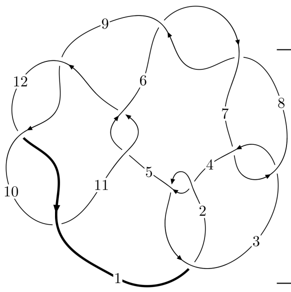
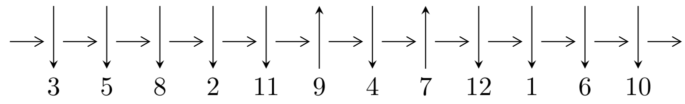
$12a_{0105}$ $(K12a_{0105})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I^u_1 = \langle -1.55045 \times 10^{70} u^{75} - 2.21319 \times 10^{69} u^{74} + \cdots + 1.11366 \times 10^{71} b - 4.15501 \times 10^{71},$$
$$1.74213 \times 10^{71} u^{75} + 4.23795 \times 10^{71} u^{74} + \cdots + 2.22733 \times 10^{71} a + 2.49538 \times 10^{71},\ u^{76} + 2u^{75} + \cdots - 4u - 4$$
$$I^u_2 = \langle u^2 + b,\ u^8 - 2u^7 + 3u^6 - 3u^5 + 4u^4 - 4u^3 + 4u^2 + a - 2u + 2,\ u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u +$$

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

* 3 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.

$$\boldsymbol{I_1^u = \langle -1.55\times 10^{70}u^{75} - 2.21\times 10^{69}u^{74} + \cdots + 1.11\times 10^{71}b - 4.16\times 10^{71},\ 1.74\times 10^{71}u^{75} + 4.24\times 10^{71}u^{74} + \cdots + 2.23\times 10^{71}a + 2.50\times 10^{71},\ u^{76} + 2u^{75} + \cdots - 4u - 4\rangle}$$

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.782160u^{75} - 1.90270u^{74} + \cdots + 0.520711u - 1.12035 \\ 0.139220u^{75} + 0.0198730u^{74} + \cdots + 6.72179u + 3.73093 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.01250u^{75} - 2.27723u^{74} + \cdots - 4.68125u - 3.11714 \\ -0.533374u^{75} - 1.25764u^{74} + \cdots - 10.8152u - 5.20956 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.650123u^{75} - 1.66160u^{74} + \cdots + 1.45358u - 1.64453 \\ -0.487576u^{75} - 0.547614u^{74} + \cdots - 12.0164u - 5.53730 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.841202u^{75} - 1.99701u^{74} + \cdots - 1.61931u - 3.16059 \\ -0.379305u^{75} - 0.461175u^{74} + \cdots - 15.6666u - 6.86635 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.866472u^{75} - 2.19326u^{74} + \cdots + 4.35819u + 0.256226 \\ 0.137653u^{75} + 0.177442u^{74} + \cdots + 6.46899u + 3.72188 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.389207u^{75} - 1.15743u^{74} + \cdots + 9.42404u + 2.44734 \\ 0.260915u^{75} + 0.504172u^{74} + \cdots + 7.97047u + 4.09188 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.431038u^{75} - 2.36353u^{74} + \cdots + 19.7107u - 1.47053$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{76}+44u^{75}+\cdots+64u+1$
c_2, c_4	$u^{76}-4u^{75}+\cdots-32u^2+1$
c_3, c_7	$u^{76}+2u^{75}+\cdots-4u-4$
c_5, c_{11}	$u^{76}+2u^{75}+\cdots-1536u-512$
c_6, c_8	$u^{76}-18u^{75}+\cdots+8u+16$
c_9, c_{10}, c_{12}	$u^{76}-11u^{75}+\cdots+3u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{76} - 20y^{75} + \cdots - 2904y + 1$
c_2, c_4	$y^{76} - 44y^{75} + \cdots - 64y + 1$
c_3, c_7	$y^{76} + 18y^{75} + \cdots - 8y + 16$
c_5, c_{11}	$y^{76} - 60y^{75} + \cdots - 4980736y + 262144$
c_6, c_8	$y^{76} + 78y^{75} + \cdots - 25376y + 256$
c_9, c_{10}, c_{12}	$y^{76} - 81y^{75} + \cdots - y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.455728 + 0.886899I$ $a = -0.439921 + 0.696332I$ $b = 1.31461 + 1.96237I$	$-3.01496 + 4.88820I$	0
$u = -0.455728 - 0.886899I$ $a = -0.439921 - 0.696332I$ $b = 1.31461 - 1.96237I$	$-3.01496 - 4.88820I$	0
$u = -0.242587 + 0.956338I$ $a = 0.126777 + 0.066932I$ $b = -0.636155 - 0.369316I$	$1.73376 + 2.76988I$	0
$u = -0.242587 - 0.956338I$ $a = 0.126777 - 0.066932I$ $b = -0.636155 + 0.369316I$	$1.73376 - 2.76988I$	0
$u = -0.300154 + 0.911723I$ $a = -0.298517 - 0.851449I$ $b = -0.312058 + 0.123815I$	$1.47131 + 2.48388I$	$-3.97625 - 5.03156I$
$u = -0.300154 - 0.911723I$ $a = -0.298517 + 0.851449I$ $b = -0.312058 - 0.123815I$	$1.47131 - 2.48388I$	$-3.97625 + 5.03156I$
$u = 0.966024 + 0.399968I$ $a = 1.59350 + 1.18770I$ $b = -0.081922 + 1.324250I$	$-8.41832 + 4.70970I$	0
$u = 0.966024 - 0.399968I$ $a = 1.59350 - 1.18770I$ $b = -0.081922 - 1.324250I$	$-8.41832 - 4.70970I$	0
$u = 0.329512 + 0.885353I$ $a = -0.405534 - 1.248930I$ $b = 0.298096 + 1.020110I$	$-9.33642 - 2.29589I$	$-14.4533 + 3.3340I$
$u = 0.329512 - 0.885353I$ $a = -0.405534 + 1.248930I$ $b = 0.298096 - 1.020110I$	$-9.33642 + 2.29589I$	$-14.4533 - 3.3340I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.014609 + 0.937770I$ $a = 0.077787 - 0.512771I$ $b = -0.534953 + 0.135567I$	$2.34039 + 1.36664I$	$-1.16303 - 3.99068I$
$u = 0.014609 - 0.937770I$ $a = 0.077787 + 0.512771I$ $b = -0.534953 - 0.135567I$	$2.34039 - 1.36664I$	$-1.16303 + 3.99068I$
$u = 0.459884 + 0.984169I$ $a = -0.470424 + 0.570630I$ $b = -0.096858 - 0.186331I$	$-0.26575 - 6.82949I$	0
$u = 0.459884 - 0.984169I$ $a = -0.470424 - 0.570630I$ $b = -0.096858 + 0.186331I$	$-0.26575 + 6.82949I$	0
$u = -0.892842 + 0.178693I$ $a = 1.49196 - 0.49172I$ $b = -0.184836 - 0.547448I$	$-7.03975 - 0.53268I$	$-13.60013 - 1.07611I$
$u = -0.892842 - 0.178693I$ $a = 1.49196 + 0.49172I$ $b = -0.184836 + 0.547448I$	$-7.03975 + 0.53268I$	$-13.60013 + 1.07611I$
$u = 0.370705 + 0.815640I$ $a = 0.885752 - 0.809176I$ $b = 1.140930 - 0.560496I$	$-1.92973 - 2.36042I$	$-11.97570 + 5.12556I$
$u = 0.370705 - 0.815640I$ $a = 0.885752 + 0.809176I$ $b = 1.140930 + 0.560496I$	$-1.92973 + 2.36042I$	$-11.97570 - 5.12556I$
$u = -0.687147 + 0.872513I$ $a = 0.607407 - 0.726512I$ $b = -0.268675 - 1.051890I$	$-1.20627 + 2.64433I$	0
$u = -0.687147 - 0.872513I$ $a = 0.607407 + 0.726512I$ $b = -0.268675 + 1.051890I$	$-1.20627 - 2.64433I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.819508 + 0.771659I$ $a = 0.959193 + 0.784255I$ $b = 0.071628 + 1.120740I$	$-4.98884 + 1.38431I$	0
$u = 0.819508 - 0.771659I$ $a = 0.959193 - 0.784255I$ $b = 0.071628 - 1.120740I$	$-4.98884 - 1.38431I$	0
$u = 0.737774 + 0.375248I$ $a = 0.700985 - 0.058139I$ $b = 0.393066 - 0.259197I$	$-2.29090 + 2.47958I$	$-12.54782 - 6.36018I$
$u = 0.737774 - 0.375248I$ $a = 0.700985 + 0.058139I$ $b = 0.393066 + 0.259197I$	$-2.29090 - 2.47958I$	$-12.54782 + 6.36018I$
$u = -0.412819 + 1.097580I$ $a = -0.185023 - 0.079467I$ $b = -0.39421 - 1.46601I$	$-3.92733 + 5.04411I$	0
$u = -0.412819 - 1.097580I$ $a = -0.185023 + 0.079467I$ $b = -0.39421 + 1.46601I$	$-3.92733 - 5.04411I$	0
$u = -0.084581 + 1.169710I$ $a = -1.176400 + 0.004565I$ $b = -0.763256 - 0.298095I$	$-1.90505 + 2.55692I$	0
$u = -0.084581 - 1.169710I$ $a = -1.176400 - 0.004565I$ $b = -0.763256 + 0.298095I$	$-1.90505 - 2.55692I$	0
$u = 0.839016 + 0.860281I$ $a = -0.041777 - 0.748609I$ $b = 0.134710 - 1.100950I$	$-5.55819 - 0.23440I$	0
$u = 0.839016 - 0.860281I$ $a = -0.041777 + 0.748609I$ $b = 0.134710 + 1.100950I$	$-5.55819 + 0.23440I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.271979 + 0.728849I$ $a = -0.158361 + 0.653747I$ $b = 1.02910 - 1.06917I$	$-1.19310 - 1.13454I$	$-6.76169 + 0.12359I$
$u = 0.271979 - 0.728849I$ $a = -0.158361 - 0.653747I$ $b = 1.02910 + 1.06917I$	$-1.19310 + 1.13454I$	$-6.76169 - 0.12359I$
$u = -0.868139 + 0.862907I$ $a = 0.59737 - 2.73241I$ $b = -1.22566 - 2.99061I$	$-16.9214 + 0.7018I$	0
$u = -0.868139 - 0.862907I$ $a = 0.59737 + 2.73241I$ $b = -1.22566 + 2.99061I$	$-16.9214 - 0.7018I$	0
$u = 0.922477 + 0.805175I$ $a = 0.94429 + 2.60615I$ $b = -0.84388 + 2.86674I$	$-12.94230 + 3.80906I$	0
$u = 0.922477 - 0.805175I$ $a = 0.94429 - 2.60615I$ $b = -0.84388 - 2.86674I$	$-12.94230 - 3.80906I$	0
$u = -0.836232 + 0.905395I$ $a = -2.05766 + 2.66021I$ $b = 0.29232 + 3.64643I$	$-7.63809 + 3.11486I$	0
$u = -0.836232 - 0.905395I$ $a = -2.05766 - 2.66021I$ $b = 0.29232 - 3.64643I$	$-7.63809 - 3.11486I$	0
$u = -0.857948 + 0.885149I$ $a = -1.26826 + 0.64516I$ $b = 0.000711 + 1.087770I$	$-9.36055 + 1.38432I$	0
$u = -0.857948 - 0.885149I$ $a = -1.26826 - 0.64516I$ $b = 0.000711 - 1.087770I$	$-9.36055 - 1.38432I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.756697 + 0.974249I$ $a = 0.514142 + 1.001570I$ $b = -0.369171 + 1.310900I$	$-4.36264 - 7.29337I$	0
$u = 0.756697 - 0.974249I$ $a = 0.514142 - 1.001570I$ $b = -0.369171 - 1.310900I$	$-4.36264 + 7.29337I$	0
$u = 0.538578 + 1.116610I$ $a = 0.302697 + 0.551457I$ $b = -0.38569 + 1.98073I$	$-5.90863 - 10.12690I$	0
$u = 0.538578 - 1.116610I$ $a = 0.302697 - 0.551457I$ $b = -0.38569 - 1.98073I$	$-5.90863 + 10.12690I$	0
$u = -0.592970 + 0.471852I$ $a = -3.20694 - 0.59745I$ $b = -0.29512 + 1.41882I$	$-4.34919 - 0.93999I$	$-13.35028 - 0.85509I$
$u = -0.592970 - 0.471852I$ $a = -3.20694 + 0.59745I$ $b = -0.29512 - 1.41882I$	$-4.34919 + 0.93999I$	$-13.35028 + 0.85509I$
$u = -0.912342 + 0.844662I$ $a = -0.218872 + 0.616385I$ $b = -0.077088 + 1.039100I$	$-9.29331 - 4.38669I$	0
$u = -0.912342 - 0.844662I$ $a = -0.218872 - 0.616385I$ $b = -0.077088 - 1.039100I$	$-9.29331 + 4.38669I$	0
$u = 0.814149 + 0.940313I$ $a = -0.976252 - 0.502401I$ $b = 0.142693 - 0.935816I$	$-5.30989 - 5.93397I$	0
$u = 0.814149 - 0.940313I$ $a = -0.976252 + 0.502401I$ $b = 0.142693 + 0.935816I$	$-5.30989 + 5.93397I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.890915 + 0.871947I$ $a = -2.50662 - 2.77031I$ $b = -0.08145 - 3.74380I$	$-11.54220 + 1.50989I$	0
$u = 0.890915 - 0.871947I$ $a = -2.50662 + 2.77031I$ $b = -0.08145 + 3.74380I$	$-11.54220 - 1.50989I$	0
$u = -0.839690 + 0.932663I$ $a = -0.114340 + 0.950490I$ $b = 0.136640 + 1.324130I$	$-9.21096 + 4.92275I$	0
$u = -0.839690 - 0.932663I$ $a = -0.114340 - 0.950490I$ $b = 0.136640 - 1.324130I$	$-9.21096 - 4.92275I$	0
$u = -0.028623 + 0.741045I$ $a = 0.901182 + 0.801845I$ $b = 1.242130 - 0.230928I$	$-0.778419 - 0.915356I$	$-8.17479 + 0.79538I$
$u = -0.028623 - 0.741045I$ $a = 0.901182 - 0.801845I$ $b = 1.242130 + 0.230928I$	$-0.778419 + 0.915356I$	$-8.17479 - 0.79538I$
$u = -0.831749 + 0.953826I$ $a = 2.62617 - 1.31938I$ $b = 0.75964 - 3.05829I$	$-16.6338 + 5.6115I$	0
$u = -0.831749 - 0.953826I$ $a = 2.62617 + 1.31938I$ $b = 0.75964 + 3.05829I$	$-16.6338 - 5.6115I$	0
$u = 0.851225 + 0.960515I$ $a = -1.84087 - 3.01630I$ $b = 0.48600 - 3.93886I$	$-11.25930 - 7.95455I$	0
$u = 0.851225 - 0.960515I$ $a = -1.84087 + 3.01630I$ $b = 0.48600 + 3.93886I$	$-11.25930 + 7.95455I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.979362 + 0.836980I$ $a = 1.13211 - 2.84930I$ $b = -0.64977 - 3.13939I$	$-16.4507 - 8.6893I$	0
$u = -0.979362 - 0.836980I$ $a = 1.13211 + 2.84930I$ $b = -0.64977 + 3.13939I$	$-16.4507 + 8.6893I$	0
$u = -0.845823 + 0.987552I$ $a = -0.790361 + 0.676405I$ $b = 0.305930 + 0.996362I$	$-8.83599 + 10.87580I$	0
$u = -0.845823 - 0.987552I$ $a = -0.790361 - 0.676405I$ $b = 0.305930 - 0.996362I$	$-8.83599 - 10.87580I$	0
$u = 0.830058 + 1.011970I$ $a = 2.23256 + 1.60407I$ $b = 0.47626 + 3.17393I$	$-12.2872 - 10.2704I$	0
$u = 0.830058 - 1.011970I$ $a = 2.23256 - 1.60407I$ $b = 0.47626 - 3.17393I$	$-12.2872 + 10.2704I$	0
$u = 0.355517 + 0.549560I$ $a = -0.85062 + 2.50656I$ $b = -0.533081 - 0.231328I$	$-2.83735 - 0.62709I$	$-12.5628 + 8.5045I$
$u = 0.355517 - 0.549560I$ $a = -0.85062 - 2.50656I$ $b = -0.533081 + 0.231328I$	$-2.83735 + 0.62709I$	$-12.5628 - 8.5045I$
$u = -0.868958 + 1.031790I$ $a = 2.28881 - 1.95912I$ $b = 0.45651 - 3.41131I$	$-15.8088 + 15.4587I$	0
$u = -0.868958 - 1.031790I$ $a = 2.28881 + 1.95912I$ $b = 0.45651 + 3.41131I$	$-15.8088 - 15.4587I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.351693 + 0.492259I$ $a = -0.005897 + 0.641030I$ $b = -1.83569 + 0.69933I$	$-10.71290 - 0.53109I$	$-14.2640 + 10.6415I$
$u = 0.351693 - 0.492259I$ $a = -0.005897 - 0.641030I$ $b = -1.83569 - 0.69933I$	$-10.71290 + 0.53109I$	$-14.2640 - 10.6415I$
$u = -0.584306 + 0.050984I$ $a = 1.043370 - 0.004017I$ $b = 0.339589 - 0.133401I$	$-1.084430 - 0.034863I$	$-8.53665 - 1.11512I$
$u = -0.584306 - 0.050984I$ $a = 1.043370 + 0.004017I$ $b = 0.339589 + 0.133401I$	$-1.084430 + 0.034863I$	$-8.53665 + 1.11512I$
$u = 0.368819$ $a = -10.6583$ $b = -0.443242$	-3.00667	-66.4610
$u = -0.365463$ $a = 1.13150$ $b = 0.541163$	-0.844711	-11.8210

II.

$$\boldsymbol{I_2^u = \langle u^2+b,\ u^8-2u^7+\cdots+a+2,\ u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1\rangle}$$

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix} u^2+1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^8+2u^7-3u^6+3u^5-4u^4+4u^3-4u^2+2u-2 \\ -u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^8+2u^7-3u^6+3u^5-4u^4+4u^3-3u^2+2u-1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u \\ u^3+u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^6-u^4-2u^2-1 \\ -u^8-2u^6-2u^4-2u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^4+u^2+1 \\ u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^8+2u^7-3u^6+3u^5-4u^4+4u^3-4u^2+2u-2 \\ -u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^4+u^2+1 \\ u^4 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^8+4u^6-3u^5+10u^4-u^3+7u^2-6u-8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^9 - 5u^8 + 12u^7 - 15u^6 + 9u^5 + u^4 - 4u^3 + 2u^2 + u - 1$
c_2	$u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1$
c_3	$u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1$
c_4	$u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1$
c_5, c_{11}	u^9
c_6	$u^9 + 3u^8 + 8u^7 + 13u^6 + 17u^5 + 17u^4 + 12u^3 + 6u^2 + u - 1$
c_7	$u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1$
c_8	$u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1$
c_9, c_{10}	$(u-1)^9$
c_{12}	$(u+1)^9$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$
c_2, c_4	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_3, c_7	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_5, c_{11}	y^9
c_6, c_8	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_9, c_{10}, c_{12}	$(y-1)^9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.140343 + 0.966856I$ $a = 0.919539 - 0.026486I$ $b = 0.915114 + 0.271383I$	$0.13850 + 2.09337I$	$-5.80108 - 4.26451I$
$u = -0.140343 - 0.966856I$ $a = 0.919539 + 0.026486I$ $b = 0.915114 - 0.271383I$	$0.13850 - 2.09337I$	$-5.80108 + 4.26451I$
$u = -0.628449 + 0.875112I$ $a = -0.353872 + 0.283586I$ $b = 0.370873 + 1.099930I$	$-2.26187 + 2.45442I$	$-11.99086 - 2.54651I$
$u = -0.628449 - 0.875112I$ $a = -0.353872 - 0.283586I$ $b = 0.370873 - 1.099930I$	$-2.26187 - 2.45442I$	$-11.99086 + 2.54651I$
$u = 0.796005 + 0.733148I$ $a = -1.166200 - 0.316186I$ $b = -0.096118 - 1.167180I$	$-6.01628 + 1.33617I$	$-17.3564 - 0.5967I$
$u = 0.796005 - 0.733148I$ $a = -1.166200 + 0.316186I$ $b = -0.096118 + 1.167180I$	$-6.01628 - 1.33617I$	$-17.3564 + 0.5967I$
$u = 0.728966 + 0.986295I$ $a = -0.363527 - 0.802398I$ $b = 0.44139 - 1.43795I$	$-5.24306 - 7.08493I$	$-15.8155 + 4.8919I$
$u = 0.728966 - 0.986295I$ $a = -0.363527 + 0.802398I$ $b = 0.44139 + 1.43795I$	$-5.24306 + 7.08493I$	$-15.8155 - 4.8919I$
$u = -0.512358$ $a = -5.07188$ $b = -0.262511$	-2.84338	-2.07210

III. $I_1^v = \langle a,\ b+v+2,\ v^2+3v+1\rangle$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 0 \\ -v-2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ v+3 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} v+2 \\ v+3 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 2v+2 \\ v+3 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -v-2 \\ -v-2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -v-2 \\ -v-3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -11$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.381966$ $a = 0$ $b = -1.61803$	-10.5276	-11.0000
$v = -2.61803$ $a = 0$ $b = 0.618034$	-2.63189	-11.0000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^2(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(u^{76}+44u^{75}+\cdots+64u+1)$
c_2	$(u-1)^2(u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1)$ $\cdot(u^{76}-4u^{75}+\cdots-32u^2+1)$
c_3	$u^2(u^9+u^8+\cdots+u-1)(u^{76}+2u^{75}+\cdots-4u-4)$
c_4	$(u+1)^2(u^9-u^8-2u^7+3u^6+u^5-3u^4+2u^3-u+1)$ $\cdot(u^{76}-4u^{75}+\cdots-32u^2+1)$
c_5	$u^9(u^2+u-1)(u^{76}+2u^{75}+\cdots-1536u-512)$
c_6	$u^2(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{76}-18u^{75}+\cdots+8u+16)$
c_7	$u^2(u^9-u^8+\cdots+u+1)(u^{76}+2u^{75}+\cdots-4u-4)$
c_8	$u^2(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{76}-18u^{75}+\cdots+8u+16)$
c_9, c_{10}	$((u-1)^9)(u^2+u-1)(u^{76}-11u^{75}+\cdots+3u+1)$
c_{11}	$u^9(u^2-u-1)(u^{76}+2u^{75}+\cdots-1536u-512)$
c_{12}	$((u+1)^9)(u^2-u-1)(u^{76}-11u^{75}+\cdots+3u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^2(y^9-y^8+12y^7-7y^6+37y^5+y^4-10y^2+5y-1)$ $\cdot(y^{76}-20y^{75}+\cdots-2904y+1)$
c_2, c_4	$(y-1)^2(y^9-5y^8+12y^7-15y^6+9y^5+y^4-4y^3+2y^2+y-1)$ $\cdot(y^{76}-44y^{75}+\cdots-64y+1)$
c_3, c_7	$y^2(y^9+3y^8+8y^7+13y^6+17y^5+17y^4+12y^3+6y^2+y-1)$ $\cdot(y^{76}+18y^{75}+\cdots-8y+16)$
c_5, c_{11}	$y^9(y^2-3y+1)(y^{76}-60y^{75}+\cdots-4980736y+262144)$
c_6, c_8	$y^2(y^9+7y^8+20y^7+25y^6+5y^5-15y^4+22y^2+13y-1)$ $\cdot(y^{76}+78y^{75}+\cdots-25376y+256)$
c_9, c_{10}, c_{12}	$((y-1)^9)(y^2-3y+1)(y^{76}-81y^{75}+\cdots-y+1)$