833I$ $a = 0.646410 + 0.203115I$ $b = -0.654237 - 0.917487I$	$2.60919 + 2.94570I$	$5.59381 - 4.95414I$
$u = -0.303651 + 0.902592I$ $a = -1.11503 - 1.04244I$ $b = 0.723865 - 1.009450I$	$8.20289 - 9.66985I$	$4.28819 + 7.03671I$
$u = -0.303651 - 0.902592I$ $a = -1.11503 + 1.04244I$ $b = 0.723865 + 1.009450I$	$8.20289 + 9.66985I$	$4.28819 - 7.03671I$
$u = -0.357028 + 0.864794I$ $a = -0.120170 - 0.184351I$ $b = 0.810435 + 0.695902I$	$9.15604 - 3.90043I$	$6.04015 + 2.26901I$
$u = -0.357028 - 0.864794I$ $a = -0.120170 + 0.184351I$ $b = 0.810435 - 0.695902I$	$9.15604 + 3.90043I$	$6.04015 - 2.26901I$
$u = -0.871939 + 0.644664I$ $a = -1.166130 - 0.395613I$ $b = 0.775582 - 0.780086I$	$10.69910 - 1.33054I$	0
$u = -0.871939 - 0.644664I$ $a = -1.166130 + 0.395613I$ $b = 0.775582 + 0.780086I$	$10.69910 + 1.33054I$	0
$u = -1.071940 + 0.271690I$ $a = -1.51716 - 0.45745I$ $b = -0.059410 - 0.833219I$	$5.29432 + 0.38771I$	0
$u = -1.071940 - 0.271690I$ $a = -1.51716 + 0.45745I$ $b = -0.059410 + 0.833219I$	$5.29432 - 0.38771I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.956232+0.622330I$ $a=-0.508319-0.122319I$ $b=\ \ 0.730631+0.950916I$	$10.17330+4.36468I$	0
$u=-0.956232-0.622330I$ $a=-0.508319+0.122319I$ $b=\ \ 0.730631-0.950916I$	$10.17330-4.36468I$	0
$u=\ \ 0.746987+0.405773I$ $a=\ \ 1.373230-0.240037I$ $b=-0.663828-0.797440I$	$2.98112+2.17079I$	$7.43307-2.82107I$
$u=\ \ 0.746987-0.405773I$ $a=\ \ 1.373230+0.240037I$ $b=-0.663828+0.797440I$	$2.98112-2.17079I$	$7.43307+2.82107I$
$u=\ \ 0.262619+0.779561I$ $a=\ \ 1.28732-1.13527I$ $b=-0.685423-0.989058I$	$0.66485+7.27591I$	$1.08861-8.89845I$
$u=\ \ 0.262619-0.779561I$ $a=\ \ 1.28732+1.13527I$ $b=-0.685423+0.989058I$	$0.66485-7.27591I$	$1.08861+8.89845I$
$u=\ \ 1.20544$ $a=\ \ 1.04693$ $b=-0.442541$	2.51098	0
$u=-1.210530+0.121438I$ $a=-0.804093+0.106541I$ $b=\ \ 0.485668+1.012200I$	$2.34586+1.24708I$	0
$u=-1.210530-0.121438I$ $a=-0.804093-0.106541I$ $b=\ \ 0.485668-1.012200I$	$2.34586-1.24708I$	0
$u=\ \ 1.189940+0.262812I$ $a=\ \ 1.112030-0.471723I$ $b=-0.102185-0.962937I$	$-0.41777+1.70342I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.189940 - 0.262812I$ $a = 1.112030 + 0.471723I$ $b = -0.102185 + 0.962937I$	$-0.41777 - 1.70342I$	0
$u = 0.300846 + 0.705195I$ $a = 0.041328 - 0.304729I$ $b = -0.729277 + 0.685600I$	$1.57098 + 1.85327I$	$3.17798 - 4.14987I$
$u = 0.300846 - 0.705195I$ $a = 0.041328 + 0.304729I$ $b = -0.729277 - 0.685600I$	$1.57098 - 1.85327I$	$3.17798 + 4.14987I$
$u = -0.196519 + 0.709917I$ $a = -0.04566 + 1.82055I$ $b = -0.140059 + 1.043640I$	$2.74271 - 4.03109I$	$-1.56032 + 4.30145I$
$u = -0.196519 - 0.709917I$ $a = -0.04566 - 1.82055I$ $b = -0.140059 - 1.043640I$	$2.74271 + 4.03109I$	$-1.56032 - 4.30145I$
$u = 0.062464 + 0.696936I$ $a = 0.03481 + 1.70684I$ $b = 0.048122 + 1.014310I$	$-3.83534 + 1.80189I$	$-6.00427 - 4.43623I$
$u = 0.062464 - 0.696936I$ $a = 0.03481 - 1.70684I$ $b = 0.048122 - 1.014310I$	$-3.83534 - 1.80189I$	$-6.00427 + 4.43623I$
$u = -0.414473 + 0.549756I$ $a = -0.258906 + 0.215659I$ $b = -0.577074 + 0.179072I$	$6.60099 - 1.84186I$	$5.73903 + 3.43368I$
$u = -0.414473 - 0.549756I$ $a = -0.258906 - 0.215659I$ $b = -0.577074 - 0.179072I$	$6.60099 + 1.84186I$	$5.73903 - 3.43368I$
$u = -1.297190 + 0.268858I$ $a = -0.933747 - 0.495340I$ $b = 0.150814 - 1.077000I$	$0.40210 - 5.28798I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.297190-0.268858I$ $a=-0.933747+0.495340I$ $b=\ \ 0.150814+1.077000I$	$0.40210+5.28798I$	0
$u=-1.317890+0.155610I$ $a=-1.011440-0.057697I$ $b=\ \ 0.665716-0.212271I$	$4.57403-2.83927I$	0
$u=-1.317890-0.155610I$ $a=-1.011440+0.057697I$ $b=\ \ 0.665716+0.212271I$	$4.57403+2.83927I$	0
$u=-0.207623+0.592264I$ $a=-1.69337-1.29542I$ $b=\ \ 0.633445-0.958857I$	$-0.43277-3.63822I$	$-2.67168+3.01987I$
$u=-0.207623-0.592264I$ $a=-1.69337+1.29542I$ $b=\ \ 0.633445+0.958857I$	$-0.43277+3.63822I$	$-2.67168-3.01987I$
$u=\ \ 1.373270+0.150068I$ $a=\ \ 0.714513+0.181428I$ $b=-0.483932+1.111580I$	$9.70090-0.05073I$	0
$u=\ \ 1.373270-0.150068I$ $a=\ \ 0.714513-0.181428I$ $b=-0.483932-1.111580I$	$9.70090+0.05073I$	0
$u=-1.384540+0.118480I$ $a=\ \ 2.46352-0.66760I$ $b=-0.730700+0.918700I$	$9.31806-3.11523I$	0
$u=-1.384540-0.118480I$ $a=\ \ 2.46352+0.66760I$ $b=-0.730700-0.918700I$	$9.31806+3.11523I$	0
$u=\ \ 1.380960+0.184417I$ $a=-1.09435+1.47451I$ $b=\ \ 0.778406-0.728805I$	$5.42221+1.04361I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.380960 - 0.184417I$ $a = -1.09435 - 1.47451I$ $b = 0.778406 + 0.728805I$	$5.42221 - 1.04361I$	0
$u = 1.383180 + 0.238836I$ $a = -2.49505 - 0.01259I$ $b = 0.717910 + 0.982922I$	$4.64807 + 6.70673I$	0
$u = 1.383180 - 0.238836I$ $a = -2.49505 + 0.01259I$ $b = 0.717910 - 0.982922I$	$4.64807 - 6.70673I$	0
$u = -1.405930 + 0.052718I$ $a = 1.73085 + 1.30451I$ $b = -0.766620 - 0.820153I$	$9.62594 + 2.55262I$	0
$u = -1.405930 - 0.052718I$ $a = 1.73085 - 1.30451I$ $b = -0.766620 + 0.820153I$	$9.62594 - 2.55262I$	0
$u = 1.384210 + 0.280090I$ $a = 0.831833 - 0.504549I$ $b = -0.172242 - 1.152380I$	$7.78079 + 7.61615I$	0
$u = 1.384210 - 0.280090I$ $a = 0.831833 + 0.504549I$ $b = -0.172242 + 1.152380I$	$7.78079 - 7.61615I$	0
$u = -1.41598 + 0.27122I$ $a = 0.83745 + 1.23150I$ $b = -0.827312 - 0.681734I$	$7.04530 - 5.39041I$	0
$u = -1.41598 - 0.27122I$ $a = 0.83745 - 1.23150I$ $b = -0.827312 + 0.681734I$	$7.04530 + 5.39041I$	0
$u = 1.43155 + 0.20492I$ $a = 0.966638 - 0.073545I$ $b = -0.809524 - 0.220320I$	$12.46300 + 4.59312I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.43155 - 0.20492I$ $a = 0.966638 + 0.073545I$ $b = -0.809524 + 0.220320I$	$12.46300 - 4.59312I$	0
$u = -1.41407 + 0.30946I$ $a = 2.26793 + 0.23939I$ $b = -0.726429 + 1.021480I$	$6.01152 - 11.21260I$	0
$u = -1.41407 - 0.30946I$ $a = 2.26793 - 0.23939I$ $b = -0.726429 - 1.021480I$	$6.01152 + 11.21260I$	0
$u = 1.45455 + 0.36028I$ $a = -2.06306 + 0.33688I$ $b = 0.740697 + 1.050510I$	$13.8214 + 14.2192I$	0
$u = 1.45455 - 0.36028I$ $a = -2.06306 - 0.33688I$ $b = 0.740697 - 1.050510I$	$13.8214 - 14.2192I$	0
$u = 1.46756 + 0.32998I$ $a = -0.765398 + 1.035260I$ $b = 0.879332 - 0.662994I$	$15.0130 + 8.2071I$	0
$u = 1.46756 - 0.32998I$ $a = -0.765398 - 1.035260I$ $b = 0.879332 + 0.662994I$	$15.0130 - 8.2071I$	0
$u = -0.237234 + 0.386656I$ $a = 0.214919 - 0.937698I$ $b = 0.587428 + 0.735506I$	$0.293265 + 1.243780I$	$-2.51844 - 2.93595I$
$u = -0.237234 - 0.386656I$ $a = 0.214919 + 0.937698I$ $b = 0.587428 - 0.735506I$	$0.293265 - 1.243780I$	$-2.51844 + 2.93595I$
$u = 1.56257 + 0.02370I$ $a = -1.62357 - 0.63557I$ $b = 0.843446 + 0.892821I$	$19.3856 + 3.1221I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.56257 - 0.02370I$ $a = -1.62357 + 0.63557I$ $b = 0.843446 - 0.892821I$	$19.3856 - 3.1221I$	0
$u = 0.172559 + 0.341650I$ $a = 0.289287 + 0.247747I$ $b = 0.296575 + 0.310433I$	$0.059571 + 0.856042I$	$1.59029 - 7.87693I$
$u = 0.172559 - 0.341650I$ $a = 0.289287 - 0.247747I$ $b = 0.296575 - 0.310433I$	$0.059571 - 0.856042I$	$1.59029 + 7.87693I$
$u = -0.101292 + 0.291578I$ $a = 2.21326 - 3.83264I$ $b = -0.518548 - 0.944155I$	$4.81440 + 1.86541I$	$-0.02684 - 2.78315I$
$u = -0.101292 - 0.291578I$ $a = 2.21326 + 3.83264I$ $b = -0.518548 + 0.944155I$	$4.81440 - 1.86541I$	$-0.02684 + 2.78315I$

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

(i) Arc colorings

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

(ii) Obstruction class $=1$

(iii) Cusp Shapes $=-2a^2+4a+6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -0.224745 + 0.707107I$ $b = -0.500000 + 0.866025I$	$6.57974 - 2.02988I$	$6.00000 + 3.46410I$
$u = 1.00000$ $a = -0.224745 - 0.707107I$ $b = -0.500000 - 0.866025I$	$6.57974 + 2.02988I$	$6.00000 - 3.46410I$
$u = 1.00000$ $a = 2.22474 + 0.70711I$ $b = -0.500000 - 0.866025I$	$6.57974 + 2.02988I$	$6.00000 - 3.46410I$
$u = 1.00000$ $a = 2.22474 - 0.70711I$ $b = -0.500000 + 0.866025I$	$6.57974 - 2.02988I$	$6.00000 + 3.46410I$

III. $I_3^u = \langle b^2 - b + 1,\ a + 1,\ u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4b + 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = \quad 0.500000 + 0.866025I$	$1.64493 + 2.02988I$	$0. - 3.46410I$
$u = -1.00000$ $a = -1.00000$ $b = \quad 0.500000 - 0.866025I$	$1.64493 - 2.02988I$	$0. + 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$((u^2-u+1)^3)(u^{65}+22u^{64}+\cdots-29u-9)$
c_2	$((u^2-u+1)^2)(u^2+u+1)(u^{65}-2u^{64}+\cdots-u+3)$
c_3, c_4, c_9 c_{10}	$u^2(u^2+2)^2(u^{65}+u^{64}+\cdots-16u-4)$
c_6	$(u^2-u+1)(u^2+u+1)^2(u^{65}-2u^{64}+\cdots-u+3)$
c_7, c_8	$((u-1)^4)(u+1)^2(u^{65}-3u^{64}+\cdots-8u-3)$
c_{11}	$u^6(u^{65}+15u^{64}+\cdots+9984u+2304)$
c_{12}	$((u-1)^2)(u+1)^4(u^{65}-3u^{64}+\cdots-8u-3)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y^2+y+1)^3)(y^{65}+46y^{64}+\cdots-2741y-81)$
c_2, c_6	$((y^2+y+1)^3)(y^{65}+22y^{64}+\cdots-29y-9)$
c_3, c_4, c_9 c_{10}	$y^2(y+2)^4(y^{65}+75y^{64}+\cdots-192y-16)$
c_7, c_8, c_{12}	$((y-1)^6)(y^{65}-59y^{64}+\cdots-248y-9)$
c_{11}	$y^6(y^{65}-y^{64}+\cdots-9.70260\times10^7y-5308416)$