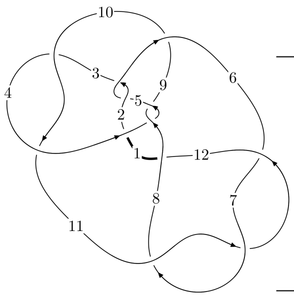
$12n_{0825}$ $(K12n_{0825})$



A knot diagram[1]

Linearized knot diagam

$$\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow$$

4	6	10	8	2	12	11	5	6	4	7	8

Solving Sequence

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

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

$$I_1^u = \langle -u^{17} + 6u^{16} + \cdots + 2b - 2,\ -u^{17} + 4u^{16} + \cdots + 4a - 8,\ u^{18} - 6u^{17} + \cdots + 26u - 4\rangle$$

$$\begin{aligned} I_2^u = \langle & 11a^3u^3 - 4u^3a^2 + \cdots - 5a + 29, \\ & a^3u^3 - 5u^3a^2 + a^4 + 2a^3u - 2a^2u^2 + 6u^3a - 12a^2u + 5u^2a - 10u^3 - a^2 + 15au - 8u^2 + 10a - 25u - 14, \\ & u^4 + u^3 + 3u^2 + 2u + 1\rangle \end{aligned}$$

$$\begin{aligned} I_3^u = \langle & u^{11} + 2u^{10} + 7u^9 + 11u^8 + 17u^7 + 20u^6 + 16u^5 + 11u^4 + u^3 - 4u^2 + b - 4u - 2, \\ & -2u^{11} - 2u^{10} - 13u^9 - 11u^8 - 30u^7 - 21u^6 - 26u^5 - 14u^4 + 2u^3 + u^2 + a + 10u + 2, \\ & u^{12} + u^{11} + 7u^{10} + 6u^9 + 18u^8 + 13u^7 + 19u^6 + 11u^5 + 3u^4 + u^3 - 6u^2 - 2u - 1\rangle \end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 46 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. $I_1^u = \langle -u^{17}+6u^{16}+\cdots+2b-2,\ -u^{17}+4u^{16}+\cdots+4a-8,\ u^{18}-6u^{17}+\cdots+26u-4\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}\frac{1}{4}u^{17}-u^{16}+\cdots-\frac{45}{4}u+2\\ \frac{1}{2}u^{17}-3u^{16}+\cdots-\frac{15}{2}u+1\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-\frac{1}{4}u^{17}+u^{16}+\cdots-\frac{27}{4}u+1\\ -\frac{1}{2}u^{17}+3u^{16}+\cdots+\frac{33}{2}u-3\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^3-2u\\-u^5-u^3+u\end{pmatrix}$$
$$a_6 = \begin{pmatrix}u^2+1\\-u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-u^{17}+\frac{11}{2}u^{16}+\cdots+24u-\frac{7}{2}\\ \frac{1}{2}u^{17}-3u^{16}+\cdots-\frac{25}{2}u+2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}\frac{1}{2}u^{17}-\frac{7}{2}u^{16}+\cdots-\frac{65}{2}u+\frac{13}{2}\\ -\frac{1}{2}u^{17}+3u^{16}+\cdots+\frac{19}{2}u-2\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-\frac{1}{2}u^{16}+2u^{15}+\cdots-12u+\frac{5}{2}\\ -\frac{1}{2}u^{17}+3u^{16}+\cdots+\frac{23}{2}u-2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}\frac{1}{2}u^{17}-\frac{5}{2}u^{16}+\cdots-\frac{3}{2}u+\frac{1}{2}\\ -\frac{1}{2}u^{17}+3u^{16}+\cdots+\frac{23}{2}u-2\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -u^{17}+6u^{16}-27u^{15}+87u^{14}-227u^{13}+492u^{12}-898u^{11}+1405u^{10}-1875u^9+2132u^8-2031u^7+1572u^6-916u^5+322u^4+39u^3-138u^2+90u-26$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{18}+3u^{17}+\cdots+12u-1$
c_2, c_5	$u^{18}+12u^{17}+\cdots-96u-16$
c_3, c_4, c_8 c_{10}	$u^{18}-u^{17}+\cdots-u+1$
c_6, c_7, c_{11}	$u^{18}+6u^{17}+\cdots-26u-4$
c_9	$u^{18}-u^{17}+\cdots+11u-1$
c_{12}	$u^{18}-6u^{17}+\cdots-584u-712$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{18} + 37y^{17} + \cdots - 62y + 1$
c_2, c_5	$y^{18} - 4y^{17} + \cdots - 640y + 256$
c_3, c_4, c_8 c_{10}	$y^{18} - 25y^{17} + \cdots - 9y + 1$
c_6, c_7, c_{11}	$y^{18} + 18y^{17} + \cdots - 28y + 16$
c_9	$y^{18} + 33y^{17} + \cdots - 83y + 1$
c_{12}	$y^{18} + 10y^{17} + \cdots + 1367744y + 506944$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.916911 + 0.561321I$ $a = 1.37834 - 0.77557I$ $b = -0.176299 + 0.948574I$	$13.57260 + 1.61994I$	$0.247785 + 0.097983I$
$u = 0.916911 - 0.561321I$ $a = 1.37834 + 0.77557I$ $b = -0.176299 - 0.948574I$	$13.57260 - 1.61994I$	$0.247785 - 0.097983I$
$u = 0.874769 + 0.633678I$ $a = -1.17600 + 1.10821I$ $b = 0.074687 - 1.124960I$	$13.8091 - 7.5293I$	$0.29015 + 4.49288I$
$u = 0.874769 - 0.633678I$ $a = -1.17600 - 1.10821I$ $b = 0.074687 + 1.124960I$	$13.8091 + 7.5293I$	$0.29015 - 4.49288I$
$u = 0.733837$ $a = -0.784391$ $b = 0.153207$	-2.09100	-1.44720
$u = 0.310769 + 1.286500I$ $a = 0.184515 - 0.432647I$ $b = -0.555563 + 0.718899I$	$1.93032 - 3.76798I$	$2.83080 + 5.29800I$
$u = 0.310769 - 1.286500I$ $a = 0.184515 + 0.432647I$ $b = -0.555563 - 0.718899I$	$1.93032 + 3.76798I$	$2.83080 - 5.29800I$
$u = 0.054735 + 1.390450I$ $a = 0.429200 + 0.371775I$ $b = -0.391654 - 1.269460I$	$5.15709 - 2.04112I$	$0.57723 + 3.95110I$
$u = 0.054735 - 1.390450I$ $a = 0.429200 - 0.371775I$ $b = -0.391654 + 1.269460I$	$5.15709 + 2.04112I$	$0.57723 - 3.95110I$
$u = -0.186935 + 1.380880I$ $a = -0.380579 - 0.441876I$ $b = -0.19705 + 1.46656I$	$1.96657 + 2.47572I$	$0.511687 + 1.171098I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.186935-1.380880I$ $a=-0.380579+0.441876I$ $b=-0.19705-1.46656I$	$1.96657-2.47572I$	$0.511687-1.171098I$
$u=-0.510799$ $a=\quad 0.933996$ $b=\quad 0.720779$	-2.51252	3.72050
$u=\quad 0.280643+0.301264I$ $a=-0.588140-1.071850I$ $b=\quad 0.030449+0.391403I$	$-0.225777-0.895913I$	$-4.68203+7.75983I$
$u=\quad 0.280643-0.301264I$ $a=-0.588140+1.071850I$ $b=\quad 0.030449-0.391403I$	$-0.225777+0.895913I$	$-4.68203-7.75983I$
$u=\quad 0.33904+1.59351I$ $a=-0.148834+1.046660I$ $b=\quad 0.94820-2.81595I$	$-18.8931-3.0610I$	$2.60805+0.97919I$
$u=\quad 0.33904-1.59351I$ $a=-0.148834-1.046660I$ $b=\quad 0.94820+2.81595I$	$-18.8931+3.0610I$	$2.60805-0.97919I$
$u=\quad 0.29855+1.60658I$ $a=-0.023307-1.135190I$ $b=-0.66976+3.18283I$	$-18.3049-11.9078I$	$2.47969+4.91668I$
$u=\quad 0.29855-1.60658I$ $a=-0.023307+1.135190I$ $b=-0.66976-3.18283I$	$-18.3049+11.9078I$	$2.47969-4.91668I$

II. $I_2^u = \langle 11a^3u^3 - 4u^3a^2 + \cdots - 5a + 29,\ a^3u^3 - 5u^3a^2 + \cdots + 10a - 14,\ u^4 + u^3 + 3u^2 + 2u + 1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ -0.354839a^3u^3 + 0.129032a^2u^3 + \cdots + 0.161290a - 0.935484 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.354839a^3u^3 + 0.129032a^2u^3 + \cdots + 1.16129a - 0.935484 \\ 0.677419a^3u^3 - 0.0645161a^2u^3 + \cdots + 0.419355a - 0.0322581 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^3 - 2u \\ u^3 - u^2 - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -a^2u \\ 0.193548a^3u^3 - 1.16129a^2u^3 + \cdots + 0.548387a - 0.580645 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -a^3u^2 + a \\ 0.387097a^3u^3 - 0.322581a^2u^3 + \cdots + 0.0967742a - 1.16129 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.0967742a^3u^3 - 0.580645a^2u^3 + \cdots + 0.774194a - 1.29032 \\ 0.0967742a^3u^3 + 0.419355a^2u^3 + \cdots - 0.225806a - 1.29032 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.548387a^3u^3 - 0.290323a^2u^3 + \cdots + 0.387097a + 1.35484 \\ -0.451613a^3u^3 - 0.290323a^2u^3 + \cdots + 0.387097a - 2.64516 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{24}{31}a^3u^3 + \frac{84}{31}a^3u^2 - \frac{20}{31}u^3a^2 + \frac{96}{31}a^3u - \frac{8}{31}a^2u^2 + \frac{16}{31}u^3a + \frac{40}{31}a^3 + \frac{44}{31}a^2u + \frac{56}{31}u^2a - \frac{68}{31}u^3 + \frac{8}{31}a^2 + \frac{64}{31}au - \frac{52}{31}u^2 + \frac{68}{31}a - \frac{148}{31}u - \frac{10}{31}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} - 7u^{15} + \cdots - 478u + 73$
c_2, c_5	$(u^2 - u + 1)^8$
c_3, c_4, c_8 c_{10}	$u^{16} + u^{15} + \cdots - 24u + 79$
c_6, c_7, c_{11}	$(u^4 - u^3 + 3u^2 - 2u + 1)^4$
c_9	$u^{16} + 3u^{15} + \cdots + 180u + 79$
c_{12}	$(u^4 + u^3 + 5u^2 - u + 2)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} + 27y^{15} + \cdots + 40448y + 5329$
c_2, c_5	$(y^2 + y + 1)^8$
c_3, c_4, c_8 c_{10}	$y^{16} - 21y^{15} + \cdots - 51768y + 6241$
c_6, c_7, c_{11}	$(y^4 + 5y^3 + 7y^2 + 2y + 1)^4$
c_9	$y^{16} + 23y^{15} + \cdots + 58924y + 6241$
c_{12}	$(y^4 + 9y^3 + 31y^2 + 19y + 4)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.395123 + 0.506844I$ $a = \quad 0.918767 + 0.732292I$ $b = -1.333200 - 0.320958I$	$4.72380 - 0.61478I$	$0.17326 - 1.44464I$
$u = -0.395123 + 0.506844I$ $a = \quad 0.17223 - 1.96502I$ $b = \quad 0.571429 + 0.327901I$	$4.72380 + 3.44499I$	$0.17326 - 8.37284I$
$u = -0.395123 + 0.506844I$ $a = \quad 1.07219 + 1.87866I$ $b = -0.28348 - 1.48247I$	$4.72380 + 3.44499I$	$0.17326 - 8.37284I$
$u = -0.395123 + 0.506844I$ $a = -1.61576 - 1.76681I$ $b = \quad 0.189337 + 0.648876I$	$4.72380 - 0.61478I$	$0.17326 - 1.44464I$
$u = -0.395123 - 0.506844I$ $a = \quad 0.918767 - 0.732292I$ $b = -1.333200 + 0.320958I$	$4.72380 + 0.61478I$	$0.17326 + 1.44464I$
$u = -0.395123 - 0.506844I$ $a = \quad 0.17223 + 1.96502I$ $b = \quad 0.571429 - 0.327901I$	$4.72380 - 3.44499I$	$0.17326 + 8.37284I$
$u = -0.395123 - 0.506844I$ $a = \quad 1.07219 - 1.87866I$ $b = -0.28348 + 1.48247I$	$4.72380 - 3.44499I$	$0.17326 + 8.37284I$
$u = -0.395123 - 0.506844I$ $a = -1.61576 + 1.76681I$ $b = \quad 0.189337 - 0.648876I$	$4.72380 + 0.61478I$	$0.17326 + 1.44464I$
$u = -0.10488 + 1.55249I$ $a = \quad 0.084078 - 0.977337I$ $b = \quad 0.62521 + 3.74384I$	$11.72550 + 5.19385I$	$3.82674 - 6.02890I$
$u = -0.10488 + 1.55249I$ $a = -0.864979 + 0.796080I$ $b = \quad 0.82603 - 1.86134I$	$11.72550 + 5.19385I$	$3.82674 - 6.02890I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.10488 + 1.55249I$ $a = \quad 0.050829 + 1.247660I$ $b = -0.44287 - 3.34396I$	$11.72550 + 1.13408I$	$3.82674 + 0.89930I$
$u = -0.10488 + 1.55249I$ $a = \quad 0.182649 - 0.480753I$ $b = \quad 1.34755 + 1.14590I$	$11.72550 + 1.13408I$	$3.82674 + 0.89930I$
$u = -0.10488 - 1.55249I$ $a = \quad 0.084078 + 0.977337I$ $b = \quad 0.62521 - 3.74384I$	$11.72550 - 5.19385I$	$3.82674 + 6.02890I$
$u = -0.10488 - 1.55249I$ $a = -0.864979 - 0.796080I$ $b = \quad 0.82603 + 1.86134I$	$11.72550 - 5.19385I$	$3.82674 + 6.02890I$
$u = -0.10488 - 1.55249I$ $a = \quad 0.050829 - 1.247660I$ $b = -0.44287 + 3.34396I$	$11.72550 - 1.13408I$	$3.82674 - 0.89930I$
$u = -0.10488 - 1.55249I$ $a = \quad 0.182649 + 0.480753I$ $b = \quad 1.34755 - 1.14590I$	$11.72550 - 1.13408I$	$3.82674 - 0.89930I$

III.

$$\boldsymbol{I_3^u = \langle u^{11}+2u^{10}+\cdots+b-2,\ -2u^{11}-2u^{10}+\cdots+a+2,\ u^{12}+u^{11}+\cdots-2u-1\rangle}$$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 2u^{11}+2u^{10}+\cdots-10u-2 \\ -u^{11}-2u^{10}+\cdots+4u+2 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 2u^{11}+u^{10}+12u^9+5u^8+25u^7+9u^6+18u^5+6u^4-5u^3+u^2-8u \\ -u^{11}-u^{10}-6u^9-5u^8-12u^7-9u^6-8u^5-6u^4+2u^3+2u+1 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -u^3-2u \\ -u^5-u^3+u \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -2u^{11}-u^{10}+\cdots+12u+1 \\ u^{11}+5u^9+9u^7+u^6+6u^5+3u^4-u^3+3u^2-2u-1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{11}-u^{10}+\cdots+7u-2 \\ -u^{11}-4u^9+u^8-3u^7+4u^6+5u^5+4u^4+5u^3-u^2-3u-1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{11}-u^{10}-7u^9-5u^8-17u^7-8u^6-15u^5-3u^4+u^3+u^2+5u-2 \\ u^{10}+2u^9+6u^8+9u^7+12u^6+12u^5+7u^4+2u^3-3u^2-4u-1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^{11}-7u^9-u^8-18u^7-4u^6-18u^5-5u^4-2u^2+9u \\ -u^{10}-4u^8+u^7-4u^6+3u^5+2u^4+2u^3+4u^2-2u-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= 2u^{11}+3u^{10}+13u^9+15u^8+28u^7+20u^6+16u^5-5u^4-15u^3-19u^2-13u+1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12}+3u^{11}+\cdots-3u-1$
c_2	$u^{12}+3u^{11}+\cdots-3u-1$
c_3, c_8	$u^{12}+u^{11}+\cdots-10u^2+1$
c_4, c_{10}	$u^{12}-u^{11}+\cdots-10u^2+1$
c_5	$u^{12}-3u^{11}+\cdots+3u-1$
c_6, c_7	$u^{12}+u^{11}+\cdots-2u-1$
c_9	$u^{12}+u^{11}+4u^{10}+2u^9+6u^8+u^7+6u^6-u^5+u^4+4u^3+3u^2-1$
c_{11}	$u^{12}-u^{11}+\cdots+2u-1$
c_{12}	$u^{12}+u^{11}+u^{10}-3u^9-11u^8+8u^7+18u^6-9u^5-12u^4-9u^3-7u^2-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{12} + 3y^{11} + \cdots - 5y + 1$
c_2, c_5	$y^{12} - 5y^{11} + \cdots + 3y + 1$
c_3, c_4, c_8 c_{10}	$y^{12} - 15y^{11} + \cdots - 20y + 1$
c_6, c_7, c_{11}	$y^{12} + 13y^{11} + \cdots + 8y + 1$
c_9	$y^{12} + 7y^{11} + \cdots - 6y + 1$
c_{12}	$y^{12} + y^{11} + \cdots + 14y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.840044$ $a=\ \ 1.57497$ $b=-0.211629$	0.654628	-1.77310
$u=-0.042760+1.221860I$ $a=\ \ 0.288630+0.954256I$ $b=-1.50897-1.14119I$	$7.97414-1.59154I$	$3.95302+1.55241I$
$u=-0.042760-1.221860I$ $a=\ \ 0.288630-0.954256I$ $b=-1.50897+1.14119I$	$7.97414+1.59154I$	$3.95302-1.55241I$
$u=-0.375195+1.251700I$ $a=-0.224979-0.971377I$ $b=\ \ 0.70872+1.67932I$	$4.52363+4.37134I$	$1.55173-4.04786I$
$u=-0.375195-1.251700I$ $a=-0.224979+0.971377I$ $b=\ \ 0.70872-1.67932I$	$4.52363-4.37134I$	$1.55173+4.04786I$
$u=\ \ 0.274032+1.321170I$ $a=\ \ 0.223039-0.246206I$ $b=\ \ 0.192113+0.799962I$	$1.21953-3.32394I$	$-5.93901+2.04027I$
$u=\ \ 0.274032-1.321170I$ $a=\ \ 0.223039+0.246206I$ $b=\ \ 0.192113-0.799962I$	$1.21953+3.32394I$	$-5.93901-2.04027I$
$u=\ \ 0.646284$ $a=-0.471074$ $b=-0.501207$	-2.99063	-14.9120
$u=-0.08539+1.54129I$ $a=-0.324208+0.996147I$ $b=-0.47764-2.85858I$	$11.88070+3.38261I$	$4.53422-1.77544I$
$u=-0.08539-1.54129I$ $a=-0.324208-0.996147I$ $b=-0.47764+2.85858I$	$11.88070-3.38261I$	$4.53422+1.77544I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.173805+0.368979I$ $a=-0.51443-3.31625I$ $b=\ \ 0.942190+0.803863I$	$5.17878+2.27587I$	$4.24271-2.34851I$
$u=-0.173805-0.368979I$ $a=-0.51443+3.31625I$ $b=\ \ 0.942190-0.803863I$	$5.17878-2.27587I$	$4.24271+2.34851I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{12}+3u^{11}+\cdots-3u-1)(u^{16}-7u^{15}+\cdots-478u+73)$ $\cdot\,(u^{18}+3u^{17}+\cdots+12u-1)$
c_2	$((u^2-u+1)^8)(u^{12}+3u^{11}+\cdots-3u-1)(u^{18}+12u^{17}+\cdots-96u-16)$
c_3, c_8	$(u^{12}+u^{11}+\cdots-10u^2+1)(u^{16}+u^{15}+\cdots-24u+79)$ $\cdot\,(u^{18}-u^{17}+\cdots-u+1)$
c_4, c_{10}	$(u^{12}-u^{11}+\cdots-10u^2+1)(u^{16}+u^{15}+\cdots-24u+79)$ $\cdot\,(u^{18}-u^{17}+\cdots-u+1)$
c_5	$((u^2-u+1)^8)(u^{12}-3u^{11}+\cdots+3u-1)(u^{18}+12u^{17}+\cdots-96u-16)$
c_6, c_7	$((u^4-u^3+3u^2-2u+1)^4)(u^{12}+u^{11}+\cdots-2u-1)$ $\cdot\,(u^{18}+6u^{17}+\cdots-26u-4)$
c_9	$(u^{12}+u^{11}+4u^{10}+2u^9+6u^8+u^7+6u^6-u^5+u^4+4u^3+3u^2-1)$ $\cdot\,(u^{16}+3u^{15}+\cdots+180u+79)(u^{18}-u^{17}+\cdots+11u-1)$
c_{11}	$((u^4-u^3+3u^2-2u+1)^4)(u^{12}-u^{11}+\cdots+2u-1)$ $\cdot\,(u^{18}+6u^{17}+\cdots-26u-4)$
c_{12}	$(u^4+u^3+5u^2-u+2)^4$ $\cdot\,(u^{12}+u^{11}+u^{10}-3u^9-11u^8+8u^7+18u^6-9u^5-12u^4-9u^3-7u^2-1)$ $\cdot\,(u^{18}-6u^{17}+\cdots-584u-712)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{12}+3y^{11}+\cdots-5y+1)(y^{16}+27y^{15}+\cdots+40448y+5329)$ $\cdot\,(y^{18}+37y^{17}+\cdots-62y+1)$
c_2, c_5	$((y^2+y+1)^8)(y^{12}-5y^{11}+\cdots+3y+1)$ $\cdot\,(y^{18}-4y^{17}+\cdots-640y+256)$
c_3, c_4, c_8 c_{10}	$(y^{12}-15y^{11}+\cdots-20y+1)(y^{16}-21y^{15}+\cdots-51768y+6241)$ $\cdot\,(y^{18}-25y^{17}+\cdots-9y+1)$
c_6, c_7, c_{11}	$((y^4+5y^3+7y^2+2y+1)^4)(y^{12}+13y^{11}+\cdots+8y+1)$ $\cdot\,(y^{18}+18y^{17}+\cdots-28y+16)$
c_9	$(y^{12}+7y^{11}+\cdots-6y+1)(y^{16}+23y^{15}+\cdots+58924y+6241)$ $\cdot\,(y^{18}+33y^{17}+\cdots-83y+1)$
c_{12}	$((y^4+9y^3+31y^2+19y+4)^4)(y^{12}+y^{11}+\cdots+14y+1)$ $\cdot\,(y^{18}+10y^{17}+\cdots+1367744y+506944)$