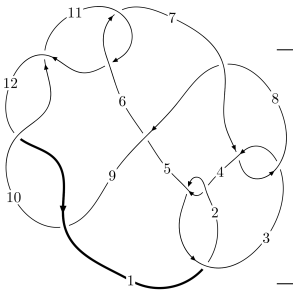
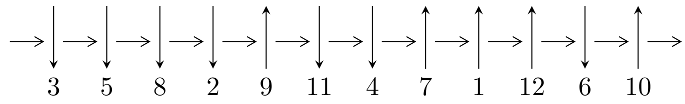
$12a_{0081}$ ($K12a_{0081}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I^u_1 = \langle &-4.57817 \times 10^{68} u^{82} - 4.41680 \times 10^{68} u^{81} + \cdots + 1.40607 \times 10^{69} b - 1.45069 \times 10^{70}, \\ &- 8.02816 \times 10^{70} u^{82} - 7.69195 \times 10^{70} u^{81} + \cdots + 1.71541 \times 10^{71} a - 8.36164 \times 10^{71}, \\ &u^{83} + u^{82} + \cdots + 24u + 16 \rangle \end{aligned}$$

$$I^v_1 = \langle a,\ -v^3 + 2v^2 + b - 3v + 1,\ v^4 - 2v^3 + 3v^2 - v + 1 \rangle$$

* 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. $I^u_1 = \langle -4.58\times10^{68}u^{82} - 4.42\times10^{68}u^{81} + \cdots + 1.41\times10^{69}b - 1.45\times10^{70},\ -8.03\times10^{70}u^{82} - 7.69\times10^{70}u^{81} + \cdots + 1.72\times10^{71}a - 8.36\times10^{71},\ u^{83} + u^{82} + \cdots + 24u + 16\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}0.468003u^{82} + 0.448403u^{81} + \cdots + 25.8370u + 4.87443\\0.325600u^{82} + 0.314123u^{81} + \cdots + 27.3694u + 10.3173\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u^2+1\\u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.300402u^{82} - 0.851248u^{81} + \cdots - 25.8721u - 4.83081\\-0.617837u^{82} - 0.388150u^{81} + \cdots - 21.4249u + 11.7726\end{pmatrix}$$
$$a_3 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}0.518352u^{82} + 0.412444u^{81} + \cdots + 28.9820u + 7.48317\\0.507921u^{82} + 0.442205u^{81} + \cdots + 31.7802u + 14.3070\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.0480076u^{82} + 0.115039u^{81} + \cdots + 8.55001u + 5.12927\\0.419995u^{82} + 0.563442u^{81} + \cdots + 34.3871u + 10.0037\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-0.535339u^{82} - 0.604770u^{81} + \cdots - 41.7844u - 16.0490\\0.173440u^{82} - 0.441183u^{81} + \cdots - 33.7669u - 28.0780\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}1.16268u^{82} + 0.674679u^{81} + \cdots + 49.5790u - 5.78307\\0.545400u^{82} + 0.632005u^{81} + \cdots + 36.8130u + 12.6970\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.340652u^{82} + 0.495917u^{81} + \cdots + 30.9853u + 15.6302\\0.483055u^{82} + 0.630197u^{81} + \cdots + 29.4529u + 10.1873\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.97759u^{82} - 1.33141u^{81} + \cdots - 38.4761u + 8.31564$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{83} + 45u^{82} + \cdots + 4u + 1$
c_2, c_4	$u^{83} - 5u^{82} + \cdots - 6u + 1$
c_3, c_7	$u^{83} + u^{82} + \cdots + 24u + 16$
c_5	$u^{83} + 2u^{82} + \cdots + 15190u + 7769$
c_6, c_{11}	$u^{83} + 2u^{82} + \cdots + 2u + 1$
c_8	$u^{83} - 27u^{82} + \cdots - 5056u + 256$
c_9, c_{10}, c_{12}	$u^{83} - 20u^{82} + \cdots + 6u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{83} - 9y^{82} + \cdots + 44y - 1$
c_2, c_4	$y^{83} - 45y^{82} + \cdots + 4y - 1$
c_3, c_7	$y^{83} + 27y^{82} + \cdots - 5056y - 256$
c_5	$y^{83} + 28y^{82} + \cdots + 953082182y - 60357361$
c_6, c_{11}	$y^{83} + 20y^{82} + \cdots + 6y - 1$
c_8	$y^{83} + 51y^{82} + \cdots + 1724416y - 65536$
c_9, c_{10}, c_{12}	$y^{83} + 88y^{82} + \cdots + 190y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.625725 + 0.803794I$ $a = 0.95593 - 1.78325I$ $b = -0.809211 - 0.773750I$	$-2.81993 + 3.24237I$	0
$u = -0.625725 - 0.803794I$ $a = 0.95593 + 1.78325I$ $b = -0.809211 + 0.773750I$	$-2.81993 - 3.24237I$	0
$u = 0.823326 + 0.601133I$ $a = 0.994172 + 0.602548I$ $b = 0.97443 + 1.36618I$	$-7.35489 + 5.05736I$	0
$u = 0.823326 - 0.601133I$ $a = 0.994172 - 0.602548I$ $b = 0.97443 - 1.36618I$	$-7.35489 - 5.05736I$	0
$u = -0.811916 + 0.631020I$ $a = -0.985111 + 0.659411I$ $b = -0.84786 + 1.43938I$	$-7.63827 + 1.26608I$	0
$u = -0.811916 - 0.631020I$ $a = -0.985111 - 0.659411I$ $b = -0.84786 - 1.43938I$	$-7.63827 - 1.26608I$	0
$u = -0.133744 + 1.033610I$ $a = -0.235231 + 0.258306I$ $b = 0.952290 + 0.214525I$	$2.24045 + 2.24996I$	0
$u = -0.133744 - 1.033610I$ $a = -0.235231 - 0.258306I$ $b = 0.952290 - 0.214525I$	$2.24045 - 2.24996I$	0
$u = 0.718219 + 0.755764I$ $a = -1.01018 - 1.43608I$ $b = 0.328670 - 1.008960I$	$-4.52117 + 0.45961I$	0
$u = 0.718219 - 0.755764I$ $a = -1.01018 + 1.43608I$ $b = 0.328670 + 1.008960I$	$-4.52117 - 0.45961I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.583379 + 0.744333I$ $a = -0.599499 + 0.857080I$ $b = -0.084857 + 0.949548I$	$-1.06506 + 1.56831I$	$-4.77521 - 3.38157I$
$u = -0.583379 - 0.744333I$ $a = -0.599499 - 0.857080I$ $b = -0.084857 - 0.949548I$	$-1.06506 - 1.56831I$	$-4.77521 + 3.38157I$
$u = -0.699113 + 0.817903I$ $a = 1.03783 - 1.03599I$ $b = 1.03036 - 1.77245I$	$-10.88710 - 1.33695I$	0
$u = -0.699113 - 0.817903I$ $a = 1.03783 + 1.03599I$ $b = 1.03036 + 1.77245I$	$-10.88710 + 1.33695I$	0
$u = -0.761911 + 0.520219I$ $a = 0.419807 - 0.889805I$ $b = 0.245481 - 0.220375I$	$-0.709170 - 1.043470I$	$-60.10 + 0.525052I$
$u = -0.761911 - 0.520219I$ $a = 0.419807 + 0.889805I$ $b = 0.245481 + 0.220375I$	$-0.709170 + 1.043470I$	$-60.10 - 0.525052I$
$u = 0.843982 + 0.682431I$ $a = -1.033390 - 0.928808I$ $b = -0.476474 - 1.005040I$	$-4.36263 + 2.17365I$	0
$u = 0.843982 - 0.682431I$ $a = -1.033390 + 0.928808I$ $b = -0.476474 + 1.005040I$	$-4.36263 - 2.17365I$	0
$u = -0.894299 + 0.161895I$ $a = -0.276725 - 0.077384I$ $b = -0.201389 + 0.785138I$	$-5.54438 + 1.11456I$	$-5.40813 + 0.61307I$
$u = -0.894299 - 0.161895I$ $a = -0.276725 + 0.077384I$ $b = -0.201389 - 0.785138I$	$-5.54438 - 1.11456I$	$-5.40813 - 0.61307I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.899076 + 0.117669I$ $a = 0.356440 - 0.034756I$ $b = 0.361343 + 0.806350I$	$-5.43027 + 4.95461I$	$-4.96710 - 6.01399I$
$u = 0.899076 - 0.117669I$ $a = 0.356440 + 0.034756I$ $b = 0.361343 - 0.806350I$	$-5.43027 - 4.95461I$	$-4.96710 + 6.01399I$
$u = 0.482182 + 0.982828I$ $a = 0.288985 + 1.186530I$ $b = -0.515329 + 0.386646I$	$3.22997 - 1.59915I$	0
$u = 0.482182 - 0.982828I$ $a = 0.288985 - 1.186530I$ $b = -0.515329 - 0.386646I$	$3.22997 + 1.59915I$	0
$u = 0.711300 + 0.832616I$ $a = -1.01619 - 1.09996I$ $b = -0.88624 - 1.84707I$	$-11.15090 - 5.10243I$	0
$u = 0.711300 - 0.832616I$ $a = -1.01619 + 1.09996I$ $b = -0.88624 + 1.84707I$	$-11.15090 + 5.10243I$	0
$u = -0.615819 + 0.910490I$ $a = 0.610401 - 0.943583I$ $b = 0.554605 - 0.956704I$	$-2.48058 + 1.63613I$	0
$u = -0.615819 - 0.910490I$ $a = 0.610401 + 0.943583I$ $b = 0.554605 + 0.956704I$	$-2.48058 - 1.63613I$	0
$u = 0.177547 + 1.086860I$ $a = -0.252176 + 0.904141I$ $b = 0.383665 - 0.271787I$	$-1.02878 + 1.71356I$	0
$u = 0.177547 - 1.086860I$ $a = -0.252176 - 0.904141I$ $b = 0.383665 + 0.271787I$	$-1.02878 - 1.71356I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.907958 + 0.636974I$ $a = 1.005050 - 0.653160I$ $b = 0.911110 - 0.798415I$	$-2.46547 - 5.87569I$	0
$u = -0.907958 - 0.636974I$ $a = 1.005050 + 0.653160I$ $b = 0.911110 + 0.798415I$	$-2.46547 + 5.87569I$	0
$u = 0.042401 + 1.116900I$ $a = 0.433979 + 0.466369I$ $b = -0.986304 - 0.010974I$	$5.17570 + 0.24359I$	0
$u = 0.042401 - 1.116900I$ $a = 0.433979 - 0.466369I$ $b = -0.986304 + 0.010974I$	$5.17570 - 0.24359I$	0
$u = -0.612006 + 0.947681I$ $a = -0.555624 + 1.230060I$ $b = 0.671376 + 0.949859I$	$-0.42036 + 3.20206I$	0
$u = -0.612006 - 0.947681I$ $a = -0.555624 - 1.230060I$ $b = 0.671376 - 0.949859I$	$-0.42036 - 3.20206I$	0
$u = -0.688688 + 0.902295I$ $a = 1.35307 - 1.82858I$ $b = -1.17653 - 1.38858I$	$-10.62590 + 6.67086I$	0
$u = -0.688688 - 0.902295I$ $a = 1.35307 + 1.82858I$ $b = -1.17653 + 1.38858I$	$-10.62590 - 6.67086I$	0
$u = -0.130223 + 1.128200I$ $a = 0.371504 + 0.849128I$ $b = -0.586964 - 0.357707I$	$-0.78024 + 4.16353I$	0
$u = -0.130223 - 1.128200I$ $a = 0.371504 - 0.849128I$ $b = -0.586964 + 0.357707I$	$-0.78024 - 4.16353I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.705533 + 0.893072I$ $a = -1.36631 - 1.76146I$ $b = 1.05906 - 1.46524I$	$-10.96570 - 0.32078I$	0
$u = 0.705533 - 0.893072I$ $a = -1.36631 + 1.76146I$ $b = 1.05906 + 1.46524I$	$-10.96570 + 0.32078I$	0
$u = 0.178051 + 1.133310I$ $a = 0.475422 + 0.121754I$ $b = -1.104570 + 0.260893I$	$4.88279 - 5.16978I$	0
$u = 0.178051 - 1.133310I$ $a = 0.475422 - 0.121754I$ $b = -1.104570 - 0.260893I$	$4.88279 + 5.16978I$	0
$u = 0.682445 + 0.946950I$ $a = -0.606629 - 1.215410I$ $b = -0.077100 - 1.272730I$	$-3.93501 - 5.83096I$	0
$u = 0.682445 - 0.946950I$ $a = -0.606629 + 1.215410I$ $b = -0.077100 + 1.272730I$	$-3.93501 + 5.83096I$	0
$u = -0.328722 + 1.121940I$ $a = -0.378755 - 0.308254I$ $b = 0.871825 + 0.461176I$	$-2.09689 + 3.19207I$	0
$u = -0.328722 - 1.121940I$ $a = -0.378755 + 0.308254I$ $b = 0.871825 - 0.461176I$	$-2.09689 - 3.19207I$	0
$u = -0.024967 + 0.807121I$ $a = 0.02719 - 2.76173I$ $b = -0.077777 + 0.925635I$	$-6.94496 - 3.05666I$	$-3.34321 + 2.43833I$
$u = -0.024967 - 0.807121I$ $a = 0.02719 + 2.76173I$ $b = -0.077777 - 0.925635I$	$-6.94496 + 3.05666I$	$-3.34321 - 2.43833I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.953754 + 0.717155I$ $a = -1.34040 - 0.64551I$ $b = -1.17536 - 1.41586I$	$-10.65320 + 3.17121I$	0
$u = 0.953754 - 0.717155I$ $a = -1.34040 + 0.64551I$ $b = -1.17536 + 1.41586I$	$-10.65320 - 3.17121I$	0
$u = 0.612206 + 1.024920I$ $a = 0.49614 + 1.38727I$ $b = -1.042550 + 0.782141I$	$1.70143 - 6.86053I$	0
$u = 0.612206 - 1.024920I$ $a = 0.49614 - 1.38727I$ $b = -1.042550 - 0.782141I$	$1.70143 + 6.86053I$	0
$u = -0.965499 + 0.705935I$ $a = 1.32437 - 0.58698I$ $b = 1.28457 - 1.33784I$	$-10.27720 - 9.51955I$	0
$u = -0.965499 - 0.705935I$ $a = 1.32437 + 0.58698I$ $b = 1.28457 + 1.33784I$	$-10.27720 + 9.51955I$	0
$u = 0.308366 + 1.156900I$ $a = 0.497714 - 0.266067I$ $b = -0.962809 + 0.528516I$	$-1.69711 - 9.21658I$	0
$u = 0.308366 - 1.156900I$ $a = 0.497714 + 0.266067I$ $b = -0.962809 - 0.528516I$	$-1.69711 + 9.21658I$	0
$u = -0.658528 + 1.040780I$ $a = 0.255350 - 1.290700I$ $b = -0.415674 - 0.643365I$	$0.75318 + 6.40214I$	0
$u = -0.658528 - 1.040780I$ $a = 0.255350 + 1.290700I$ $b = -0.415674 + 0.643365I$	$0.75318 - 6.40214I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.620582 + 0.449791I$ $a = 0.654422 + 0.442608I$ $b = 0.668686 + 0.618299I$	$0.19658 + 1.98439I$	$-0.35883 - 3.65260I$
$u = 0.620582 - 0.449791I$ $a = 0.654422 - 0.442608I$ $b = 0.668686 - 0.618299I$	$0.19658 - 1.98439I$	$-0.35883 + 3.65260I$
$u = -0.702934 + 1.028920I$ $a = -0.69461 + 1.46829I$ $b = 1.29225 + 1.30098I$	$-6.45103 + 4.41679I$	0
$u = -0.702934 - 1.028920I$ $a = -0.69461 - 1.46829I$ $b = 1.29225 - 1.30098I$	$-6.45103 - 4.41679I$	0
$u = 0.697502 + 1.045330I$ $a = 0.66970 + 1.50286I$ $b = -1.38883 + 1.22662I$	$-6.03150 - 10.74760I$	0
$u = 0.697502 - 1.045330I$ $a = 0.66970 - 1.50286I$ $b = -1.38883 - 1.22662I$	$-6.03150 + 10.74760I$	0
$u = 0.725825 + 1.027170I$ $a = -0.41366 - 1.49953I$ $b = 0.739147 - 1.174460I$	$-3.29687 - 8.03651I$	0
$u = 0.725825 - 1.027170I$ $a = -0.41366 + 1.49953I$ $b = 0.739147 + 1.174460I$	$-3.29687 + 8.03651I$	0
$u = 0.734057 + 0.024032I$ $a = 0.624319 + 0.126422I$ $b = 0.622005 - 0.237528I$	$0.75127 - 2.02484I$	$1.59693 + 6.45609I$
$u = 0.734057 - 0.024032I$ $a = 0.624319 - 0.126422I$ $b = 0.622005 + 0.237528I$	$0.75127 + 2.02484I$	$1.59693 - 6.45609I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.731167+1.068540I$ $a=\ \ 0.27765-1.58986I$ $b=-1.08074-0.92958I$	$-1.11740+11.92050I$	0
$u=-0.731167-1.068540I$ $a=\ \ 0.27765+1.58986I$ $b=-1.08074+0.92958I$	$-1.11740-11.92050I$	0
$u=\ \ 0.032183+0.683518I$ $a=\ \ 0.122279+0.645170I$ $b=\ \ 0.378758+0.708726I$	$-0.18526+1.83671I$	$-0.17945-5.42341I$
$u=\ \ 0.032183-0.683518I$ $a=\ \ 0.122279-0.645170I$ $b=\ \ 0.378758-0.708726I$	$-0.18526-1.83671I$	$-0.17945+5.42341I$
$u=\ \ 0.786417+1.062400I$ $a=-0.39849-1.77701I$ $b=\ \ 1.45355-1.41705I$	$-9.54622-9.55900I$	0
$u=\ \ 0.786417-1.062400I$ $a=-0.39849+1.77701I$ $b=\ \ 1.45355+1.41705I$	$-9.54622+9.55900I$	0
$u=-0.785674+1.073250I$ $a=\ \ 0.35783-1.79447I$ $b=-1.54191-1.32398I$	$-9.0989+15.9376I$	0
$u=-0.785674-1.073250I$ $a=\ \ 0.35783+1.79447I$ $b=-1.54191+1.32398I$	$-9.0989-15.9376I$	0
$u=-0.285370+0.536051I$ $a=-0.20738-2.27538I$ $b=-0.292337+0.215670I$	$-1.090240-0.878173I$	$1.75140-2.55924I$
$u=-0.285370-0.536051I$ $a=-0.20738+2.27538I$ $b=-0.292337-0.215670I$	$-1.090240+0.878173I$	$1.75140+2.55924I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.009997 + 0.555746I$ $a = 0.044009 + 1.061120I$ $b = 0.10010 + 1.81655I$	$-7.85138 + 3.20272I$	$2.27436 - 3.02667I$
$u = -0.009997 - 0.555746I$ $a = 0.044009 - 1.061120I$ $b = 0.10010 - 1.81655I$	$-7.85138 - 3.20272I$	$2.27436 + 3.02667I$
$u = -0.554632$ $a = -1.06641$ $b = -0.304951$	-1.12795	-9.38540

II. $\boldsymbol{I_1^v = \langle a,\ -v^3+2v^2+b-3v+1,\ v^4-2v^3+3v^2-v+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -v^3+2v^2+3v-12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^4$
c_3, c_7, c_8	y^4
c_5, c_9, c_{10} c_{12}	$y^4 + 5y^3 + 7y^2 + 2y + 1$
c_6, c_{11}	$y^4 + y^3 + 3y^2 + 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 0.043315 + 0.641200I$ $a = 0$ $b = -0.10488 + 1.55249I$	$-8.43568 - 3.16396I$	$-12.63523 + 2.29471I$
$v = 0.043315 - 0.641200I$ $a = 0$ $b = -0.10488 - 1.55249I$	$-8.43568 + 3.16396I$	$-12.63523 - 2.29471I$
$v = 0.95668 + 1.22719I$ $a = 0$ $b = -0.395123 + 0.506844I$	$-1.43393 - 1.41510I$	$-6.86477 + 6.85627I$
$v = 0.95668 - 1.22719I$ $a = 0$ $b = -0.395123 - 0.506844I$	$-1.43393 + 1.41510I$	$-6.86477 - 6.85627I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^4)(u^{83}+45u^{82}+\cdots+4u+1)$
c_2	$((u-1)^4)(u^{83}-5u^{82}+\cdots-6u+1)$
c_3, c_7	$u^4(u^{83}+u^{82}+\cdots+24u+16)$
c_4	$((u+1)^4)(u^{83}-5u^{82}+\cdots-6u+1)$
c_5	$(u^4+u^3+3u^2+2u+1)(u^{83}+2u^{82}+\cdots+15190u+7769)$
c_6	$(u^4+u^3+u^2+1)(u^{83}+2u^{82}+\cdots+2u+1)$
c_8	$u^4(u^{83}-27u^{82}+\cdots-5056u+256)$
c_9, c_{10}	$(u^4+u^3+3u^2+2u+1)(u^{83}-20u^{82}+\cdots+6u+1)$
c_{11}	$(u^4-u^3+u^2+1)(u^{83}+2u^{82}+\cdots+2u+1)$
c_{12}	$(u^4-u^3+3u^2-2u+1)(u^{83}-20u^{82}+\cdots+6u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^4)(y^{83}-9y^{82}+\cdots+44y-1)$
c_2, c_4	$((y-1)^4)(y^{83}-45y^{82}+\cdots+4y-1)$
c_3, c_7	$y^4(y^{83}+27y^{82}+\cdots-5056y-256)$
c_5	$(y^4+5y^3+7y^2+2y+1)$ $\cdot(y^{83}+28y^{82}+\cdots+953082182y-60357361)$
c_6, c_{11}	$(y^4+y^3+3y^2+2y+1)(y^{83}+20y^{82}+\cdots+6y-1)$
c_8	$y^4(y^{83}+51y^{82}+\cdots+1724416y-65536)$
c_9, c_{10}, c_{12}	$(y^4+5y^3+7y^2+2y+1)(y^{83}+88y^{82}+\cdots+190y-1)$