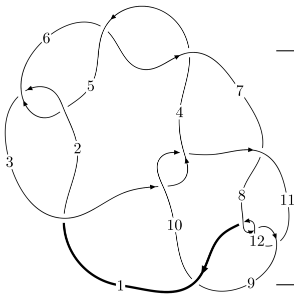
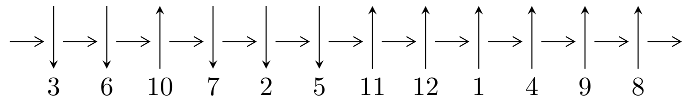
$12a_{0423}$ ($K12a_{0423}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 7u^{67} + 29u^{66} + \cdots + 2b - 5,\ -27u^{67} - 95u^{66} + \cdots + 4a + 37,\ u^{68} + 4u^{67} + \cdots - 4u - 1\rangle$$
$$I_2^u = \langle b,\ a^2 - au + 2u^2 - u + 3,\ u^3 - u^2 + 2u - 1\rangle$$
$$I_3^u = \langle b,\ -u^2 + a + u - 1,\ u^3 - u^2 + 2u - 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 77 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. $I_1^u = \langle 7u^{67} + 29u^{66} + \cdots + 2b - 5,\ -27u^{67} - 95u^{66} + \cdots + 4a + 37,\ u^{68} + 4u^{67} + \cdots - 4u - 1\rangle$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{27}{4}u^{67} + \frac{95}{4}u^{66} + \cdots - \frac{51}{2}u - \frac{37}{4} \\ -\frac{7}{2}u^{67} - \frac{29}{2}u^{66} + \cdots + 11u + \frac{5}{2} \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^3 - 2u \\ u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{9}{2}u^{67} + \frac{31}{2}u^{66} + \cdots - 19u - 6 \\ -\frac{9}{4}u^{67} - 10u^{66} + \cdots + \frac{31}{4}u + \frac{3}{4} \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{16} + 7u^{14} + \cdots - 6u + 1 \\ \frac{1}{4}u^{67} + \frac{3}{4}u^{66} + \cdots - \frac{1}{2}u - \frac{1}{4} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^5 + 2u^3 + u \\ -u^7 - 3u^5 - 2u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{3}{4}u^{67} - \frac{3}{4}u^{66} + \cdots - \frac{19}{2}u - \frac{19}{4} \\ \frac{5}{2}u^{67} + \frac{21}{2}u^{66} + \cdots - 12u - \frac{9}{2} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{1}{4}u^{67} - \frac{3}{4}u^{66} + \cdots + 5u + \frac{1}{2} \\ u^{17} + 7u^{15} + \cdots - 6u^2 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{11}{2}u^{67} - \frac{51}{2}u^{66} + \cdots + 13u - \frac{1}{4}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_6	$u^{68} + 16u^{67} + \cdots + 28u + 1$
c_2, c_5	$u^{68} + 4u^{67} + \cdots + 4u - 1$
c_3, c_{10}	$u^{68} + u^{67} + \cdots + 1536u + 512$
c_7, c_9	$u^{68} - 4u^{67} + \cdots + 298u - 193$
c_8, c_{11}, c_{12}	$u^{68} + 4u^{67} + \cdots - 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6	$y^{68} + 76y^{67} + \cdots - 468y + 1$
c_2, c_5	$y^{68} - 16y^{67} + \cdots - 28y + 1$
c_3, c_{10}	$y^{68} - 49y^{67} + \cdots - 3276800y + 262144$
c_7, c_9	$y^{68} - 56y^{67} + \cdots + 843772y + 37249$
c_8, c_{11}, c_{12}	$y^{68} + 56y^{67} + \cdots + 12y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.883196 + 0.110879I$ $a = 2.28702 + 0.20938I$ $b = -1.54451 + 0.55845I$	$14.5227 - 3.6785I$	$9.66151 + 1.29736I$
$u = -0.883196 - 0.110879I$ $a = 2.28702 - 0.20938I$ $b = -1.54451 - 0.55845I$	$14.5227 + 3.6785I$	$9.66151 - 1.29736I$
$u = -0.878083 + 0.122555I$ $a = -2.27299 - 0.23480I$ $b = 1.50934 - 0.61168I$	$14.0779 - 10.2341I$	$8.93592 + 6.05514I$
$u = -0.878083 - 0.122555I$ $a = -2.27299 + 0.23480I$ $b = 1.50934 + 0.61168I$	$14.0779 + 10.2341I$	$8.93592 - 6.05514I$
$u = -0.842036 + 0.041084I$ $a = 2.47425 + 0.12172I$ $b = -1.380970 + 0.196665I$	$7.31201 - 1.61336I$	$10.65283 + 0.71053I$
$u = -0.842036 - 0.041084I$ $a = 2.47425 - 0.12172I$ $b = -1.380970 - 0.196665I$	$7.31201 + 1.61336I$	$10.65283 - 0.71053I$
$u = 0.836342 + 0.008912I$ $a = -0.017629 + 1.041540I$ $b = 0.042391 - 1.358950I$	$9.34458 + 3.20678I$	$8.45402 - 2.50897I$
$u = 0.836342 - 0.008912I$ $a = -0.017629 - 1.041540I$ $b = 0.042391 + 1.358950I$	$9.34458 - 3.20678I$	$8.45402 + 2.50897I$
$u = -0.820055 + 0.078945I$ $a = -2.47808 - 0.26474I$ $b = 1.263950 - 0.365738I$	$5.17218 - 6.11204I$	$6.64053 + 6.47258I$
$u = -0.820055 - 0.078945I$ $a = -2.47808 + 0.26474I$ $b = 1.263950 + 0.365738I$	$5.17218 + 6.11204I$	$6.64053 - 6.47258I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.074714+1.188830I$ $a=\ \ 0.891353-1.049750I$ $b=-0.638314-0.584251I$	$0.28440+1.43816I$	0
$u=-0.074714-1.188830I$ $a=\ \ 0.891353+1.049750I$ $b=-0.638314+0.584251I$	$0.28440-1.43816I$	0
$u=-0.789953$ $a=-2.69327$ $b=\ \ 1.14488$	2.31303	4.51890
$u=\ \ 0.576977+0.530503I$ $a=\ \ 0.824531-0.923493I$ $b=-1.359680-0.151800I$	$8.22238+5.29147I$	$7.35195-5.78163I$
$u=\ \ 0.576977-0.530503I$ $a=\ \ 0.824531+0.923493I$ $b=-1.359680+0.151800I$	$8.22238-5.29147I$	$7.35195+5.78163I$
$u=\ \ 0.593054+0.504319I$ $a=-0.807717+0.928418I$ $b=\ \ 1.357810+0.068287I$	$8.30625-1.12217I$	$7.67861-0.76629I$
$u=\ \ 0.593054-0.504319I$ $a=-0.807717-0.928418I$ $b=\ \ 1.357810-0.068287I$	$8.30625+1.12217I$	$7.67861+0.76629I$
$u=-0.448687+1.144800I$ $a=\ \ 0.709101+0.607422I$ $b=-1.54402-0.50394I$	$10.94400+5.49512I$	0
$u=-0.448687-1.144800I$ $a=\ \ 0.709101-0.607422I$ $b=-1.54402+0.50394I$	$10.94400-5.49512I$	0
$u=-0.081643+1.234740I$ $a=-0.87255+1.30038I$ $b=\ \ 0.594137+0.582932I$	$-0.15037-4.30964I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.081643-1.234740I$ $a=-0.87255-1.30038I$ $b=0.594137-0.582932I$	$-0.15037+4.30964I$	0
$u=-0.357510+1.191950I$ $a=1.211980+0.542043I$ $b=-1.229020-0.227598I$	$1.76607+1.85694I$	0
$u=-0.357510-1.191950I$ $a=1.211980-0.542043I$ $b=-1.229020+0.227598I$	$1.76607-1.85694I$	0
$u=-0.449847+1.160780I$ $a=-0.740080-0.666202I$ $b=1.57548+0.44356I$	$11.30140-1.07993I$	0
$u=-0.449847-1.160780I$ $a=-0.740080+0.666202I$ $b=1.57548-0.44356I$	$11.30140+1.07993I$	0
$u=0.273567+1.231890I$ $a=0.610435-0.305888I$ $b=-0.123364-0.850513I$	$-1.79566+1.87689I$	0
$u=0.273567-1.231890I$ $a=0.610435+0.305888I$ $b=-0.123364+0.850513I$	$-1.79566-1.87689I$	0
$u=0.114749+1.267340I$ $a=0.241747-0.755643I$ $b=-0.563150-0.524155I$	$-3.19195+1.95948I$	0
$u=0.114749-1.267340I$ $a=0.241747+0.755643I$ $b=-0.563150+0.524155I$	$-3.19195-1.95948I$	0
$u=0.718407+0.054666I$ $a=-0.136876+0.792692I$ $b=0.229382-0.831076I$	$1.79469+1.70423I$	$5.68933-4.03428I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.718407 - 0.054666I$ $a = -0.136876 - 0.792692I$ $b = 0.229382 + 0.831076I$	$1.79469 - 1.70423I$	$5.68933 + 4.03428I$
$u = -0.386268 + 1.231950I$ $a = -1.17649 - 0.83959I$ $b = 1.372460 + 0.057138I$	$3.63723 - 2.79864I$	0
$u = -0.386268 - 1.231950I$ $a = -1.17649 + 0.83959I$ $b = 1.372460 - 0.057138I$	$3.63723 + 2.79864I$	0
$u = 0.015638 + 1.299180I$ $a = -0.263537 + 1.187850I$ $b = 0.654251 + 0.629382I$	$-5.82782 - 0.26682I$	0
$u = 0.015638 - 1.299180I$ $a = -0.263537 - 1.187850I$ $b = 0.654251 - 0.629382I$	$-5.82782 + 0.26682I$	0
$u = 0.380086 + 1.262700I$ $a = 0.897471 - 0.203783I$ $b = 0.103923 - 1.353660I$	$5.45713 + 1.16252I$	0
$u = 0.380086 - 1.262700I$ $a = 0.897471 + 0.203783I$ $b = 0.103923 + 1.353660I$	$5.45713 - 1.16252I$	0
$u = -0.344177 + 1.273700I$ $a = 1.53531 + 1.04902I$ $b = -1.156260 + 0.164863I$	$-1.64536 - 4.08494I$	0
$u = -0.344177 - 1.273700I$ $a = 1.53531 - 1.04902I$ $b = -1.156260 - 0.164863I$	$-1.64536 + 4.08494I$	0
$u = 0.378704 + 1.277060I$ $a = -0.901537 + 0.167233I$ $b = -0.183952 + 1.350690I$	$5.34738 + 7.57130I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.378704 - 1.277060I$ $a = -0.901537 - 0.167233I$ $b = -0.183952 - 1.350690I$	$5.34738 - 7.57130I$	0
$u = 0.299464 + 1.300730I$ $a = -0.671330 + 0.054559I$ $b = -0.290086 + 0.868205I$	$-2.44438 + 5.38952I$	0
$u = 0.299464 - 1.300730I$ $a = -0.671330 - 0.054559I$ $b = -0.290086 - 0.868205I$	$-2.44438 - 5.38952I$	0
$u = -0.380669 + 1.300130I$ $a = -1.27591 - 1.24442I$ $b = 1.369760 - 0.318562I$	$3.12774 - 6.00570I$	0
$u = -0.380669 - 1.300130I$ $a = -1.27591 + 1.24442I$ $b = 1.369760 + 0.318562I$	$3.12774 + 6.00570I$	0
$u = 0.217986 + 1.345040I$ $a = -0.350229 - 0.323689I$ $b = -0.564549 + 0.170572I$	$-3.80220 + 2.41064I$	0
$u = 0.217986 - 1.345040I$ $a = -0.350229 + 0.323689I$ $b = -0.564549 - 0.170572I$	$-3.80220 - 2.41064I$	0
$u = 0.093295 + 1.367930I$ $a = 0.160591 + 0.969459I$ $b = 0.835398 + 0.483273I$	$-5.23627 + 4.58427I$	0
$u = 0.093295 - 1.367930I$ $a = 0.160591 - 0.969459I$ $b = 0.835398 - 0.483273I$	$-5.23627 - 4.58427I$	0
$u = -0.364104 + 1.323200I$ $a = 1.35385 + 1.40669I$ $b = -1.271370 + 0.466726I$	$0.77875 - 10.37800I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.364104-1.323200I$ $a=\ \ 1.35385-1.40669I$ $b=-1.271370-0.466726I$	$0.77875+10.37800I$	0
$u=-0.395915+1.350660I$ $a=-1.13840-1.49595I$ $b=\ \ 1.49290-0.63680I$	$9.93330-8.26771I$	0
$u=-0.395915-1.350660I$ $a=-1.13840+1.49595I$ $b=\ \ 1.49290+0.63680I$	$9.93330+8.26771I$	0
$u=-0.390304+1.356620I$ $a=\ \ 1.15307+1.53169I$ $b=-1.45794+0.68098I$	$9.4275-14.7877I$	0
$u=-0.390304-1.356620I$ $a=\ \ 1.15307-1.53169I$ $b=-1.45794-0.68098I$	$9.4275+14.7877I$	0
$u=\ \ 0.341611+0.461012I$ $a=\ \ 0.861805-0.885756I$ $b=-0.878881-0.293282I$	$0.40677+3.17475I$	$3.07710-8.65765I$
$u=\ \ 0.341611-0.461012I$ $a=\ \ 0.861805+0.885756I$ $b=-0.878881+0.293282I$	$0.40677-3.17475I$	$3.07710+8.65765I$
$u=\ \ 0.498530+0.267549I$ $a=-0.756073+0.717769I$ $b=\ \ 0.795737-0.123613I$	$1.109940-0.236478I$	$7.83765+0.33377I$
$u=\ \ 0.498530-0.267549I$ $a=-0.756073-0.717769I$ $b=\ \ 0.795737+0.123613I$	$1.109940+0.236478I$	$7.83765-0.33377I$
$u=\ \ 0.15691+1.43163I$ $a=-0.531513-0.823143I$ $b=-1.167860-0.205420I$	$2.05830+1.37245I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.15691 - 1.43163I$ $a = -0.531513 + 0.823143I$ $b = -1.167860 + 0.205420I$	$2.05830 - 1.37245I$	0
$u = 0.14259 + 1.43508I$ $a = 0.516840 + 0.882774I$ $b = 1.175310 + 0.290911I$	$1.86781 + 7.64221I$	0
$u = 0.14259 - 1.43508I$ $a = 0.516840 - 0.882774I$ $b = 1.175310 - 0.290911I$	$1.86781 - 7.64221I$	0
$u = 0.459924$ $a = -0.727898$ $b = 0.446382$	0.791286	12.9510
$u = -0.327604 + 0.031735I$ $a = -0.07580 - 2.80687I$ $b = -0.005736 - 0.498706I$	$3.56841 - 2.90168I$	$-2.97092 + 3.54606I$
$u = -0.327604 - 0.031735I$ $a = -0.07580 + 2.80687I$ $b = -0.005736 + 0.498706I$	$3.56841 + 2.90168I$	$-2.97092 - 3.54606I$
$u = -0.048081 + 0.224645I$ $a = 0.94797 - 1.88047I$ $b = -0.308184 - 0.394663I$	$-1.259210 - 0.317933I$	$-6.24438 + 0.78722I$
$u = -0.048081 - 0.224645I$ $a = 0.94797 + 1.88047I$ $b = -0.308184 + 0.394663I$	$-1.259210 + 0.317933I$	$-6.24438 - 0.78722I$

II. $I_2^u = \langle b,\ a^2 - au + 2u^2 - u + 3,\ u^3 - u^2 + 2u - 1\rangle$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

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

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

$$a_7 = \begin{pmatrix} -u^2 - 1 \\ u^2 - u + 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ au \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} a \\ 0 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -au + a - 1 \\ -u^2 + u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^2a - 2au + 10u^2 + 3a - 12u + 15$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_8, c_{11}, c_{12}	$(y^3 + 3y^2 + 2y - 1)^2$
c_2, c_5, c_7 c_9	$(y^3 - y^2 + 2y - 1)^2$
c_3, c_{10}	y^6

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = 0.592519 + 0.986732I$ $b = 0$	$5.65624I$	$2.97732 - 6.46189I$
$u = 0.215080 + 1.307140I$ $a = -0.377439 + 0.320410I$ $b = 0$	$-4.13758 + 2.82812I$	$-5.23142 - 6.76304I$
$u = 0.215080 - 1.307140I$ $a = 0.592519 - 0.986732I$ $b = 0$	$-5.65624I$	$2.97732 + 6.46189I$
$u = 0.215080 - 1.307140I$ $a = -0.377439 - 0.320410I$ $b = 0$	$-4.13758 - 2.82812I$	$-5.23142 + 6.76304I$
$u = 0.569840$ $a = 0.28492 + 1.73159I$ $b = 0$	$4.13758 - 2.82812I$	$11.75410 + 2.09676I$
$u = 0.569840$ $a = 0.28492 - 1.73159I$ $b = 0$	$4.13758 + 2.82812I$	$11.75410 - 2.09676I$

III. $I_3^u = \langle b,\ -u^2 + a + u - 1,\ u^3 - u^2 + 2u - 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_8, c_{11}, c_{12}	$y^3 + 3y^2 + 2y - 1$
c_2, c_5, c_7 c_9	$y^3 - y^2 + 2y - 1$
c_3, c_{10}	y^3

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = -0.877439 - 0.744862I$ $b = 0$	0	$1.66236 - 0.56228I$
$u = 0.215080 - 1.307140I$ $a = -0.877439 + 0.744862I$ $b = 0$	0	$1.66236 + 0.56228I$
$u = 0.569840$ $a = 0.754878$ $b = 0$	0	-0.324720

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$((u^3 - u^2 + 2u - 1)^3)(u^{68} + 16u^{67} + \cdots + 28u + 1)$
c_2	$((u^3 + u^2 - 1)^3)(u^{68} + 4u^{67} + \cdots + 4u - 1)$
c_3, c_{10}	$u^9(u^{68} + u^{67} + \cdots + 1536u + 512)$
c_5	$((u^3 - u^2 + 1)^3)(u^{68} + 4u^{67} + \cdots + 4u - 1)$
c_6	$((u^3 + u^2 + 2u + 1)^3)(u^{68} + 16u^{67} + \cdots + 28u + 1)$
c_7, c_9	$((u^3 - u^2 + 1)^3)(u^{68} - 4u^{67} + \cdots + 298u - 193)$
c_8	$((u^3 + u^2 + 2u + 1)^3)(u^{68} + 4u^{67} + \cdots - 4u - 1)$
c_{11}, c_{12}	$((u^3 - u^2 + 2u - 1)^3)(u^{68} + 4u^{67} + \cdots - 4u - 1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6	$((y^3 + 3y^2 + 2y - 1)^3)(y^{68} + 76y^{67} + \cdots - 468y + 1)$
c_2, c_5	$((y^3 - y^2 + 2y - 1)^3)(y^{68} - 16y^{67} + \cdots - 28y + 1)$
c_3, c_{10}	$y^9(y^{68} - 49y^{67} + \cdots - 3276800y + 262144)$
c_7, c_9	$((y^3 - y^2 + 2y - 1)^3)(y^{68} - 56y^{67} + \cdots + 843772y + 37249)$
c_8, c_{11}, c_{12}	$((y^3 + 3y^2 + 2y - 1)^3)(y^{68} + 56y^{67} + \cdots + 12y + 1)$