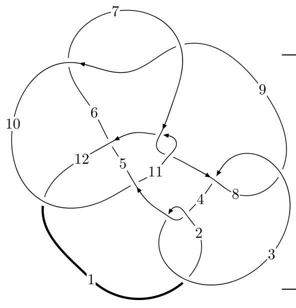
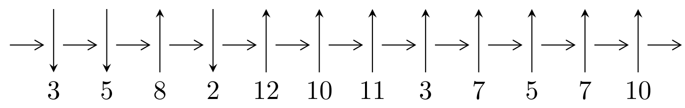
$12n_{0253}$ ($K12n_{0253}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 7195073323u^{17} - 14120105470u^{16} + \cdots + 283503363356b + 9967888544, \\
&\quad 10882383441u^{17} - 7621235445u^{16} + \cdots + 28350336356a - 6834662691,\ u^{18} - u^{17} + \cdots + 2u - 1\rangle \\
I_2^u &= \langle u^3 + b + 1,\ -u^2 + a - u - 1,\ u^4 + u^3 + 2u^2 + 2u + 1\rangle \\
I_3^u &= \langle 3.21010 \times 10^{22}u^{19} + 1.39979 \times 10^{23}u^{18} + \cdots + 1.27572 \times 10^{24}b - 1.65660 \times 10^{24}, \\
&\quad 4.70076 \times 10^{24}u^{19} + 1.58931 \times 10^{25}u^{18} + \cdots + 1.28848 \times 10^{26}a - 8.29304 \times 10^{26}, \\
&\quad u^{20} + 3u^{19} + \cdots - 376u - 101\rangle \\
I_4^u &= \langle -u^4 - u^2 + b - 2u - 2,\ 2u^4 - u^3 + 3u^2 + a + 4u + 2,\ u^5 - u^4 + u^3 + 2u^2 - u - 1\rangle \\
I_5^u &= \langle 2b + 1,\ 2a + u - 2,\ u^2 - u - 1\rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 49 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.

$\boldsymbol{I_1^u = \langle 7.20 \times 10^{9} u^{17} - 1.41 \times 10^{10} u^{16} + \cdots + 2.84 \times 10^{10} b + 9.97 \times 10^{9},\ 1.09 \times 10^{10} u^{17} - 7.62 \times 10^{9} u^{16} + \cdots + 2.84 \times 10^{10} a - 6.83 \times 10^{9},\ u^{18} - u^{17} + \cdots + 2u - 1 \rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} -0.383854u^{17} + 0.268823u^{16} + \cdots + 8.54749u + 0.241079 \\ -0.253791u^{17} + 0.498058u^{16} + \cdots + 0.630885u - 0.351597 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.777946u^{17} + 0.831176u^{16} + \cdots + 9.02458u - 0.225548 \\ -0.526419u^{17} + 0.757093u^{16} + \cdots + 1.36150u - 0.519857 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.397400u^{17} + 0.367268u^{16} + \cdots + 0.173895u - 0.480447 \\ 0.397400u^{17} - 0.367268u^{16} + \cdots - 1.17390u + 0.480447 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u \\ 0.397400u^{17} - 0.367268u^{16} + \cdots - 1.17390u + 0.480447 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -0.0564932u^{17} + 0.000418696u^{16} + \cdots + 1.33714u + 0.0301320 \\ 0.397400u^{17} - 0.367268u^{16} + \cdots - 1.17390u + 0.480447 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0301320u^{17} + 0.0866252u^{16} + \cdots + 0.314353u + 0.602600 \\ -0.510579u^{17} + 0.169672u^{16} + \cdots + 1.32635u + 0.815602 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -0.480447u^{17} + 0.0830471u^{16} + \cdots + 1.01199u + 1.21300 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0850210u^{17} - 0.406163u^{16} + \cdots + 4.28732u + 2.74100 \\ 0.642918u^{17} - 0.279464u^{16} + \cdots - 1.90934u - 0.721817 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{48478562013}{14175168178}u^{17} - \frac{740143144443}{56700672712}u^{16} + \cdots - \frac{808636576713}{56700672712}u - \frac{444360496187}{56700672712}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{18}+17u^{17}+\cdots+9840u+256$
c_2, c_4	$u^{18}-3u^{17}+\cdots-108u+16$
c_3, c_8	$u^{18}+5u^{17}+\cdots-144u+64$
c_5, c_6, c_9	$u^{18}-10u^{16}+\cdots+3u+1$
c_7, c_{10}, c_{11}	$u^{18}+u^{17}+\cdots-2u-1$
c_{12}	$u^{18}+19u^{17}+\cdots-352u-32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{18} - 29y^{17} + \cdots - 79539968y + 65536$
c_2, c_4	$y^{18} - 17y^{17} + \cdots - 9840y + 256$
c_3, c_8	$y^{18} + 9y^{17} + \cdots - 45824y + 4096$
c_5, c_6, c_9	$y^{18} - 20y^{17} + \cdots - 13y + 1$
c_7, c_{10}, c_{11}	$y^{18} + 17y^{17} + \cdots + 22y + 1$
c_{12}	$y^{18} - 7y^{17} + \cdots + 2560y + 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.118044 + 0.790449I$ $a = 0.241077 - 0.719892I$ $b = -1.304910 - 0.071727I$	$3.00375 + 0.37123I$	$4.92078 - 0.99425I$
$u = 0.118044 - 0.790449I$ $a = 0.241077 + 0.719892I$ $b = -1.304910 + 0.071727I$	$3.00375 - 0.37123I$	$4.92078 + 0.99425I$
$u = -0.065288 + 1.324970I$ $a = -0.241397 + 1.248350I$ $b = -0.138781 + 0.489222I$	$-2.87372 - 1.22079I$	$4.21569 + 1.79625I$
$u = -0.065288 - 1.324970I$ $a = -0.241397 - 1.248350I$ $b = -0.138781 - 0.489222I$	$-2.87372 + 1.22079I$	$4.21569 - 1.79625I$
$u = 0.077894 + 0.510339I$ $a = -0.365385 + 1.013810I$ $b = 1.153220 - 0.268641I$	$1.16211 - 5.14367I$	$0.72332 + 8.80281I$
$u = 0.077894 - 0.510339I$ $a = -0.365385 - 1.013810I$ $b = 1.153220 + 0.268641I$	$1.16211 + 5.14367I$	$0.72332 - 8.80281I$
$u = 0.29181 + 1.48433I$ $a = -0.145718 + 0.537802I$ $b = 1.77462 + 0.55736I$	$-4.07395 + 5.05034I$	$3.51840 - 3.93444I$
$u = 0.29181 - 1.48433I$ $a = -0.145718 - 0.537802I$ $b = 1.77462 - 0.55736I$	$-4.07395 - 5.05034I$	$3.51840 + 3.93444I$
$u = 0.82095 + 1.28564I$ $a = 0.739381 - 0.956915I$ $b = -0.835011 - 0.397109I$	$-13.28510 + 3.46125I$	$10.05857 - 2.89058I$
$u = 0.82095 - 1.28564I$ $a = 0.739381 + 0.956915I$ $b = -0.835011 + 0.397109I$	$-13.28510 - 3.46125I$	$10.05857 + 2.89058I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.53352$ $a = 0.113874$ $b = -0.624141$	7.37422	37.5360
$u = -0.465205$ $a = -0.483543$ $b = -0.301112$	0.706459	14.1730
$u = -0.54788 + 1.47697I$ $a = -0.066154 - 1.204480I$ $b = 1.025710 - 0.899512I$	$-0.56915 - 8.13906I$	$5.11000 + 5.47218I$
$u = -0.54788 - 1.47697I$ $a = -0.066154 + 1.204480I$ $b = 1.025710 + 0.899512I$	$-0.56915 + 8.13906I$	$5.11000 - 5.47218I$
$u = 0.126997 + 0.287207I$ $a = 0.04063 + 2.28012I$ $b = 0.432312 - 0.429086I$	$-1.64243 + 0.66705I$	$-2.34520 - 2.39491I$
$u = 0.126997 - 0.287207I$ $a = 0.04063 - 2.28012I$ $b = 0.432312 + 0.429086I$	$-1.64243 - 0.66705I$	$-2.34520 + 2.39491I$
$u = -0.85668 + 1.69020I$ $a = 0.232404 + 1.080370I$ $b = -1.64453 + 1.59807I$	$-6.3235 - 13.9812I$	$2.81858 + 6.62298I$
$u = -0.85668 - 1.69020I$ $a = 0.232404 - 1.080370I$ $b = -1.64453 - 1.59807I$	$-6.3235 + 13.9812I$	$2.81858 - 6.62298I$

II. $\boldsymbol{I_2^u = \langle u^3 + b + 1,\ -u^2 + a - u - 1,\ u^4 + u^3 + 2u^2 + 2u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 5u^2 + u + 8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^4 + y^3 + 9y^2 + y + 1$
c_2, c_4, c_{12}	$y^4 - 3y^3 + 5y^2 - 3y + 1$
c_3, c_5, c_6 c_8, c_9	$y^4 + 2y^2 + 3y + 1$
c_7, c_{10}, c_{11}	$y^4 + 3y^3 + 2y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.621744 + 0.440597I$ $a = \ \ 0.570696 - 0.107280I$ $b = -1.121740 - 0.425428I$	$1.74699 + 4.62527I$	$8.34046 - 2.29879I$
$u = -0.621744 - 0.440597I$ $a = \ \ 0.570696 + 0.107280I$ $b = -1.121740 + 0.425428I$	$1.74699 - 4.62527I$	$8.34046 + 2.29879I$
$u = \ \ 0.121744 + 1.306620I$ $a = -0.57070 + 1.62477I$ $b = -0.37826 + 2.17265I$	$-5.03685 + 0.56550I$	$-0.34046 + 2.89736I$
$u = \ \ 0.121744 - 1.306620I$ $a = -0.57070 - 1.62477I$ $b = -0.37826 - 2.17265I$	$-5.03685 - 0.56550I$	$-0.34046 - 2.89736I$

III. $I_3^u =$
$\langle 3.21\times10^{22}u^{19}+1.40\times10^{23}u^{18}+\cdots+1.28\times10^{24}b-1.66\times10^{24},\ 4.70\times10^{24}u^{19}+1.59\times10^{25}u^{18}+\cdots+1.29\times10^{26}a-8.29\times10^{26},\ u^{20}+3u^{19}+\cdots-376u-101\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.0364831u^{19}-0.123348u^{18}+\cdots-2.99222u+6.43631\\-0.0251630u^{19}-0.109726u^{18}+\cdots+10.5249u+1.29856\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-0.0190479u^{19}-0.0791729u^{18}+\cdots-1.37806u+6.33110\\0.00211539u^{19}-0.0452946u^{18}+\cdots+11.8210u+2.11973\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-0.0344491u^{19}-0.0902792u^{18}+\cdots-0.756139u+5.71229\\-0.0246550u^{19}-0.0750446u^{18}+\cdots+4.35620u-0.000767038\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.0591041u^{19}-0.165324u^{18}+\cdots+3.60006u+5.71152\\-0.0246550u^{19}-0.0750446u^{18}+\cdots+4.35620u-0.000767038\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}0.0699474u^{19}+0.209299u^{18}+\cdots-4.79549u-9.53973\\0.0255973u^{19}+0.0893164u^{18}+\cdots-5.84866u-0.104669\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.0266289u^{19}-0.0263605u^{18}+\cdots-1.12655u-5.56497\\-0.0255925u^{19}-0.0488488u^{18}+\cdots-2.27935u-0.105970\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.0141044u^{19}-0.0539607u^{18}+\cdots+8.39337u-2.97964\\-0.0130681u^{19}-0.0764490u^{18}+\cdots+7.24057u+2.47936\end{pmatrix}$$
$$a_2 = \begin{pmatrix}0.00280493u^{19}-0.0244296u^{18}+\cdots+1.75093u+2.31489\\-0.0326545u^{19}-0.134709u^{18}+\cdots+10.6296u+2.01431\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1916248316412301273576}{2091344550776489710 1425}u^{19}+\frac{607740246651636982 2264}{2091344550776489710 1425}u^{18}+\cdots-\frac{3398324608546057173939 08}{2091344550776489710 1425}u+\frac{3863274160591910052 3346}{2091344550776489710 1425}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^5 + 5u^4 + 8u^3 + 3u^2 - u + 1)^4$
c_2, c_4	$(u^5 - u^4 - 2u^3 + u^2 + u + 1)^4$
c_3, c_8	$(u^5 - u^4 + 2u^3 - u^2 + u - 1)^4$
c_5, c_6, c_9	$u^{20} + 3u^{19} + \cdots - 690u - 209$
c_7, c_{10}, c_{11}	$u^{20} - 3u^{19} + \cdots + 376u - 101$
c_{12}	$(u^2 - u - 1)^{10}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1)^4$
c_2, c_4	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)^4$
c_3, c_8	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)^4$
c_5, c_6, c_9	$y^{20} - 9y^{19} + \cdots - 194368y + 43681$
c_7, c_{10}, c_{11}	$y^{20} + 11y^{19} + \cdots - 147436y + 10201$
c_{12}	$(y^2 - 3y + 1)^{10}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.18182$ $a = -3.08950$ $b = 3.54825$	1.54676	4.51890
$u = 0.392602 + 1.119800I$ $a = 0.865506 - 0.649555I$ $b = 0.719869 - 0.653025I$	$-4.27694 + 1.53058I$	$5.48489 - 4.43065I$
$u = 0.392602 - 1.119800I$ $a = 0.865506 + 0.649555I$ $b = 0.719869 + 0.653025I$	$-4.27694 - 1.53058I$	$5.48489 + 4.43065I$
$u = -1.251030 + 0.315505I$ $a = -0.411298 + 0.093081I$ $b = 0.868398 + 0.361281I$	$3.61874 + 1.53058I$	$5.48489 - 4.43065I$
$u = -1.251030 - 0.315505I$ $a = -0.411298 - 0.093081I$ $b = 0.868398 - 0.361281I$	$3.61874 - 1.53058I$	$5.48489 + 4.43065I$
$u = 0.342814 + 0.586956I$ $a = -1.19319 - 3.16782I$ $b = -1.206580 + 0.583471I$	$3.61874 + 1.53058I$	$5.48489 - 4.43065I$
$u = 0.342814 - 0.586956I$ $a = -1.19319 + 3.16782I$ $b = -1.206580 - 0.583471I$	$3.61874 - 1.53058I$	$5.48489 + 4.43065I$
$u = -0.181709 + 1.389530I$ $a = -1.37865 - 0.57028I$ $b = -3.09521 - 1.77844I$	-6.34892	$4.51886 + 0.I$
$u = -0.181709 - 1.389530I$ $a = -1.37865 + 0.57028I$ $b = -3.09521 + 1.77844I$	-6.34892	$4.51886 + 0.I$
$u = -0.11218 + 1.41123I$ $a = 0.578243 + 0.977323I$ $b = 0.379194 + 0.917038I$	$-1.92472 + 4.40083I$	$1.25569 - 3.49859I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.11218 - 1.41123I$ $a = 0.578243 - 0.977323I$ $b = 0.379194 - 0.917038I$	$-1.92472 - 4.40083I$	$1.25569 + 3.49859I$
$u = -0.04570 + 1.46451I$ $a = -0.003969 + 1.233620I$ $b = 0.16549 + 1.82037I$	$-4.27694 - 1.53058I$	$5.48489 + 4.43065I$
$u = -0.04570 - 1.46451I$ $a = -0.003969 - 1.233620I$ $b = 0.16549 - 1.82037I$	$-4.27694 + 1.53058I$	$5.48489 - 4.43065I$
$u = 1.15161 + 1.24448I$ $a = -0.402882 + 0.473976I$ $b = 0.813208 + 0.060105I$	$-9.82040 + 4.40083I$	$1.25569 - 3.49859I$
$u = 1.15161 - 1.24448I$ $a = -0.402882 - 0.473976I$ $b = 0.813208 - 0.060105I$	$-9.82040 - 4.40083I$	$1.25569 + 3.49859I$
$u = -0.230378$ $a = 7.85497$ $b = -1.18372$	1.54676	4.51890
$u = -1.88238 + 0.35860I$ $a = 0.067918 + 0.167881I$ $b = -0.91426 - 1.68174I$	$-1.92472 + 4.40083I$	$1.25569 - 3.49859I$
$u = -1.88238 - 0.35860I$ $a = 0.067918 - 0.167881I$ $b = -0.91426 + 1.68174I$	$-1.92472 - 4.40083I$	$1.25569 + 3.49859I$
$u = -0.38975 + 1.92049I$ $a = -0.068772 - 0.859380I$ $b = 0.58762 - 1.94190I$	$-9.82040 - 4.40083I$	$1.25569 + 3.49859I$
$u = -0.38975 - 1.92049I$ $a = -0.068772 + 0.859380I$ $b = 0.58762 + 1.94190I$	$-9.82040 + 4.40083I$	$1.25569 - 3.49859I$

IV.

$\boldsymbol{I_4^u = \langle -u^4-u^2+b-2u-2,\ 2u^4-u^3+3u^2+a+4u+2,\ u^5-u^4+u^3+2u^2-u-1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 6u^4+3u^3+5u^2+16u+19$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 - 7u^4 + 15u^3 - 7u^2 - 2u - 1$
c_2	$u^5 + 3u^4 + u^3 - 3u^2 - 2u - 1$
c_3	$u^5 + 2u^4 + 5u^3 + 4u^2 - 1$
c_4	$u^5 - 3u^4 + u^3 + 3u^2 - 2u + 1$
c_5, c_9	$u^5 - u^4 - 2u^3 + u^2 + u + 1$
c_6	$u^5 + u^4 - 2u^3 - u^2 + u - 1$
c_7, c_{10}	$u^5 - u^4 + u^3 + 2u^2 - u - 1$
c_8	$u^5 - 2u^4 + 5u^3 - 4u^2 + 1$
c_{11}	$u^5 + u^4 + u^3 - 2u^2 - u + 1$
c_{12}	$u^5 - 4u^4 + 9u^3 - 21u^2 + 31u - 17$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - 19y^4 + 123y^3 - 123y^2 - 10y - 1$
c_2, c_4	$y^5 - 7y^4 + 15y^3 - 7y^2 - 2y - 1$
c_3, c_8	$y^5 + 6y^4 + 9y^3 - 12y^2 + 8y - 1$
c_5, c_6, c_9	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_7, c_{10}, c_{11}	$y^5 + y^4 + 3y^3 - 8y^2 + 5y - 1$
c_{12}	$y^5 + 2y^4 - 25y^3 - 19y^2 + 247y - 289$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.821196$ $a = -7.66362$ $b = 4.77152$	2.16633	39.9010
$u = -0.688402 + 0.106340I$ $a = -1.322140 + 0.434760I$ $b = 1.278340 - 0.069185I$	$4.53993 + 0.30358I$	$10.54519 + 0.60661I$
$u = -0.688402 - 0.106340I$ $a = -1.322140 - 0.434760I$ $b = 1.278340 + 0.069185I$	$4.53993 - 0.30358I$	$10.54519 - 0.60661I$
$u = 0.77780 + 1.38013I$ $a = 0.653954 - 0.923165I$ $b = -0.664098 - 0.673862I$	$-13.8478 + 3.3875I$	$-4.49564 - 1.04146I$
$u = 0.77780 - 1.38013I$ $a = 0.653954 + 0.923165I$ $b = -0.664098 + 0.673862I$	$-13.8478 - 3.3875I$	$-4.49564 + 1.04146I$

V. $I_5^u = \langle 2b+1,\ 2a+u-2,\ u^2-u-1\rangle$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-\frac{1}{2}u+1\\-0.5\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\-u-1\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-\frac{1}{2}u+1\\-0.5\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1\\-u-1\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-u\\-u-1\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-1\\-u-1\end{pmatrix}$$
$$a_6 = \begin{pmatrix}2u+2\\3u+2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\u+1\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-\frac{1}{2}u\\-u-\frac{3}{2}\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{45}{4}u - \frac{13}{4}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2	$(u-1)^2$
c_3, c_8	u^2
c_4	$(u+1)^2$
c_5, c_6	u^2+3u+1
c_7	u^2-u-1
c_9	u^2-3u+1
c_{10}, 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_8	y^2
c_5, c_6, c_9	$y^2 - 7y + 1$
c_7, c_{10}, c_{11} c_{12}	$y^2 - 3y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.618034$ $a = 1.30902$ $b = -0.500000$	-0.657974	3.70290
$u = 1.61803$ $a = 0.190983$ $b = -0.500000$	7.23771	-21.4530

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^2(u^4-3u^3+5u^2-3u+1)(u^5-7u^4+15u^3-7u^2-2u-1)$ $\cdot((u^5+5u^4+8u^3+3u^2-u+1)^4)(u^{18}+17u^{17}+\cdots+9840u+256)$
c_2	$(u-1)^2(u^4+u^3-u^2-u+1)(u^5-u^4-2u^3+u^2+u+1)^4$ $\cdot(u^5+3u^4+u^3-3u^2-2u-1)(u^{18}-3u^{17}+\cdots-108u+16)$
c_3	$u^2(u^4-2u^3+2u^2-u+1)(u^5-u^4+2u^3-u^2+u-1)^4$ $\cdot(u^5+2u^4+5u^3+4u^2-1)(u^{18}+5u^{17}+\cdots-144u+64)$
c_4	$(u+1)^2(u^4-u^3-u^2+u+1)(u^5-3u^4+u^3+3u^2-2u+1)$ $\cdot((u^5-u^4-2u^3+u^2+u+1)^4)(u^{18}-3u^{17}+\cdots-108u+16)$
c_5	$(u^2+3u+1)(u^4-2u^3+2u^2-u+1)(u^5-u^4-2u^3+u^2+u+1)$ $\cdot(u^{18}-10u^{16}+\cdots+3u+1)(u^{20}+3u^{19}+\cdots-690u-209)$
c_6	$(u^2+3u+1)(u^4+2u^3+2u^2+u+1)(u^5+u^4-2u^3-u^2+u-1)$ $\cdot(u^{18}-10u^{16}+\cdots+3u+1)(u^{20}+3u^{19}+\cdots-690u-209)$
c_7	$(u^2-u-1)(u^4+u^3+2u^2+2u+1)(u^5-u^4+u^3+2u^2-u-1)$ $\cdot(u^{18}+u^{17}+\cdots-2u-1)(u^{20}-3u^{19}+\cdots+376u-101)$
c_8	$u^2(u^4+2u^3+2u^2+u+1)(u^5-2u^4+5u^3-4u^2+1)$ $\cdot((u^5-u^4+2u^3-u^2+u-1)^4)(u^{18}+5u^{17}+\cdots-144u+64)$
c_9	$(u^2-3u+1)(u^4-2u^3+2u^2-u+1)(u^5-u^4-2u^3+u^2+u+1)$ $\cdot(u^{18}-10u^{16}+\cdots+3u+1)(u^{20}+3u^{19}+\cdots-690u-209)$
c_{10}	$(u^2+u-1)(u^4+u^3+2u^2+2u+1)(u^5-u^4+u^3+2u^2-u-1)$ $\cdot(u^{18}+u^{17}+\cdots-2u-1)(u^{20}-3u^{19}+\cdots+376u-101)$
c_{11}	$(u^2+u-1)(u^4-u^3+2u^2-2u+1)(u^5+u^4+u^3-2u^2-u+1)$ $\cdot(u^{18}+u^{17}+\cdots-2u-1)(u^{20}-3u^{19}+\cdots+376u-101)$
c_{12}	$(u^2-u-1)^{10}(u^2+u-1)(u^4-u^3-u^2+u+1)$ $\cdot(u^5-4u^4+9u^3-21u^2+31u-17)(u^{18}+19u^{17}+\cdots-352u-32)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^2)(y^4+y^3+9y^2+y+1)(y^5-19y^4+\cdots-10y-1)$ $\cdot(y^5-9y^4+32y^3-35y^2-5y-1)^4$ $\cdot(y^{18}-29y^{17}+\cdots-79539968y+65536)$
c_2, c_4	$(y-1)^2(y^4-3y^3+5y^2-3y+1)(y^5-7y^4+15y^3-7y^2-2y-1)$ $\cdot((y^5-5y^4+8y^3-3y^2-y-1)^4)(y^{18}-17y^{17}+\cdots-9840y+256)$
c_3, c_8	$y^2(y^4+2y^2+3y+1)(y^5+3y^4+4y^3+y^2-y-1)^4$ $\cdot(y^5+6y^4+9y^3-12y^2+8y-1)(y^{18}+9y^{17}+\cdots-45824y+4096)$
c_5, c_6, c_9	$(y^2-7y+1)(y^4+2y^2+3y+1)(y^5-5y^4+8y^3-3y^2-y-1)$ $\cdot(y^{18}-20y^{17}+\cdots-13y+1)(y^{20}-9y^{19}+\cdots-194368y+43681)$
c_7, c_{10}, c_{11}	$(y^2-3y+1)(y^4+3y^3+2y^2+1)(y^5+y^4+3y^3-8y^2+5y-1)$ $\cdot(y^{18}+17y^{17}+\cdots+22y+1)(y^{20}+11y^{19}+\cdots-147436y+10201)$
c_{12}	$(y^2-3y+1)^{11}(y^4-3y^3+5y^2-3y+1)$ $\cdot(y^5+2y^4-25y^3-19y^2+247y-289)$ $\cdot(y^{18}-7y^{17}+\cdots+2560y+1024)$