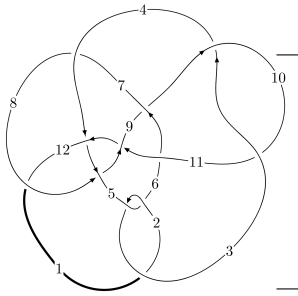
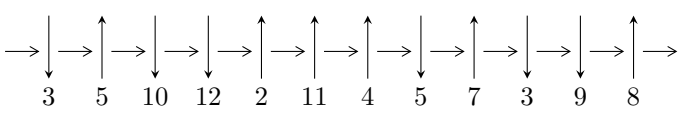
$12n_{0532}$ $(K12n_{0532})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.61870 \times 10^{329} u^{98} - 5.11065 \times 10^{328} u^{97} + \cdots + 4.51920 \times 10^{331} b - 4.15006 \times 10^{331}, \\ & 3.15837 \times 10^{331} u^{98} - 2.19273 \times 10^{330} u^{97} + \cdots + 1.40095 \times 10^{333} a - 5.59957 \times 10^{333}, \\ & u^{99} + 53 u^{97} + \cdots - 259 u + 31 \rangle \\ I_2^u = \langle & -1.19415 \times 10^{16} u^{36} - 1.97876 \times 10^{16} u^{35} + \cdots + 3.72808 \times 10^{15} b + 1.06100 \times 10^{16}, \\ & - 7.14844 \times 10^{15} u^{36} - 9.64409 \times 10^{15} u^{35} + \cdots + 3.72808 \times 10^{15} a - 3.18284 \times 10^{16}, \ u^{37} + u^{36} + \cdots - 8u - \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 136 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. $\boldsymbol{I_1^u = \langle -1.62 \times 10^{329} u^{98} - 5.11 \times 10^{328} u^{97} + \cdots + 4.52 \times 10^{331} b - 4.15 \times 10^{331},\ 3.16 \times 10^{331} u^{98} - 2.19 \times 10^{330} u^{97} + \cdots + 1.40 \times 10^{333} a - 5.60 \times 10^{333},\ u^{99} + 53 u^{97} + \cdots - 259 u + 31 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.0225444 u^{98} + 0.00156517 u^{97} + \cdots - 98.9674 u + 3.99697 \\ 0.00358184 u^{98} + 0.00113087 u^{97} + \cdots + 0.568838 u + 0.918316 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0443461 u^{98} - 0.00855901 u^{97} + \cdots - 79.0333 u + 1.08105 \\ 0.00402845 u^{98} + 0.000590727 u^{97} + \cdots - 2.96656 u + 0.894483 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -0.0189626 u^{98} + 0.00269604 u^{97} + \cdots - 98.3986 u + 4.91529 \\ 0.00358184 u^{98} + 0.00113087 u^{97} + \cdots + 0.568838 u + 0.918316 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0310245 u^{98} + 0.00405756 u^{97} + \cdots - 96.3241 u + 6.72622 \\ -0.000256772 u^{98} - 0.000349871 u^{97} + \cdots - 3.51712 u + 1.04145 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0829098 u^{98} - 0.00721519 u^{97} + \cdots - 145.839 u - 1.52124 \\ 0.00219888 u^{98} + 0.00435927 u^{97} + \cdots - 14.5292 u + 2.33219 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0829098 u^{98} - 0.00721519 u^{97} + \cdots - 145.839 u - 1.52124 \\ 0.000152831 u^{98} + 0.00273447 u^{97} + \cdots - 15.2307 u + 2.10852 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.0180850 u^{98} - 0.00679441 u^{97} + \cdots + 40.9484 u - 14.4549 \\ -0.00705979 u^{98} - 0.00186554 u^{97} + \cdots - 8.85440 u + 0.261167 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0330848 u^{98} - 0.00300896 u^{97} + \cdots + 76.4947 u + 7.16298$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{99} + 106u^{98} + \cdots - 170255u - 961$
c_2, c_5	$u^{99} + 53u^{97} + \cdots - 259u + 31$
c_3, c_{10}	$u^{99} + 27u^{97} + \cdots - 45156u + 28964$
c_4	$u^{99} + 3u^{98} + \cdots + 29u + 1$
c_6	$u^{99} - 8u^{98} + \cdots + 11559416u + 409289$
c_7	$u^{99} + u^{98} + \cdots + 263227u + 47969$
c_8	$u^{99} + 2u^{98} + \cdots - 5274u - 59$
c_9	$u^{99} - 9u^{98} + \cdots - 402u - 215$
c_{11}	$u^{99} - 6u^{98} + \cdots - 12984u + 3173$
c_{12}	$u^{99} - u^{98} + \cdots + 11196996u + 1212452$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{99} - 198y^{98} + \cdots - 1536870623y - 923521$
c_2, c_5	$y^{99} + 106y^{98} + \cdots - 170255y - 961$
c_3, c_{10}	$y^{99} + 54y^{98} + \cdots - 26392577344y - 838913296$
c_4	$y^{99} + 21y^{98} + \cdots + 287y - 1$
c_6	$y^{99} + 14y^{98} + \cdots + 14727329603844y - 167517485521$
c_7	$y^{99} - y^{98} + \cdots + 66159723473y - 2301024961$
c_8	$y^{99} - 14y^{98} + \cdots + 8482664y - 3481$
c_9	$y^{99} - 37y^{98} + \cdots + 769624y - 46225$
c_{11}	$y^{99} - 20y^{98} + \cdots - 584095766y - 10067929$
c_{12}	$y^{99} + 5y^{98} + \cdots + 5946396266144y - 1470039852304$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.449463+0.920420I$ $a=\ \ 0.380654-0.863384I$ $b=-0.287498-1.090140I$	$2.33708-5.55546I$	0
$u=-0.449463-0.920420I$ $a=\ \ 0.380654+0.863384I$ $b=-0.287498+1.090140I$	$2.33708+5.55546I$	0
$u=\ \ 0.989702+0.361143I$ $a=\ \ 0.723225+0.816298I$ $b=-0.593040+1.230230I$	$0.29355+4.78047I$	0
$u=\ \ 0.989702-0.361143I$ $a=\ \ 0.723225-0.816298I$ $b=-0.593040-1.230230I$	$0.29355-4.78047I$	0
$u=\ \ 0.776838+0.723144I$ $a=\ \ 0.163427+0.003710I$ $b=\ \ 0.453158+0.898313I$	$-0.964664+0.845567I$	0
$u=\ \ 0.776838-0.723144I$ $a=\ \ 0.163427-0.003710I$ $b=\ \ 0.453158-0.898313I$	$-0.964664-0.845567I$	0
$u=-0.884203+0.198301I$ $a=-0.172383+1.092170I$ $b=\ \ 0.473016+0.798138I$	$-1.27586-4.76408I$	0
$u=-0.884203-0.198301I$ $a=-0.172383-1.092170I$ $b=\ \ 0.473016-0.798138I$	$-1.27586+4.76408I$	0
$u=-0.074327+1.099590I$ $a=\ \ 0.28126+2.12391I$ $b=-0.400780-0.695484I$	$2.84341+2.27358I$	0
$u=-0.074327-1.099590I$ $a=\ \ 0.28126-2.12391I$ $b=-0.400780+0.695484I$	$2.84341-2.27358I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.100382 + 1.131240I$ $a = 0.15482 + 2.33675I$ $b = 0.336290 - 0.620402I$	$2.33767 + 5.94152I$	0
$u = 0.100382 - 1.131240I$ $a = 0.15482 - 2.33675I$ $b = 0.336290 + 0.620402I$	$2.33767 - 5.94152I$	0
$u = 0.007624 + 0.863581I$ $a = -0.71439 + 1.52331I$ $b = 0.170924 - 1.193600I$	$1.47026 + 4.79432I$	0
$u = 0.007624 - 0.863581I$ $a = -0.71439 - 1.52331I$ $b = 0.170924 + 1.193600I$	$1.47026 - 4.79432I$	0
$u = 0.924315 + 0.669384I$ $a = 0.453346 + 0.855141I$ $b = -0.816396 + 0.665074I$	$-0.0948162 + 0.0797592I$	0
$u = 0.924315 - 0.669384I$ $a = 0.453346 - 0.855141I$ $b = -0.816396 - 0.665074I$	$-0.0948162 - 0.0797592I$	0
$u = -0.669840 + 0.535577I$ $a = 1.151360 - 0.720481I$ $b = 0.103338 - 0.884220I$	$3.44466 + 1.11589I$	0
$u = -0.669840 - 0.535577I$ $a = 1.151360 + 0.720481I$ $b = 0.103338 + 0.884220I$	$3.44466 - 1.11589I$	0
$u = 0.602702 + 0.978790I$ $a = -0.689533 + 0.399947I$ $b = -0.087589 - 0.819332I$	$1.50660 + 3.93239I$	0
$u = 0.602702 - 0.978790I$ $a = -0.689533 - 0.399947I$ $b = -0.087589 + 0.819332I$	$1.50660 - 3.93239I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.901703 + 0.736467I$ $a = -0.0451128 + 0.0657810I$ $b = 1.009140 + 0.461921I$	$-0.34961 + 6.23060I$	0
$u = 0.901703 - 0.736467I$ $a = -0.0451128 - 0.0657810I$ $b = 1.009140 - 0.461921I$	$-0.34961 - 6.23060I$	0
$u = 0.745265 + 0.362689I$ $a = 0.000194 - 0.396282I$ $b = 0.464260 - 0.826650I$	$3.34931 + 1.03766I$	0
$u = 0.745265 - 0.362689I$ $a = 0.000194 + 0.396282I$ $b = 0.464260 + 0.826650I$	$3.34931 - 1.03766I$	0
$u = 0.095723 + 0.821995I$ $a = 1.192920 + 0.548778I$ $b = 0.061204 - 1.279230I$	$5.13444 + 0.35658I$	0
$u = 0.095723 - 0.821995I$ $a = 1.192920 - 0.548778I$ $b = 0.061204 + 1.279230I$	$5.13444 - 0.35658I$	0
$u = -0.856107 + 0.834764I$ $a = 0.517321 - 0.351198I$ $b = -0.093212 - 0.986432I$	$5.74308 - 3.12727I$	0
$u = -0.856107 - 0.834764I$ $a = 0.517321 + 0.351198I$ $b = -0.093212 + 0.986432I$	$5.74308 + 3.12727I$	0
$u = 0.092174 + 0.789815I$ $a = -0.018180 + 0.859448I$ $b = 0.243265 - 1.352150I$	$5.46584 + 4.99973I$	0
$u = 0.092174 - 0.789815I$ $a = -0.018180 - 0.859448I$ $b = 0.243265 + 1.352150I$	$5.46584 - 4.99973I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.110540+0.511836I$ $a=-0.586814+0.687680I$ $b=\ \ 0.689492+1.188880I$	$1.94491-12.39280I$	0
$u=-1.110540-0.511836I$ $a=-0.586814-0.687680I$ $b=\ \ 0.689492-1.188880I$	$1.94491+12.39280I$	0
$u=-0.564604+0.483711I$ $a=\ \ 0.183144-0.072820I$ $b=-0.915705+0.256094I$	$-2.66072+0.68787I$	0
$u=-0.564604-0.483711I$ $a=\ \ 0.183144+0.072820I$ $b=-0.915705-0.256094I$	$-2.66072-0.68787I$	0
$u=\ \ 0.965432+0.809020I$ $a=-0.284876-0.157684I$ $b=\ \ 0.174022-0.782029I$	$4.96132+3.43570I$	0
$u=\ \ 0.965432-0.809020I$ $a=-0.284876+0.157684I$ $b=\ \ 0.174022+0.782029I$	$4.96132-3.43570I$	0
$u=-0.016021+0.727396I$ $a=\ \ 0.744128+0.572179I$ $b=-0.20015-1.40684I$	$5.66046-4.73411I$	$7.47226+7.54887I$
$u=-0.016021-0.727396I$ $a=\ \ 0.744128-0.572179I$ $b=-0.20015+1.40684I$	$5.66046+4.73411I$	$7.47226-7.54887I$
$u=-0.885265+0.922396I$ $a=\ \ 0.93169-1.63224I$ $b=-0.09307-1.62375I$	$8.02930-3.25944I$	0
$u=-0.885265-0.922396I$ $a=\ \ 0.93169+1.63224I$ $b=-0.09307+1.62375I$	$8.02930+3.25944I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.234061+0.612799I$ $a=\ \ 0.285773-0.530930I$ $b=-0.407982-1.268020I$	$2.19138-5.42561I$	$-2.53703+9.57555I$
$u=-0.234061-0.612799I$ $a=\ \ 0.285773+0.530930I$ $b=-0.407982+1.268020I$	$2.19138+5.42561I$	$-2.53703-9.57555I$
$u=-0.954291+0.953963I$ $a=-0.0892329+0.0111021I$ $b=-0.669835+0.942203I$	$0.69700+5.44894I$	0
$u=-0.954291-0.953963I$ $a=-0.0892329-0.0111021I$ $b=-0.669835-0.942203I$	$0.69700-5.44894I$	0
$u=\ \ 0.344285+0.509140I$ $a=\ \ 0.614615+0.516455I$ $b=-0.240304+0.507083I$	$-0.010371+1.152960I$	$-0.45734-5.72489I$
$u=\ \ 0.344285-0.509140I$ $a=\ \ 0.614615-0.516455I$ $b=-0.240304-0.507083I$	$-0.010371-1.152960I$	$-0.45734+5.72489I$
$u=\ \ 0.10854+1.45535I$ $a=\ \ 1.386540+0.042187I$ $b=-0.908690+0.807044I$	$-3.81992-0.72093I$	0
$u=\ \ 0.10854-1.45535I$ $a=\ \ 1.386540-0.042187I$ $b=-0.908690-0.807044I$	$-3.81992+0.72093I$	0
$u=-0.10960+1.46424I$ $a=-1.84124+0.02145I$ $b=\ \ 1.55189+0.62097I$	$-7.91560-1.49599I$	0
$u=-0.10960-1.46424I$ $a=-1.84124-0.02145I$ $b=\ \ 1.55189-0.62097I$	$-7.91560+1.49599I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.15530+1.47142I$ $a=-1.198180+0.213225I$ $b=\ \ 0.426419+0.517451I$	$-5.23087+1.77261I$	0
$u=-0.15530-1.47142I$ $a=-1.198180-0.213225I$ $b=\ \ 0.426419-0.517451I$	$-5.23087-1.77261I$	0
$u=-0.02559+1.47939I$ $a=\ \ 0.197837-0.543845I$ $b=-0.13512+1.81976I$	$-0.49001-3.57941I$	0
$u=-0.02559-1.47939I$ $a=\ \ 0.197837+0.543845I$ $b=-0.13512-1.81976I$	$-0.49001+3.57941I$	0
$u=\ \ 0.129823+0.501429I$ $a=\ \ 1.306120+0.239520I$ $b=-0.608170+0.458382I$	$-0.12758+2.03530I$	$-3.94463-5.13845I$
$u=\ \ 0.129823-0.501429I$ $a=\ \ 1.306120-0.239520I$ $b=-0.608170-0.458382I$	$-0.12758-2.03530I$	$-3.94463+5.13845I$
$u=\ \ 0.06552+1.50863I$ $a=\ \ 1.330260+0.045882I$ $b=-0.579457+1.015220I$	$-6.74620-1.98513I$	0
$u=\ \ 0.06552-1.50863I$ $a=\ \ 1.330260-0.045882I$ $b=-0.579457-1.015220I$	$-6.74620+1.98513I$	0
$u=\ \ 0.15031+1.50678I$ $a=\ \ 1.335870-0.314116I$ $b=-1.06177+1.05023I$	$-2.85225+3.92690I$	0
$u=\ \ 0.15031-1.50678I$ $a=\ \ 1.335870+0.314116I$ $b=-1.06177-1.05023I$	$-2.85225-3.92690I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.29344 + 1.51721I$ $a = -1.293750 - 0.102136I$ $b = 0.656632 - 1.048550I$	$-7.22483 + 4.07577I$	0
$u = 0.29344 - 1.51721I$ $a = -1.293750 + 0.102136I$ $b = 0.656632 + 1.048550I$	$-7.22483 - 4.07577I$	0
$u = 0.09950 + 1.54213I$ $a = -1.44627 + 0.26452I$ $b = 0.854251 - 0.847301I$	$-6.87766 + 3.21394I$	0
$u = 0.09950 - 1.54213I$ $a = -1.44627 - 0.26452I$ $b = 0.854251 + 0.847301I$	$-6.87766 - 3.21394I$	0
$u = -0.42150 + 1.49357I$ $a = 1.153460 - 0.212027I$ $b = -0.562638 - 1.165240I$	$-6.71949 - 9.70184I$	0
$u = -0.42150 - 1.49357I$ $a = 1.153460 + 0.212027I$ $b = -0.562638 + 1.165240I$	$-6.71949 + 9.70184I$	0
$u = -0.09642 + 1.55493I$ $a = -1.249440 - 0.615146I$ $b = 0.88571 + 1.37991I$	$-5.07786 - 6.90046I$	0
$u = -0.09642 - 1.55493I$ $a = -1.249440 + 0.615146I$ $b = 0.88571 - 1.37991I$	$-5.07786 + 6.90046I$	0
$u = 0.01774 + 1.58324I$ $a = -0.569305 + 0.524028I$ $b = 0.18170 + 1.41637I$	$-2.16703 - 4.61474I$	0
$u = 0.01774 - 1.58324I$ $a = -0.569305 - 0.524028I$ $b = 0.18170 - 1.41637I$	$-2.16703 + 4.61474I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.11523+1.58503I$ $a=-1.258050-0.232343I$ $b=\ \ 0.344246+0.941272I$	$-3.94420-1.39890I$	0
$u=-0.11523-1.58503I$ $a=-1.258050+0.232343I$ $b=\ \ 0.344246-0.941272I$	$-3.94420+1.39890I$	0
$u=-0.26660+1.56711I$ $a=-1.225090+0.523394I$ $b=\ \ 1.39876-0.31492I$	$-9.32625-2.79394I$	0
$u=-0.26660-1.56711I$ $a=-1.225090-0.523394I$ $b=\ \ 1.39876+0.31492I$	$-9.32625+2.79394I$	0
$u=\ \ 0.16827+1.59853I$ $a=\ \ 1.106590-0.431611I$ $b=-0.805158+0.968421I$	$-3.29792+7.02458I$	0
$u=\ \ 0.16827-1.59853I$ $a=\ \ 1.106590+0.431611I$ $b=-0.805158-0.968421I$	$-3.29792-7.02458I$	0
$u=\ \ 0.42078+1.55266I$ $a=-1.50413-0.03210I$ $b=\ \ 0.71068-1.37025I$	$-5.84524+10.03770I$	0
$u=\ \ 0.42078-1.55266I$ $a=-1.50413+0.03210I$ $b=\ \ 0.71068+1.37025I$	$-5.84524-10.03770I$	0
$u=\ \ 0.122026+0.366129I$ $a=\ \ 3.37423-4.46100I$ $b=-0.291352-1.174280I$	$4.86450-5.17783I$	$9.36120+6.43156I$
$u=\ \ 0.122026-0.366129I$ $a=\ \ 3.37423+4.46100I$ $b=-0.291352+1.174280I$	$4.86450+5.17783I$	$9.36120-6.43156I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.11601+1.61062I$ $a=-1.092310-0.514662I$ $b=\ \ 0.554317+1.164830I$	$-2.89782-5.94500I$	0
$u=-0.11601-1.61062I$ $a=-1.092310+0.514662I$ $b=\ \ 0.554317-1.164830I$	$-2.89782+5.94500I$	0
$u=\ \ 0.24750+1.63553I$ $a=\ \ 1.205180+0.393283I$ $b=-1.41575-0.32390I$	$-8.31396+10.41990I$	0
$u=\ \ 0.24750-1.63553I$ $a=\ \ 1.205180-0.393283I$ $b=-1.41575+0.32390I$	$-8.31396-10.41990I$	0
$u=\ \ 0.10452+1.65273I$ $a=\ \ 1.115920-0.696101I$ $b=-0.413837+0.798020I$	$-7.63047+6.05503I$	0
$u=\ \ 0.10452-1.65273I$ $a=\ \ 1.115920+0.696101I$ $b=-0.413837-0.798020I$	$-7.63047-6.05503I$	0
$u=-0.40356+1.60685I$ $a=\ \ 1.411000+0.036399I$ $b=-0.75772-1.38230I$	$-4.8993-17.9291I$	0
$u=-0.40356-1.60685I$ $a=\ \ 1.411000-0.036399I$ $b=-0.75772+1.38230I$	$-4.8993+17.9291I$	0
$u=\ \ 0.22703+1.66260I$ $a=\ \ 0.668359+0.230859I$ $b=-0.692357-0.412144I$	$-9.05435+4.80057I$	0
$u=\ \ 0.22703-1.66260I$ $a=\ \ 0.668359-0.230859I$ $b=-0.692357+0.412144I$	$-9.05435-4.80057I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.15035+1.67413I$ $a=-0.841817+0.262191I$ $b=\ \ 0.866086-0.528143I$	$-8.78633+1.54908I$	0
$u=-0.15035-1.67413I$ $a=-0.841817-0.262191I$ $b=\ \ 0.866086+0.528143I$	$-8.78633-1.54908I$	0
$u=-0.129576+0.278011I$ $a=-2.76297-3.97519I$ $b=\ \ 0.273923-1.343870I$	$5.51201-2.99398I$	$8.78954+4.65677I$
$u=-0.129576-0.278011I$ $a=-2.76297+3.97519I$ $b=\ \ 0.273923+1.343870I$	$5.51201+2.99398I$	$8.78954-4.65677I$
$u=-0.303524$ $a=-1.02169$ $b=-1.39193$	-2.63515	-38.4420
$u=\ \ 0.091053+0.167445I$ $a=-3.33529-6.24003I$ $b=\ \ 0.244481-0.486448I$	$-0.77407-2.77339I$	$-4.75332-5.97266I$
$u=\ \ 0.091053-0.167445I$ $a=-3.33529+6.24003I$ $b=\ \ 0.244481+0.486448I$	$-0.77407+2.77339I$	$-4.75332+5.97266I$
$u=\ \ 0.0480242+0.1073590I$ $a=-0.96262-6.51872I$ $b=\ \ 0.606334-0.040916I$	$1.33337-1.63871I$	$3.10567+5.35613I$
$u=\ \ 0.0480242-0.1073590I$ $a=-0.96262+6.51872I$ $b=\ \ 0.606334+0.040916I$	$1.33337+1.63871I$	$3.10567-5.35613I$

II.

$\boldsymbol{I_2^u = \langle -1.19\times10^{16}u^{36}-1.98\times10^{16}u^{35}+\cdots+3.73\times10^{15}b+1.06\times10^{16},\ -7.15\times10^{15}u^{36}-9.64\times10^{15}u^{35}+\cdots+3.73\times10^{15}a-3.18\times10^{16},\ u^{37}+u^{36}+\cdots-8u-1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$

$$a_6 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}1.91746u^{36}+2.58688u^{35}+\cdots+33.7288u+8.53747\\3.20312u^{36}+5.30772u^{35}+\cdots-24.5888u-2.84598\end{pmatrix}$$

$$a_7 = \begin{pmatrix}1.04256u^{36}+4.09694u^{35}+\cdots-55.3349u-11.7400\\-1.90326u^{36}-1.85536u^{35}+\cdots+12.3168u+1.70320\end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix}5.12058u^{36}+7.89460u^{35}+\cdots+9.14006u+5.69149\\3.20312u^{36}+5.30772u^{35}+\cdots-24.5888u-2.84598\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-0.266371u^{36}-5.46191u^{35}+\cdots-10.7557u+0.388655\\-2.36436u^{36}-2.41065u^{35}+\cdots+1.03658u-1.72594\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-0.200511u^{36}-0.943207u^{35}+\cdots+41.2246u+2.53862\\-1.71820u^{36}-4.55410u^{35}+\cdots+18.6360u+3.32754\end{pmatrix}$$

$$a_8 = \begin{pmatrix}-0.200511u^{36}-0.943207u^{35}+\cdots+41.2246u+2.53862\\-0.572081u^{36}-4.05875u^{35}+\cdots+24.7780u+4.07023\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}-0.121535u^{36}+0.541641u^{35}+\cdots+53.1666u+7.56314\\-0.669721u^{36}-2.37534u^{35}+\cdots-2.31374u+0.533701\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{37923239655330084}{3728078412487259}u^{36}-\frac{38434343438741474}{3728078412487259}u^{35}+\cdots+\frac{122400492787805403}{3728078412487259}u+\frac{30710588913013107}{3728078412487259}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{37} - 37u^{36} + \cdots - 12u + 1$
c_2	$u^{37} + u^{36} + \cdots - 8u - 1$
c_3	$u^{37} - u^{36} + \cdots - 6u + 4$
c_4	$u^{37} - 2u^{36} + \cdots + u^2 + 1$
c_5	$u^{37} - u^{36} + \cdots - 8u + 1$
c_6	$u^{37} - 7u^{36} + \cdots - 253u + 41$
c_7	$u^{37} + 2u^{36} + \cdots - 224u - 23$
c_8	$u^{37} - u^{36} + \cdots + 3u + 1$
c_9	$u^{37} - 18u^{36} + \cdots + 15u - 1$
c_{10}	$u^{37} + u^{36} + \cdots - 6u - 4$
c_{11}	$u^{37} + 3u^{36} + \cdots - 7u + 1$
c_{12}	$u^{37} - 10u^{35} + \cdots - 12u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{37} - 47y^{36} + \cdots - 1240y - 1$
c_2, c_5	$y^{37} + 37y^{36} + \cdots - 12y - 1$
c_3, c_{10}	$y^{37} + 29y^{36} + \cdots - 164y - 16$
c_4	$y^{37} + 12y^{36} + \cdots - 2y - 1$
c_6	$y^{37} - 27y^{36} + \cdots - 148617y - 1681$
c_7	$y^{37} - 2y^{36} + \cdots + 28740y - 529$
c_8	$y^{37} + 17y^{36} + \cdots - 5y - 1$
c_9	$y^{37} - 18y^{36} + \cdots + 15y - 1$
c_{11}	$y^{37} - y^{36} + \cdots + 37y - 1$
c_{12}	$y^{37} - 20y^{36} + \cdots + 248y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.338592 + 0.948860I$ $a = 0.95168 - 1.83322I$ $b = 0.265936 + 0.997961I$	$3.86482 - 4.14135I$	$4.53105 + 3.04755I$
$u = 0.338592 - 0.948860I$ $a = 0.95168 + 1.83322I$ $b = 0.265936 - 0.997961I$	$3.86482 + 4.14135I$	$4.53105 - 3.04755I$
$u = 0.265057 + 0.991414I$ $a = 0.14714 + 2.27315I$ $b = -0.238262 + 1.085470I$	$3.72363 + 6.48494I$	$5.58596 - 8.59239I$
$u = 0.265057 - 0.991414I$ $a = 0.14714 - 2.27315I$ $b = -0.238262 - 1.085470I$	$3.72363 - 6.48494I$	$5.58596 + 8.59239I$
$u = 0.231695 + 1.053600I$ $a = -0.328847 + 0.338447I$ $b = 0.13679 - 1.41355I$	$5.02855 + 5.83791I$	$2.12557 - 10.81625I$
$u = 0.231695 - 1.053600I$ $a = -0.328847 - 0.338447I$ $b = 0.13679 + 1.41355I$	$5.02855 - 5.83791I$	$2.12557 + 10.81625I$
$u = -0.504429 + 0.758589I$ $a = 0.559317 - 1.148640I$ $b = -0.737197 - 0.134602I$	$1.270810 + 0.262848I$	$2.31162 - 0.46763I$
$u = -0.504429 - 0.758589I$ $a = 0.559317 + 1.148640I$ $b = -0.737197 + 0.134602I$	$1.270810 - 0.262848I$	$2.31162 + 0.46763I$
$u = 0.249444 + 0.875212I$ $a = -0.021257 + 0.483417I$ $b = -0.27473 - 1.39700I$	$5.68845 - 3.92908I$	$6.71923 - 2.63498I$
$u = 0.249444 - 0.875212I$ $a = -0.021257 - 0.483417I$ $b = -0.27473 + 1.39700I$	$5.68845 + 3.92908I$	$6.71923 + 2.63498I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.500516+1.000950I$ $a=\ 0.062067-0.430630I$ $b=\ 0.337894-0.143349I$	$0.32441-4.22499I$	$-2.12351+6.06500I$
$u=-0.500516-1.000950I$ $a=\ 0.062067+0.430630I$ $b=\ 0.337894+0.143349I$	$0.32441+4.22499I$	$-2.12351-6.06500I$
$u=-0.244376+1.096530I$ $a=-0.27055-1.92483I$ $b=-0.323355+1.155810I$	$3.72196-3.98898I$	$5.38613+4.17982I$
$u=-0.244376-1.096530I$ $a=-0.27055+1.92483I$ $b=-0.323355-1.155810I$	$3.72196+3.98898I$	$5.38613-4.17982I$
$u=-0.242362+0.837304I$ $a=\ 0.55946+1.62396I$ $b=\ 0.190027+1.190510I$	$4.70330+2.04272I$	$4.49829-0.65248I$
$u=-0.242362-0.837304I$ $a=\ 0.55946-1.62396I$ $b=\ 0.190027-1.190510I$	$4.70330-2.04272I$	$4.49829+0.65248I$
$u=\ 0.645588+0.949229I$ $a=-0.342734+0.071468I$ $b=-0.077111-1.181410I$	$6.43211+2.47921I$	$10.05169+1.00369I$
$u=\ 0.645588-0.949229I$ $a=-0.342734-0.071468I$ $b=-0.077111+1.181410I$	$6.43211-2.47921I$	$10.05169-1.00369I$
$u=-0.946846+0.848293I$ $a=\ 0.291766-0.264862I$ $b=-0.156013-0.757712I$	$4.74806-3.40411I$	$-13.02147+0.I$
$u=-0.946846-0.848293I$ $a=\ 0.291766+0.264862I$ $b=-0.156013+0.757712I$	$4.74806+3.40411I$	$-13.02147+0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.860354 + 0.946621I$ $a = 1.02362 + 1.62425I$ $b = -0.11292 + 1.61129I$	$8.07656 + 3.17381I$	$22.1999 + 33.1535I$
$u = 0.860354 - 0.946621I$ $a = 1.02362 - 1.62425I$ $b = -0.11292 - 1.61129I$	$8.07656 - 3.17381I$	$22.1999 - 33.1535I$
$u = -0.14840 + 1.48072I$ $a = -1.283810 + 0.166064I$ $b = 0.596153 + 0.750938I$	$-5.26789 + 1.08040I$	0
$u = -0.14840 - 1.48072I$ $a = -1.283810 - 0.166064I$ $b = 0.596153 - 0.750938I$	$-5.26789 - 1.08040I$	0
$u = 0.13422 + 1.49054I$ $a = -1.70068 - 0.10708I$ $b = 1.44159 - 0.39456I$	$-7.97369 + 1.95650I$	0
$u = 0.13422 - 1.49054I$ $a = -1.70068 + 0.10708I$ $b = 1.44159 + 0.39456I$	$-7.97369 - 1.95650I$	0
$u = -0.402019 + 0.253719I$ $a = -2.24388 + 1.02418I$ $b = -0.097540 + 0.470442I$	$-0.59112 - 3.13623I$	$3.97798 + 11.06924I$
$u = -0.402019 - 0.253719I$ $a = -2.24388 - 1.02418I$ $b = -0.097540 - 0.470442I$	$-0.59112 + 3.13623I$	$3.97798 - 11.06924I$
$u = -0.02709 + 1.55003I$ $a = -0.472545 - 0.149266I$ $b = 0.21990 - 1.49062I$	$-2.55911 + 4.29661I$	0
$u = -0.02709 - 1.55003I$ $a = -0.472545 + 0.149266I$ $b = 0.21990 + 1.49062I$	$-2.55911 - 4.29661I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.12162+1.57920I$ $a=-1.144380-0.532298I$ $b=\ \ 0.726709+1.116120I$	$-3.86937-6.23166I$	0
$u=-0.12162-1.57920I$ $a=-1.144380+0.532298I$ $b=\ \ 0.726709-1.116120I$	$-3.86937+6.23166I$	0
$u=\ \ 0.391589$ $a=-0.512068$ $b=-1.43649$	-2.53138	39.2220
$u=-0.15033+1.63038I$ $a=\ \ 1.021040+0.443826I$ $b=-0.374995-0.554817I$	$-7.70403-5.49447I$	0
$u=-0.15033-1.63038I$ $a=\ \ 1.021040-0.443826I$ $b=-0.374995+0.554817I$	$-7.70403+5.49447I$	0
$u=-0.132749+0.147531I$ $a=\ \ 3.94862+2.70843I$ $b=-0.304624-1.284310I$	$3.03239-5.03709I$	$5.57732+5.98806I$
$u=-0.132749-0.147531I$ $a=\ \ 3.94862-2.70843I$ $b=-0.304624+1.284310I$	$3.03239+5.03709I$	$5.57732-5.98806I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{37}-37u^{36}+\cdots-12u+1)(u^{99}+106u^{98}+\cdots-170255u-961)$
c_2	$(u^{37}+u^{36}+\cdots-8u-1)(u^{99}+53u^{97}+\cdots-259u+31)$
c_3	$(u^{37}-u^{36}+\cdots-6u+4)(u^{99}+27u^{97}+\cdots-45156u+28964)$
c_4	$(u^{37}-2u^{36}+\cdots+u^2+1)(u^{99}+3u^{98}+\cdots+29u+1)$
c_5	$(u^{37}-u^{36}+\cdots-8u+1)(u^{99}+53u^{97}+\cdots-259u+31)$
c_6	$(u^{37}-7u^{36}+\cdots-253u+41)$ $\cdot(u^{99}-8u^{98}+\cdots+11559416u+409289)$
c_7	$(u^{37}+2u^{36}+\cdots-224u-23)(u^{99}+u^{98}+\cdots+263227u+47969)$
c_8	$(u^{37}-u^{36}+\cdots+3u+1)(u^{99}+2u^{98}+\cdots-5274u-59)$
c_9	$(u^{37}-18u^{36}+\cdots+15u-1)(u^{99}-9u^{98}+\cdots-402u-215)$
c_{10}	$(u^{37}+u^{36}+\cdots-6u-4)(u^{99}+27u^{97}+\cdots-45156u+28964)$
c_{11}	$(u^{37}+3u^{36}+\cdots-7u+1)(u^{99}-6u^{98}+\cdots-12984u+3173)$
c_{12}	$(u^{37}-10u^{35}+\cdots-12u+4)$ $\cdot(u^{99}-u^{98}+\cdots+11196996u+1212452)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{37} - 47y^{36} + \cdots - 1240y - 1)$ $\cdot (y^{99} - 198y^{98} + \cdots - 1536870623y - 923521)$
c_2, c_5	$(y^{37} + 37y^{36} + \cdots - 12y - 1)(y^{99} + 106y^{98} + \cdots - 170255y - 961)$
c_3, c_{10}	$(y^{37} + 29y^{36} + \cdots - 164y - 16)$ $\cdot (y^{99} + 54y^{98} + \cdots - 26392577344y - 838913296)$
c_4	$(y^{37} + 12y^{36} + \cdots - 2y - 1)(y^{99} + 21y^{98} + \cdots + 287y - 1)$
c_6	$(y^{37} - 27y^{36} + \cdots - 148617y - 1681)$ $\cdot (y^{99} + 14y^{98} + \cdots + 14727329603844y - 167517485521)$
c_7	$(y^{37} - 2y^{36} + \cdots + 28740y - 529)$ $\cdot (y^{99} - y^{98} + \cdots + 66159723473y - 2301024961)$
c_8	$(y^{37} + 17y^{36} + \cdots - 5y - 1)(y^{99} - 14y^{98} + \cdots + 8482664y - 3481)$
c_9	$(y^{37} - 18y^{36} + \cdots + 15y - 1)(y^{99} - 37y^{98} + \cdots + 769624y - 46225)$
c_{11}	$(y^{37} - y^{36} + \cdots + 37y - 1)$ $\cdot (y^{99} - 20y^{98} + \cdots - 584095766y - 10067929)$
c_{12}	$(y^{37} - 20y^{36} + \cdots + 248y - 16)$ $\cdot (y^{99} + 5y^{98} + \cdots + 5946396266144y - 1470039852304)$