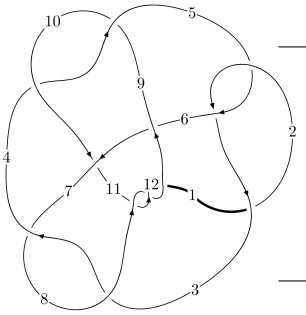
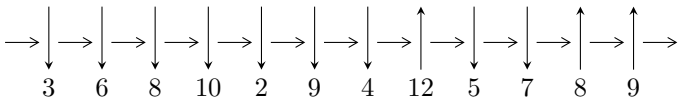
$12n_{0410}$ $(K12n_{0410})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -3.43647 \times 10^{106} u^{70} + 9.27917 \times 10^{106} u^{69} + \cdots + 4.05492 \times 10^{107} b - 2.66090 \times 10^{107}, \\ & - 2.33553 \times 10^{108} u^{70} - 2.92909 \times 10^{108} u^{69} + \cdots + 4.05492 \times 10^{107} a + 1.64345 \times 10^{109}, \\ & u^{71} + u^{70} + \cdots - 18u + 1 \rangle \\ I_2^u = \langle & u^2 + b + 1,\ u^{15} + u^{14} + \cdots + a - 4, \\ & u^{16} + 10u^{14} + 40u^{12} + u^{11} + 82u^{10} + 7u^9 + 92u^8 + 18u^7 + 58u^6 + 21u^5 + 25u^4 + 11u^3 + 10u^2 + 2u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 87 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. $\boldsymbol{I_1^u = \langle -3.44 \times 10^{106} u^{70} + 9.28 \times 10^{106} u^{69} + \cdots + 4.05 \times 10^{107} b - 2.66 \times 10^{107},\ -2.34 \times 10^{108} u^{70} - 2.93 \times 10^{108} u^{69} + \cdots + 4.05 \times 10^{107} a + 1.64 \times 10^{109},\ u^{71} + u^{70} + \cdots - 18u + 1 \rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 5.75975u^{70} + 7.22354u^{69} + \cdots + 413.326u - 40.5299 \\ 0.0847481u^{70} - 0.228837u^{69} + \cdots - 1.63551u + 0.656214 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 5.84450u^{70} + 6.99470u^{69} + \cdots + 411.690u - 39.8736 \\ 0.0847481u^{70} - 0.228837u^{69} + \cdots - 1.63551u + 0.656214 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3.49699u^{70} + 4.19855u^{69} + \cdots + 350.333u - 33.4246 \\ 0.239548u^{70} + 0.356147u^{69} + \cdots + 3.79911u + 0.0294177 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.732278u^{70} + 1.28940u^{69} + \cdots + 57.6526u - 22.5177 \\ -0.0601700u^{70} - 0.435875u^{69} + \cdots + 18.4320u - 2.09649 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -3.03287u^{70} - 3.14673u^{69} + \cdots - 288.328u + 33.4675 \\ 0.443733u^{70} + 0.847315u^{69} + \cdots - 10.9879u + 0.729411 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3.33586u^{70} + 3.74761u^{69} + \cdots + 351.145u - 33.2572 \\ 0.284126u^{70} + 0.525249u^{69} + \cdots - 0.443567u + 0.486594 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 3.61999u^{70} + 4.27286u^{69} + \cdots + 350.702u - 32.7706 \\ 0.284126u^{70} + 0.525249u^{69} + \cdots - 0.443567u + 0.486594 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 3.08919u^{70} + 3.79307u^{69} + \cdots + 183.569u - 16.3818 \\ -0.264976u^{70} - 0.884934u^{69} + \cdots - 4.44816u + 0.538795 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.714658u^{70} + 0.411160u^{69} + \cdots - 172.611u + 3.21683$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{71} + 37u^{70} + \cdots + 39u + 1$
c_2, c_5	$u^{71} + u^{70} + \cdots - 5u + 1$
c_3, c_7	$u^{71} + 2u^{70} + \cdots + 938u + 419$
c_4, c_9	$u^{71} + u^{70} + \cdots - 18u + 1$
c_6	$u^{71} - 11u^{70} + \cdots + 45238u + 33013$
c_8, c_{11}, c_{12}	$u^{71} - 3u^{70} + \cdots + 182u + 73$
c_{10}	$u^{71} + 3u^{70} + \cdots - 1366u + 113$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{71} + 3y^{70} + \cdots + 75y - 1$
c_2, c_5	$y^{71} - 37y^{70} + \cdots + 39y - 1$
c_3, c_7	$y^{71} + 32y^{70} + \cdots - 3750944y - 175561$
c_4, c_9	$y^{71} + 63y^{70} + \cdots + 108y - 1$
c_6	$y^{71} - 9y^{70} + \cdots + 48618179848y - 1089858169$
c_8, c_{11}, c_{12}	$y^{71} - 29y^{70} + \cdots + 317240y - 5329$
c_{10}	$y^{71} - y^{70} + \cdots + 908846y - 12769$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.215895 + 0.983718I$ $a = 0.589334 - 0.165404I$ $b = -0.879742 - 0.511318I$	$1.75447 + 1.33869I$	0
$u = 0.215895 - 0.983718I$ $a = 0.589334 + 0.165404I$ $b = -0.879742 + 0.511318I$	$1.75447 - 1.33869I$	0
$u = -1.034460 + 0.273032I$ $a = -0.310181 + 1.214850I$ $b = 1.25991 + 0.78950I$	$-3.60320 + 10.88280I$	0
$u = -1.034460 - 0.273032I$ $a = -0.310181 - 1.214850I$ $b = 1.25991 - 0.78950I$	$-3.60320 - 10.88280I$	0
$u = 0.863903 + 0.285907I$ $a = 0.419083 + 0.810149I$ $b = 0.502982 + 1.144460I$	$-5.98210 - 3.93114I$	$-10.12837 + 4.65462I$
$u = 0.863903 - 0.285907I$ $a = 0.419083 - 0.810149I$ $b = 0.502982 - 1.144460I$	$-5.98210 + 3.93114I$	$-10.12837 - 4.65462I$
$u = -0.891768 + 0.070118I$ $a = 0.15503 - 1.61433I$ $b = 0.865255 - 0.883952I$	$-5.06777 - 1.72842I$	$-9.03248 + 1.95766I$
$u = -0.891768 - 0.070118I$ $a = 0.15503 + 1.61433I$ $b = 0.865255 + 0.883952I$	$-5.06777 + 1.72842I$	$-9.03248 - 1.95766I$
$u = 0.858375 + 0.211623I$ $a = -0.41891 - 1.51444I$ $b = 1.096520 - 0.693922I$	$-0.51051 - 5.75064I$	$-3.89282 + 5.23747I$
$u = 0.858375 - 0.211623I$ $a = -0.41891 + 1.51444I$ $b = 1.096520 + 0.693922I$	$-0.51051 + 5.75064I$	$-3.89282 - 5.23747I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.495327 + 1.001070I$ $a = 0.956532 + 0.720660I$ $b = -0.499506 + 0.873457I$	$-3.81338 - 0.91720I$	0
$u = 0.495327 - 1.001070I$ $a = 0.956532 - 0.720660I$ $b = -0.499506 - 0.873457I$	$-3.81338 + 0.91720I$	0
$u = 0.852063 + 0.003332I$ $a = 0.570898 - 0.952541I$ $b = 0.941084 - 0.848655I$	$-4.83336 - 4.67682I$	$-8.91178 + 3.62804I$
$u = 0.852063 - 0.003332I$ $a = 0.570898 + 0.952541I$ $b = 0.941084 + 0.848655I$	$-4.83336 + 4.67682I$	$-8.91178 - 3.62804I$
$u = 0.728501 + 0.383628I$ $a = 0.609475 + 0.530243I$ $b = -1.021450 - 0.201318I$	$1.66148 + 1.60219I$	$-0.85852 - 4.44801I$
$u = 0.728501 - 0.383628I$ $a = 0.609475 - 0.530243I$ $b = -1.021450 + 0.201318I$	$1.66148 - 1.60219I$	$-0.85852 + 4.44801I$
$u = -0.801396 + 0.186918I$ $a = 0.435494 + 0.875125I$ $b = -0.579792 + 0.108548I$	$-0.08587 - 1.45375I$	$-4.06625 + 0.26026I$
$u = -0.801396 - 0.186918I$ $a = 0.435494 - 0.875125I$ $b = -0.579792 - 0.108548I$	$-0.08587 + 1.45375I$	$-4.06625 - 0.26026I$
$u = -0.029612 + 1.179580I$ $a = -0.715627 + 0.669083I$ $b = 1.015610 - 0.624913I$	$4.02651 - 1.18106I$	0
$u = -0.029612 - 1.179580I$ $a = -0.715627 - 0.669083I$ $b = 1.015610 + 0.624913I$	$4.02651 + 1.18106I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.044105 + 1.211070I$ $a = -2.72874 - 0.40673I$ $b = 0.734871 - 0.897217I$	$2.77599 - 4.56849I$	0
$u = 0.044105 - 1.211070I$ $a = -2.72874 + 0.40673I$ $b = 0.734871 + 0.897217I$	$2.77599 + 4.56849I$	0
$u = 0.373923 + 1.168140I$ $a = -0.735197 + 0.107279I$ $b = 0.917139 - 0.074511I$	$4.27301 - 5.82007I$	0
$u = 0.373923 - 1.168140I$ $a = -0.735197 - 0.107279I$ $b = 0.917139 + 0.074511I$	$4.27301 + 5.82007I$	0
$u = -0.310509 + 1.196830I$ $a = 0.839804 - 0.739127I$ $b = -0.785280 - 0.707355I$	$1.34885 + 3.63857I$	0
$u = -0.310509 - 1.196830I$ $a = 0.839804 + 0.739127I$ $b = -0.785280 + 0.707355I$	$1.34885 - 3.63857I$	0
$u = 0.075611 + 1.234620I$ $a = 5.12968 + 2.04707I$ $b = -0.673053 + 0.192726I$	$7.70644 - 3.86757I$	0
$u = 0.075611 - 1.234620I$ $a = 5.12968 - 2.04707I$ $b = -0.673053 - 0.192726I$	$7.70644 + 3.86757I$	0
$u = -0.410342 + 1.186330I$ $a = -1.72235 + 1.94541I$ $b = 0.608459 + 0.094132I$	$2.97939 + 5.92999I$	0
$u = -0.410342 - 1.186330I$ $a = -1.72235 - 1.94541I$ $b = 0.608459 - 0.094132I$	$2.97939 - 5.92999I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.729742+0.114637I$ $a=\ \ 0.618046-0.750040I$ $b=\ \ 0.630374-0.759705I$	$-1.95583+0.14817I$	$-7.00132-0.69470I$
$u=-0.729742-0.114637I$ $a=\ \ 0.618046+0.750040I$ $b=\ \ 0.630374+0.759705I$	$-1.95583-0.14817I$	$-7.00132+0.69470I$
$u=-0.021725+1.263670I$ $a=-0.677026-0.120394I$ $b=-0.752422+0.007514I$	$8.01619+2.99746I$	0
$u=-0.021725-1.263670I$ $a=-0.677026+0.120394I$ $b=-0.752422-0.007514I$	$8.01619-2.99746I$	0
$u=-0.413858+1.213910I$ $a=\ \ 1.27530-1.84827I$ $b=-0.805605-0.898461I$	$-1.55000+6.39536I$	0
$u=-0.413858-1.213910I$ $a=\ \ 1.27530+1.84827I$ $b=-0.805605+0.898461I$	$-1.55000-6.39536I$	0
$u=\ \ 0.158281+1.275040I$ $a=-2.74022-0.73963I$ $b=\ \ 0.811606+0.350669I$	$6.58304-0.58218I$	0
$u=\ \ 0.158281-1.275040I$ $a=-2.74022+0.73963I$ $b=\ \ 0.811606-0.350669I$	$6.58304+0.58218I$	0
$u=-0.790440+1.070780I$ $a=\ \ 0.367717-0.165936I$ $b=-1.28280+0.61070I$	$-1.27848-4.71003I$	0
$u=-0.790440-1.070780I$ $a=\ \ 0.367717+0.165936I$ $b=-1.28280-0.61070I$	$-1.27848+4.71003I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.384604 + 1.283090I$ $a = 0.905704 + 0.769999I$ $b = -0.892660 + 0.805268I$	$-0.82831 - 9.10842I$	0
$u = 0.384604 - 1.283090I$ $a = 0.905704 - 0.769999I$ $b = -0.892660 - 0.805268I$	$-0.82831 + 9.10842I$	0
$u = 0.411196 + 1.277040I$ $a = -0.287177 + 0.546454I$ $b = -1.036780 - 0.878537I$	$-0.870786 + 0.150985I$	0
$u = 0.411196 - 1.277040I$ $a = -0.287177 - 0.546454I$ $b = -1.036780 + 0.878537I$	$-0.870786 - 0.150985I$	0
$u = -0.062315 + 1.356300I$ $a = -0.536885 - 0.568354I$ $b = 0.622978 + 0.855958I$	$4.73209 + 4.54811I$	0
$u = -0.062315 - 1.356300I$ $a = -0.536885 + 0.568354I$ $b = 0.622978 - 0.855958I$	$4.73209 - 4.54811I$	0
$u = -0.271944 + 1.345690I$ $a = -0.490299 - 0.243669I$ $b = 0.495860 - 0.020177I$	$4.81607 + 2.25039I$	0
$u = -0.271944 - 1.345690I$ $a = -0.490299 + 0.243669I$ $b = 0.495860 + 0.020177I$	$4.81607 - 2.25039I$	0
$u = 0.182403 + 0.589273I$ $a = 0.996728 - 0.100964I$ $b = -0.991109 - 0.385570I$	$1.70326 + 1.36799I$	$0.40449 - 3.56103I$
$u = 0.182403 - 0.589273I$ $a = 0.996728 + 0.100964I$ $b = -0.991109 + 0.385570I$	$1.70326 - 1.36799I$	$0.40449 + 3.56103I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.431353+1.324400I$ $a=\ \ 0.293265+0.052341I$ $b=-0.943113+0.822147I$	$-0.70979+3.01801I$	0
$u=-0.431353-1.324400I$ $a=\ \ 0.293265-0.052341I$ $b=-0.943113-0.822147I$	$-0.70979-3.01801I$	0
$u=-0.297751+1.379490I$ $a=-0.354498-0.522063I$ $b=-0.529414+0.965808I$	$2.81600+3.85009I$	0
$u=-0.297751-1.379490I$ $a=-0.354498+0.522063I$ $b=-0.529414-0.965808I$	$2.81600-3.85009I$	0
$u=\ \ 0.072525+0.577336I$ $a=\ \ 1.009780-0.310556I$ $b=-1.024930-0.366527I$	$1.70099+1.36936I$	$0.45558-4.27250I$
$u=\ \ 0.072525-0.577336I$ $a=\ \ 1.009780+0.310556I$ $b=-1.024930+0.366527I$	$1.70099-1.36936I$	$0.45558+4.27250I$
$u=\ \ 0.38135+1.40084I$ $a=\ \ 1.72461+1.25646I$ $b=-1.136280+0.778925I$	$4.58064-10.24330I$	0
$u=\ \ 0.38135-1.40084I$ $a=\ \ 1.72461-1.25646I$ $b=-1.136280-0.778925I$	$4.58064+10.24330I$	0
$u=\ \ 0.35642+1.47308I$ $a=-0.357872+0.562711I$ $b=-0.58989-1.37575I$	$-0.32317-8.36888I$	0
$u=\ \ 0.35642-1.47308I$ $a=-0.357872-0.562711I$ $b=-0.58989+1.37575I$	$-0.32317+8.36888I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.44180+1.45915I$ $a=\ \ 1.55032-1.07079I$ $b=-1.26177-0.88192I$	$1.8628+16.1602I$	0
$u=-0.44180-1.45915I$ $a=\ \ 1.55032+1.07079I$ $b=-1.26177+0.88192I$	$1.8628-16.1602I$	0
$u=-0.384489$ $a=\ \ 0.931181$ $b=\ \ 0.216711$	-0.795110	-12.9180
$u=-0.01278+1.63519I$ $a=-1.81847-0.01243I$ $b=\ \ 1.95257+0.19361I$	$9.71665+1.57100I$	0
$u=-0.01278-1.63519I$ $a=-1.81847+0.01243I$ $b=\ \ 1.95257-0.19361I$	$9.71665-1.57100I$	0
$u=\ \ 0.07124+1.74068I$ $a=-1.55530-0.11713I$ $b=\ \ 1.62577-0.01058I$	$10.11340-1.78495I$	0
$u=\ \ 0.07124-1.74068I$ $a=-1.55530+0.11713I$ $b=\ \ 1.62577+0.01058I$	$10.11340+1.78495I$	0
$u=\ \ 0.018862+0.200440I$ $a=-3.71179-0.53258I$ $b=-0.727811-0.911451I$	$-0.32381+4.17151I$	$-4.56463-9.46069I$
$u=\ \ 0.018862-0.200440I$ $a=-3.71179+0.53258I$ $b=-0.727811+0.911451I$	$-0.32381-4.17151I$	$-4.56463+9.46069I$
$u=\ \ 0.0994581+0.0263391I$ $a=\ \ 4.2481+18.4423I$ $b=\ \ 0.724058+0.102943I$	$4.07198+3.05309I$	$-15.3128-6.7632I$

Solutions to I_1^u		$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.0994581-0.0263391I$		
$a=$	$4.2481-18.4423I$	$4.07198-3.05309I$	$-15.3128+6.7632I$
$b=$	$0.724058-0.102943I$		

II. $I_2^u = \langle u^2 + b + 1,\ u^{15} + u^{14} + \cdots + a - 4,\ u^{16} + 10u^{14} + \cdots + 2u + 1 \rangle$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^{15} - u^{14} + \cdots - 5u + 4 \\ -u^2 - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{15} - u^{14} + \cdots - 5u + 3 \\ -u^2 - 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{15} - 2u^{14} + \cdots + 2u - 4 \\ u^4 + 2u^2 + 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 3u^{15} + 28u^{13} + \cdots + 17u + 5 \\ -u^{13} - 8u^{11} + \cdots - 3u - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 2u^{15} + 19u^{13} + \cdots + 12u^2 + 10u \\ u^{14} - u^{13} + \cdots + 2u^2 - u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{15} - u^{14} + \cdots + 3u - 4 \\ -u^{14} - 8u^{12} + \cdots - 3u^2 - u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^{15} - 2u^{14} + \cdots + 2u - 4 \\ -u^{14} - 8u^{12} + \cdots - 3u^2 - u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{14} - 8u^{12} + \cdots - 2u^2 + 2 \\ u^6 + 3u^4 + 2u^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^{15} + 4u^{14} - 21u^{13} + 35u^{12} - 88u^{11} + 121u^{10} - 184u^9 + 211u^8 - 196u^7 + 193u^6 - 95u^5 + 87u^4 - 14u^3 + 25u^2 - 2u + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} - 8u^{15} + \cdots - 11u + 1$
c_2	$u^{16} - 4u^{14} + \cdots + u + 1$
c_3	$u^{16} + u^{15} + \cdots + 6u^2 + 1$
c_4	$u^{16} + 10u^{14} + \cdots - 2u + 1$
c_5	$u^{16} - 4u^{14} + \cdots - u + 1$
c_6	$u^{16} + 4u^{15} + \cdots + 8u + 1$
c_7	$u^{16} - u^{15} + \cdots + 6u^2 + 1$
c_8	$u^{16} - 4u^{15} + \cdots - 4u + 1$
c_9	$u^{16} + 10u^{14} + \cdots + 2u + 1$
c_{10}	$u^{16} + 2u^{14} + \cdots + 6u + 1$
c_{11}, c_{12}	$u^{16} + 4u^{15} + \cdots + 4u + 1$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.538323 + 0.609436I$ $a = 0.301986 - 0.587035I$ $b = -0.918380 - 0.656147I$	$-0.33171 + 3.10177I$	$-4.27402 - 2.35012I$
$u = 0.538323 - 0.609436I$ $a = 0.301986 + 0.587035I$ $b = -0.918380 + 0.656147I$	$-0.33171 - 3.10177I$	$-4.27402 + 2.35012I$
$u = -0.048339 + 1.222850I$ $a = 1.81741 - 1.11259I$ $b = 0.493024 + 0.118223I$	$7.19096 + 3.42244I$	$-3.10678 - 2.43444I$
$u = -0.048339 - 1.222850I$ $a = 1.81741 + 1.11259I$ $b = 0.493024 - 0.118223I$	$7.19096 - 3.42244I$	$-3.10678 + 2.43444I$
$u = 0.291351 + 1.201680I$ $a = -1.87567 - 0.05805I$ $b = 0.359153 - 0.700221I$	$1.84258 - 6.14957I$	$-5.00852 + 7.34248I$
$u = 0.291351 - 1.201680I$ $a = -1.87567 + 0.05805I$ $b = 0.359153 + 0.700221I$	$1.84258 + 6.14957I$	$-5.00852 - 7.34248I$
$u = -0.177579 + 1.300220I$ $a = -0.693391 - 0.115475I$ $b = 0.659034 + 0.461783I$	$4.53158 + 3.04680I$	$-2.03030 - 5.70697I$
$u = -0.177579 - 1.300220I$ $a = -0.693391 + 0.115475I$ $b = 0.659034 - 0.461783I$	$4.53158 - 3.04680I$	$-2.03030 + 5.70697I$
$u = -0.470847 + 0.357752I$ $a = 0.315886 - 0.653261I$ $b = -1.093710 + 0.336893I$	$1.130760 - 0.806623I$	$-6.80428 - 2.97898I$
$u = -0.470847 - 0.357752I$ $a = 0.315886 + 0.653261I$ $b = -1.093710 - 0.336893I$	$1.130760 + 0.806623I$	$-6.80428 + 2.97898I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.01876+1.58439I$ $a=-1.99295+0.09965I$ $b=\ \ 1.50993+0.05944I$	$11.46500-2.59376I$	$3.82711+3.90143I$
$u=-0.01876-1.58439I$ $a=-1.99295-0.09965I$ $b=\ \ 1.50993-0.05944I$	$11.46500+2.59376I$	$3.82711-3.90143I$
$u=-0.076930+0.383712I$ $a=\ \ 4.77737-0.98552I$ $b=-0.858683+0.059038I$	$4.38379-2.94039I$	$7.82295-1.05341I$
$u=-0.076930-0.383712I$ $a=\ \ 4.77737+0.98552I$ $b=-0.858683-0.059038I$	$4.38379+2.94039I$	$7.82295+1.05341I$
$u=-0.03722+1.68849I$ $a=-1.65065+0.07468I$ $b=\ \ 1.84963+0.12569I$	$9.26542+1.37057I$	$-9.92616+2.04030I$
$u=-0.03722-1.68849I$ $a=-1.65065-0.07468I$ $b=\ \ 1.84963-0.12569I$	$9.26542-1.37057I$	$-9.92616-2.04030I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{16}-8u^{15}+\cdots-11u+1)(u^{71}+37u^{70}+\cdots+39u+1)$
c_2	$(u^{16}-4u^{14}+\cdots+u+1)(u^{71}+u^{70}+\cdots-5u+1)$
c_3	$(u^{16}+u^{15}+\cdots+6u^2+1)(u^{71}+2u^{70}+\cdots+938u+419)$
c_4	$(u^{16}+10u^{14}+\cdots-2u+1)(u^{71}+u^{70}+\cdots-18u+1)$
c_5	$(u^{16}-4u^{14}+\cdots-u+1)(u^{71}+u^{70}+\cdots-5u+1)$
c_6	$(u^{16}+4u^{15}+\cdots+8u+1)(u^{71}-11u^{70}+\cdots+45238u+33013)$
c_7	$(u^{16}-u^{15}+\cdots+6u^2+1)(u^{71}+2u^{70}+\cdots+938u+419)$
c_8	$(u^{16}-4u^{15}+\cdots-4u+1)(u^{71}-3u^{70}+\cdots+182u+73)$
c_9	$(u^{16}+10u^{14}+\cdots+2u+1)(u^{71}+u^{70}+\cdots-18u+1)$
c_{10}	$(u^{16}+2u^{14}+\cdots+6u+1)(u^{71}+3u^{70}+\cdots-1366u+113)$
c_{11}, c_{12}	$(u^{16}+4u^{15}+\cdots+4u+1)(u^{71}-3u^{70}+\cdots+182u+73)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{16}+8y^{15}+\cdots+y+1)(y^{71}+3y^{70}+\cdots+75y-1)$
c_2, c_5	$(y^{16}-8y^{15}+\cdots-11y+1)(y^{71}-37y^{70}+\cdots+39y-1)$
c_3, c_7	$(y^{16}+13y^{15}+\cdots+12y+1)$ $\cdot(y^{71}+32y^{70}+\cdots-3750944y-175561)$
c_4, c_9	$(y^{16}+20y^{15}+\cdots+16y+1)(y^{71}+63y^{70}+\cdots+108y-1)$
c_6	$(y^{16}+8y^{15}+\cdots-20y+1)$ $\cdot(y^{71}-9y^{70}+\cdots+48618179848y-1089858169)$
c_8, c_{11}, c_{12}	$(y^{16}-16y^{15}+\cdots-12y+1)(y^{71}-29y^{70}+\cdots+317240y-5329)$
c_{10}	$(y^{16}+4y^{15}+\cdots-10y+1)(y^{71}-y^{70}+\cdots+908846y-12769)$