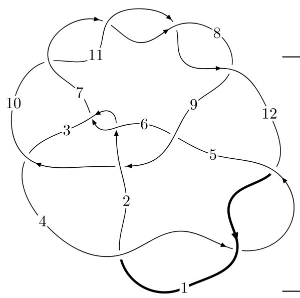
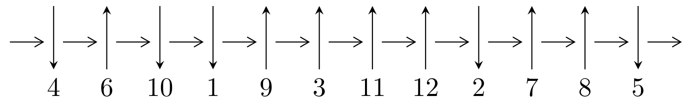
$12a_{0970}$ ($K12a_{0970}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 3.53471\times10^{56}u^{58} + 1.42360\times10^{57}u^{57} + \cdots + 3.93692\times10^{56}b - 1.65023\times10^{57},\\
& 2.21537\times10^{57}u^{58} + 1.28547\times10^{58}u^{57} + \cdots + 1.77161\times10^{57}a - 5.99824\times10^{58},\ u^{59} + 6u^{58} + \cdots - 41u -
\end{aligned}$$

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

$$I_3^u = \langle b+1,\ a^2-4a+6,\ u+1\rangle$$

$$I_4^u = \langle b-1,\ a+2,\ u+1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 66 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. $\boldsymbol{I_1^u =}$
$\boldsymbol{\langle 3.53\times10^{56}u^{58}+1.42\times10^{57}u^{57}+\cdots+3.94\times10^{56}b-1.65\times10^{57},\ 2.22\times10^{57}u^{58}+ 1.29\times10^{58}u^{57}+\cdots+1.77\times10^{57}a-6.00\times10^{58},\ u^{59}+6u^{58}+\cdots-41u-9\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -1.25048u^{58} - 7.25590u^{57} + \cdots + 63.0832u + 33.8575 \\ -0.897836u^{58} - 3.61603u^{57} + \cdots + 16.4208u + 4.19168 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2+1 \\ u^4-2u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 4.46863u^{58} + 17.9681u^{57} + \cdots - 67.6860u + 1.25189 \\ -5.38311u^{58} - 23.1424u^{57} + \cdots + 108.980u + 28.8269 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2.90235u^{58} + 13.2229u^{57} + \cdots - 72.6610u - 21.8095 \\ -2.15803u^{58} - 9.57659u^{57} + \cdots + 48.5315u + 11.5997 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -1.96408u^{58} - 9.62149u^{57} + \cdots + 68.3445u + 30.6108 \\ 3.54462u^{58} + 15.7106u^{57} + \cdots - 88.3461u - 20.9626 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1.66279u^{58} + 5.41036u^{57} + \cdots - 0.319179u + 15.6956 \\ -3.81111u^{58} - 16.2823u^{57} + \cdots + 79.8231u + 22.3535 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -3.00291u^{58} - 15.3623u^{57} + \cdots + 118.037u + 39.4455 \\ 1.06867u^{58} + 3.16422u^{57} + \cdots + 9.35768u + 12.0523 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.777443u^{58} + 1.97110u^{57} + \cdots - 73.4254u - 32.6128$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$u^{59} - 3u^{58} + \cdots + 8u^2 + 2$
c_2, c_6	$u^{59} - 4u^{58} + \cdots - 19u + 3$
c_3	$9(9u^{59} + 48u^{58} + \cdots - 422003u + 85781)$
c_5	$9(9u^{59} - 75u^{58} + \cdots - 1270890u - 386003)$
c_7, c_8, c_{10} c_{11}	$u^{59} - 6u^{58} + \cdots - 41u + 9$
c_9	$u^{59} - 2u^{58} + \cdots - 1152u + 432$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{59} + 63y^{58} + \cdots - 32y - 4$
c_2, c_6	$y^{59} - 44y^{58} + \cdots + 355y - 9$
c_3	$81(81y^{59} + 1944y^{58} + \cdots + 1.62773 \times 10^{10}y - 7.35838 \times 10^{9})$
c_5	$81(81y^{59} - 5643y^{58} + \cdots + 5.63820 \times 10^{12}y - 1.48998 \times 10^{11})$
c_7, c_8, c_{10} c_{11}	$y^{59} - 76y^{58} + \cdots + 1483y - 81$
c_9	$y^{59} + 22y^{58} + \cdots - 1627776y - 186624$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.857889 + 0.543473I$ $a = -0.935537 - 1.008220I$ $b = 1.210920 + 0.035673I$	$4.74114 - 0.35952I$	0
$u = -0.857889 - 0.543473I$ $a = -0.935537 + 1.008220I$ $b = 1.210920 - 0.035673I$	$4.74114 + 0.35952I$	0
$u = -0.130615 + 0.967990I$ $a = 0.190514 + 0.374185I$ $b = -1.318690 + 0.257478I$	$9.56415 - 6.01109I$	0
$u = -0.130615 - 0.967990I$ $a = 0.190514 - 0.374185I$ $b = -1.318690 - 0.257478I$	$9.56415 + 6.01109I$	0
$u = 0.948364 + 0.213838I$ $a = 1.51212 - 0.71166I$ $b = -1.37230 - 0.44609I$	$5.43776 + 2.93026I$	0
$u = 0.948364 - 0.213838I$ $a = 1.51212 + 0.71166I$ $b = -1.37230 + 0.44609I$	$5.43776 - 2.93026I$	0
$u = 0.960664 + 0.374018I$ $a = -0.305542 + 0.131521I$ $b = 0.126556 + 0.984052I$	$8.38003 + 6.19609I$	0
$u = 0.960664 - 0.374018I$ $a = -0.305542 - 0.131521I$ $b = 0.126556 - 0.984052I$	$8.38003 - 6.19609I$	0
$u = 0.969759 + 0.438458I$ $a = -1.42805 + 0.92716I$ $b = 1.37512 + 0.41779I$	$5.94572 + 7.83644I$	0
$u = 0.969759 - 0.438458I$ $a = -1.42805 - 0.92716I$ $b = 1.37512 - 0.41779I$	$5.94572 - 7.83644I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.066870 + 0.057775I$ $a = -1.208650 - 0.520306I$ $b = 1.291030 - 0.498774I$	$11.99040 + 0.77771I$	0
$u = 1.066870 - 0.057775I$ $a = -1.208650 + 0.520306I$ $b = 1.291030 + 0.498774I$	$11.99040 - 0.77771I$	0
$u = -0.764641 + 0.343047I$ $a = 1.330310 - 0.471171I$ $b = 0.362348 + 0.017749I$	$6.96622 - 0.49717I$	$6.23462 + 1.41414I$
$u = -0.764641 - 0.343047I$ $a = 1.330310 + 0.471171I$ $b = 0.362348 - 0.017749I$	$6.96622 + 0.49717I$	$6.23462 - 1.41414I$
$u = 0.799754 + 0.143772I$ $a = 0.272317 + 0.190800I$ $b = -0.120952 - 1.081830I$	$1.12793 + 2.71854I$	$10.64746 - 8.72932I$
$u = 0.799754 - 0.143772I$ $a = 0.272317 - 0.190800I$ $b = -0.120952 + 1.081830I$	$1.12793 - 2.71854I$	$10.64746 + 8.72932I$
$u = 1.046220 + 0.597660I$ $a = 1.28813 - 0.95719I$ $b = -1.38493 - 0.42023I$	$13.1773 + 11.1774I$	0
$u = 1.046220 - 0.597660I$ $a = 1.28813 + 0.95719I$ $b = -1.38493 + 0.42023I$	$13.1773 - 11.1774I$	0
$u = -1.21103$ $a = -1.33100$ $b = 0.716569$	2.64173	0
$u = -0.732538$ $a = 4.79896$ $b = -1.05042$	2.92652	-31.4710

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.118101+0.722024I$ $a=0.086917-0.358660I$ $b=1.229760-0.250070I$	$2.59101-3.95881I$	$6.03862+7.13057I$
$u=-0.118101-0.722024I$ $a=0.086917+0.358660I$ $b=1.229760+0.250070I$	$2.59101+3.95881I$	$6.03862-7.13057I$
$u=-0.986283+0.810419I$ $a=0.787138+0.653314I$ $b=-1.331550-0.064088I$	$11.99500+0.09773I$	0
$u=-0.986283-0.810419I$ $a=0.787138-0.653314I$ $b=-1.331550+0.064088I$	$11.99500-0.09773I$	0
$u=-0.622166+0.142096I$ $a=-0.610096+0.520870I$ $b=-0.136025+0.091898I$	$1.150150-0.364893I$	$8.81978+0.27517I$
$u=-0.622166-0.142096I$ $a=-0.610096-0.520870I$ $b=-0.136025-0.091898I$	$1.150150+0.364893I$	$8.81978-0.27517I$
$u=-0.117244+0.612352I$ $a=0.812578-0.945370I$ $b=0.134811-0.595483I$	$5.05432-2.85507I$	$3.39383+3.61710I$
$u=-0.117244-0.612352I$ $a=0.812578+0.945370I$ $b=0.134811+0.595483I$	$5.05432+2.85507I$	$3.39383-3.61710I$
$u=-1.400890+0.081228I$ $a=1.207210+0.357135I$ $b=-0.851572-0.540881I$	$6.44938+2.04861I$	0
$u=-1.400890-0.081228I$ $a=1.207210-0.357135I$ $b=-0.851572+0.540881I$	$6.44938-2.04861I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.420938 + 0.095647I$ $a = 3.99493 + 4.99920I$ $b = 0.990001 + 0.115515I$	$7.27721 - 0.14920I$	$10.48371 - 3.97631I$
$u = -0.420938 - 0.095647I$ $a = 3.99493 - 4.99920I$ $b = 0.990001 - 0.115515I$	$7.27721 + 0.14920I$	$10.48371 + 3.97631I$
$u = 0.392846 + 0.073015I$ $a = 1.305270 + 0.430518I$ $b = -0.582701 - 0.749020I$	$0.63593 + 2.21296I$	$-5.75964 - 6.65166I$
$u = 0.392846 - 0.073015I$ $a = 1.305270 - 0.430518I$ $b = -0.582701 + 0.749020I$	$0.63593 - 2.21296I$	$-5.75964 + 6.65166I$
$u = -0.195055 + 0.340133I$ $a = -1.55948 + 0.68613I$ $b = -1.091800 + 0.185883I$	$1.98756 - 0.99917I$	$2.40222 - 1.62487I$
$u = -0.195055 - 0.340133I$ $a = -1.55948 - 0.68613I$ $b = -1.091800 - 0.185883I$	$1.98756 + 0.99917I$	$2.40222 + 1.62487I$
$u = 1.61129 + 0.03030I$ $a = -0.088005 - 0.279498I$ $b = -0.217256 - 0.380886I$	$8.95456 + 0.95974I$	0
$u = 1.61129 - 0.03030I$ $a = -0.088005 + 0.279498I$ $b = -0.217256 + 0.380886I$	$8.95456 - 0.95974I$	0
$u = 0.068702 + 0.357326I$ $a = -1.24232 + 0.82388I$ $b = 0.092635 + 0.542344I$	$-0.908481 - 0.907750I$	$-3.97873 + 3.36038I$
$u = 0.068702 - 0.357326I$ $a = -1.24232 - 0.82388I$ $b = 0.092635 - 0.542344I$	$-0.908481 + 0.907750I$	$-3.97873 - 3.36038I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.66142$ $a = 2.81188$ $b = -1.21634$	11.4761	0
$u = 1.67528 + 0.06502I$ $a = 0.057515 + 0.457143I$ $b = 0.454603 + 0.532651I$	$15.6369 + 1.8583I$	0
$u = 1.67528 - 0.06502I$ $a = 0.057515 - 0.457143I$ $b = 0.454603 - 0.532651I$	$15.6369 - 1.8583I$	0
$u = -1.67823 + 0.03059I$ $a = 0.178129 - 0.749329I$ $b = -0.101652 + 1.402470I$	$9.97496 - 3.33073I$	0
$u = -1.67823 - 0.03059I$ $a = 0.178129 + 0.749329I$ $b = -0.101652 - 1.402470I$	$9.97496 + 3.33073I$	0
$u = 1.69183 + 0.11419I$ $a = -1.87237 + 0.56142I$ $b = 1.315370 + 0.125779I$	$13.68640 + 2.79097I$	0
$u = 1.69183 - 0.11419I$ $a = -1.87237 - 0.56142I$ $b = 1.315370 - 0.125779I$	$13.68640 - 2.79097I$	0
$u = -1.70433 + 0.05549I$ $a = 1.94975 + 0.14139I$ $b = -1.56251 + 0.59298I$	$14.8568 - 3.9980I$	0
$u = -1.70433 - 0.05549I$ $a = 1.94975 - 0.14139I$ $b = -1.56251 - 0.59298I$	$14.8568 + 3.9980I$	0
$u = -1.70709 + 0.09794I$ $a = -0.304137 + 0.494271I$ $b = 0.119151 - 1.247520I$	$17.7739 - 8.0669I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.70709 - 0.09794I$ $a = -0.304137 - 0.494271I$ $b = 0.119151 + 1.247520I$	$17.7739 + 8.0669I$	0
$u = -1.70726 + 0.11689I$ $a = -1.95829 - 0.38629I$ $b = 1.51361 - 0.53501I$	$15.3175 - 10.0440I$	0
$u = -1.70726 - 0.11689I$ $a = -1.95829 + 0.38629I$ $b = 1.51361 + 0.53501I$	$15.3175 + 10.0440I$	0
$u = -1.73066 + 0.01255I$ $a = -1.72454 - 0.03435I$ $b = 1.50767 + 0.66940I$	$-17.4675 - 1.0530I$	0
$u = -1.73066 - 0.01255I$ $a = -1.72454 + 0.03435I$ $b = 1.50767 - 0.66940I$	$-17.4675 + 1.0530I$	0
$u = -1.73213 + 0.16868I$ $a = 1.84723 + 0.54357I$ $b = -1.46340 + 0.53545I$	$-16.6726 - 14.3095I$	0
$u = -1.73213 - 0.16868I$ $a = 1.84723 - 0.54357I$ $b = -1.46340 - 0.53545I$	$-16.6726 + 14.3095I$	0
$u = 1.78302 + 0.21856I$ $a = 1.55482 - 0.43122I$ $b = -1.41314 - 0.15182I$	$-17.8772 + 4.1906I$	0
$u = 1.78302 - 0.21856I$ $a = 1.55482 + 0.43122I$ $b = -1.41314 + 0.15182I$	$-17.8772 - 4.1906I$	0

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 10au - 5a + \frac{11}{3}u + \frac{26}{3}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6, c_{12}	$(u^2 - u + 1)^2$
c_2, c_4	$(u^2 + u + 1)^2$
c_3	$9(9u^4 + 9u^2 + 1)$
c_5	$9(9u^4 - 9u^3 + 3u + 1)$
c_7, c_8	$(u^2 - u - 1)^2$
c_9	u^4
c_{10}, c_{11}	$(u^2 + u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_6, c_{12}	$(y^2 + y + 1)^2$
c_3	$81(9y^2 + 9y + 1)^2$
c_5	$81(81y^4 - 81y^3 + 72y^2 - 9y + 1)$
c_7, c_8, c_{10} c_{11}	$(y^2 - 3y + 1)^2$
c_9	y^4

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.618034$ $a = -0.500000 + 0.288675I$ $b = 0.500000 - 0.866025I$	$0.98696 - 2.02988I$	$11.99071 - 3.22749I$
$u = -0.618034$ $a = -0.500000 - 0.288675I$ $b = 0.500000 + 0.866025I$	$0.98696 + 2.02988I$	$11.99071 + 3.22749I$
$u = 1.61803$ $a = -0.500000 + 0.288675I$ $b = 0.500000 - 0.866025I$	$8.88264 - 2.02988I$	$9.00929 + 3.22749I$
$u = 1.61803$ $a = -0.500000 - 0.288675I$ $b = 0.500000 + 0.866025I$	$8.88264 + 2.02988I$	$9.00929 - 3.22749I$

III. $I^u_3 = \langle b+1,\ a^2-4a+6,\ u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$(y+2)^2$
c_2, c_6, c_7 c_8, c_9, c_{10} c_{11}	$(y-1)^2$
c_3, c_5	y^2+2y+9

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \quad 2.00000 + 1.41421I$ $b = -1.00000$	8.22467	12.0000
$u = -1.00000$ $a = \quad 2.00000 - 1.41421I$ $b = -1.00000$	8.22467	12.0000

IV. $I_4^u = \langle b-1,\ a+2,\ u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -2.00000$ $b = 1.00000$	3.28987	12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u(u^2+2)(u^2-u+1)^2(u^{59}-3u^{58}+\cdots+8u^2+2)$
c_2	$((u-1)^2)(u+1)(u^2+u+1)^2(u^{59}-4u^{58}+\cdots-19u+3)$
c_3	$81(u-1)(u^2+2u+3)(9u^4+9u^2+1)$ $\cdot(9u^{59}+48u^{58}+\cdots-422003u+85781)$
c_4	$u(u^2+2)(u^2+u+1)^2(u^{59}-3u^{58}+\cdots+8u^2+2)$
c_5	$81(u-1)(u^2-2u+3)(9u^4-9u^3+3u+1)$ $\cdot(9u^{59}-75u^{58}+\cdots-1270890u-386003)$
c_6	$(u-1)(u+1)^2(u^2-u+1)^2(u^{59}-4u^{58}+\cdots-19u+3)$
c_7, c_8	$((u+1)^3)(u^2-u-1)^2(u^{59}-6u^{58}+\cdots-41u+9)$
c_9	$u^4(u-1)^2(u+1)(u^{59}-2u^{58}+\cdots-1152u+432)$
c_{10}, c_{11}	$((u-1)^3)(u^2+u-1)^2(u^{59}-6u^{58}+\cdots-41u+9)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y(y+2)^2(y^2+y+1)^2(y^{59}+63y^{58}+\cdots-32y-4)$
c_2, c_6	$((y-1)^3)(y^2+y+1)^2(y^{59}-44y^{58}+\cdots+355y-9)$
c_3	$6561(y-1)(y^2+2y+9)(9y^2+9y+1)^2$ $\cdot(81y^{59}+1944y^{58}+\cdots+16277317023y-7358379961)$
c_5	$6561(y-1)(y^2+2y+9)(81y^4-81y^3+72y^2-9y+1)$ $\cdot(81y^{59}-5643y^{58}+\cdots+5638201231006y-148998316009)$
c_7, c_8, c_{10} c_{11}	$((y-1)^3)(y^2-3y+1)^2(y^{59}-76y^{58}+\cdots+1483y-81)$
c_9	$y^4(y-1)^3(y^{59}+22y^{58}+\cdots-1627776y-186624)$