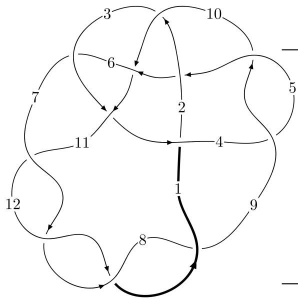
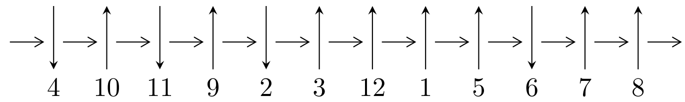
$12a_{1191}$ ($K12a_{1191}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 4.36523 \times 10^{132} u^{90} - 3.19353 \times 10^{132} u^{89} + \cdots + 2.10482 \times 10^{131} b - 5.51264 \times 10^{132}, \\
& -1.18098 \times 10^{133} u^{90} + 8.96992 \times 10^{132} u^{89} + \cdots + 2.10482 \times 10^{131} a + 1.66735 \times 10^{133}, \\
& u^{91} - 58u^{89} + \cdots - u - 1 \rangle \\
I_2^u = \langle & -u^{13} + 10u^{11} - 2u^{10} - 37u^9 + 16u^8 + 60u^7 - 44u^6 - 37u^5 + 46u^4 + 2u^3 - 13u^2 + b + 2u + 2, \\
& 2u^{13} - u^{12} - 20u^{11} + 13u^{10} + 73u^9 - 62u^8 - 113u^7 + 133u^6 + 57u^5 - 122u^4 + 10u^3 + 36u^2 + a - 3u - 8, \\
& u^{14} - 10u^{12} + 2u^{11} + 38u^{10} - 16u^9 - 67u^8 + 45u^7 + 53u^6 - 51u^5 - 16u^4 + 20u^3 + 4u^2 - 4u - 1 \rangle \\
I_3^u = \langle & b,\ a + 1,\ u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 106 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. $\boldsymbol{I^u_1 = \langle 4.37 \times 10^{132}u^{90} - 3.19 \times 10^{132}u^{89} + \cdots + 2.10 \times 10^{131}b - 5.51 \times 10^{132},\ -1.18 \times 10^{133}u^{90} + 8.97 \times 10^{132}u^{89} + \cdots + 2.10 \times 10^{131}a + 1.67 \times 10^{133},\ u^{91} - 58u^{89} + \cdots - u - 1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$

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

$$a_1 = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}56.1084u^{90} - 42.6161u^{89} + \cdots - 50.0478u - 79.2156\\-20.7392u^{90} + 15.1725u^{89} + \cdots - 4.73282u + 26.1906\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-u^2+1\\u^4-2u^2\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-56.8158u^{90} + 42.7041u^{89} + \cdots - 84.2527u + 77.3151\\20.4447u^{90} - 16.1446u^{89} + \cdots + 10.5300u - 28.4511\end{pmatrix}$$

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

$$a_4 = \begin{pmatrix}35.4678u^{90} - 27.0005u^{89} + \cdots - 57.9734u - 51.7720\\-0.0987024u^{90} - 0.443082u^{89} + \cdots + 3.19269u - 1.25306\end{pmatrix}$$

$$a_5 = \begin{pmatrix}48.8252u^{90} - 36.5045u^{89} + \cdots - 52.0806u - 69.1683\\-25.0607u^{90} + 17.8324u^{89} + \cdots - 7.86324u + 31.3440\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-67.5498u^{90} + 50.1740u^{89} + \cdots - 9.65117u + 91.8368\\32.6880u^{90} - 23.5158u^{89} + \cdots + 17.8004u - 43.1141\end{pmatrix}$$

$$a_2 = \begin{pmatrix}21.3595u^{90} - 17.2198u^{89} + \cdots - 78.0900u - 44.2105\\-0.0820261u^{90} + 1.41198u^{89} + \cdots + 0.825309u + 2.32895\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -124.387u^{90} + 101.213u^{89} + \cdots - 117.598u + 140.246$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{91} + 26u^{89} + \cdots + 4521u - 1063$
c_2	$u^{91} + 3u^{90} + \cdots - 107u + 47$
c_3	$u^{91} - u^{90} + \cdots - 1664u + 256$
c_4, c_9	$u^{91} - u^{90} + \cdots + 40u + 16$
c_5	$u^{91} - 2u^{89} + \cdots - 27u + 1$
c_6	$u^{91} - 3u^{90} + \cdots - 20u + 478$
c_7, c_8, c_{11} c_{12}	$u^{91} - 58u^{89} + \cdots - u + 1$
c_{10}	$u^{91} - 4u^{90} + \cdots + 13u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{91} + 52y^{90} + \cdots + 271560435y - 1129969$
c_2	$y^{91} - 27y^{90} + \cdots + 250585y - 2209$
c_3	$y^{91} + 19y^{90} + \cdots + 638976y - 65536$
c_4, c_9	$y^{91} - 77y^{90} + \cdots + 20544y - 256$
c_5	$y^{91} - 4y^{90} + \cdots + 43y - 1$
c_6	$y^{91} - 33y^{90} + \cdots + 38548232y - 228484$
c_7, c_8, c_{11} c_{12}	$y^{91} - 116y^{90} + \cdots + 183y - 1$
c_{10}	$y^{91} - 14y^{90} + \cdots + 35y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.917181 + 0.446358I$ $a = -0.350051 - 0.718722I$ $b = 0.752614 + 0.368141I$	$1.10014 + 1.26315I$	0
$u = -0.917181 - 0.446358I$ $a = -0.350051 + 0.718722I$ $b = 0.752614 - 0.368141I$	$1.10014 - 1.26315I$	0
$u = 1.020520 + 0.021459I$ $a = 1.65965 + 0.12252I$ $b = -1.274710 + 0.013134I$	$6.37995 - 0.00443I$	0
$u = 1.020520 - 0.021459I$ $a = 1.65965 - 0.12252I$ $b = -1.274710 - 0.013134I$	$6.37995 + 0.00443I$	0
$u = 0.912677 + 0.338207I$ $a = 1.087310 - 0.365705I$ $b = -0.672974 - 0.988089I$	$2.76497 + 5.71335I$	0
$u = 0.912677 - 0.338207I$ $a = 1.087310 + 0.365705I$ $b = -0.672974 + 0.988089I$	$2.76497 - 5.71335I$	0
$u = 0.842246 + 0.427903I$ $a = -1.57000 + 0.86044I$ $b = 1.137440 + 0.719196I$	$0.83657 + 8.60958I$	0
$u = 0.842246 - 0.427903I$ $a = -1.57000 - 0.86044I$ $b = 1.137440 - 0.719196I$	$0.83657 - 8.60958I$	0
$u = -0.049155 + 0.925373I$ $a = -0.018450 - 0.240418I$ $b = 0.787113 + 0.434682I$	$4.35215 - 0.70387I$	0
$u = -0.049155 - 0.925373I$ $a = -0.018450 + 0.240418I$ $b = 0.787113 - 0.434682I$	$4.35215 + 0.70387I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.909377 + 0.121317I$ $a = -1.74806 - 1.51726I$ $b = 0.656466 + 0.156356I$	$6.80329 + 5.85078I$	0
$u = 0.909377 - 0.121317I$ $a = -1.74806 + 1.51726I$ $b = 0.656466 - 0.156356I$	$6.80329 - 5.85078I$	0
$u = -0.855576 + 0.198161I$ $a = -1.69427 - 0.84476I$ $b = 0.600470 - 0.528724I$	$0.41511 - 1.73319I$	0
$u = -0.855576 - 0.198161I$ $a = -1.69427 + 0.84476I$ $b = 0.600470 + 0.528724I$	$0.41511 + 1.73319I$	0
$u = 0.170636 + 0.858640I$ $a = 0.270440 - 0.217975I$ $b = -0.988141 - 0.796603I$	$2.60854 + 9.24166I$	0
$u = 0.170636 - 0.858640I$ $a = 0.270440 + 0.217975I$ $b = -0.988141 + 0.796603I$	$2.60854 - 9.24166I$	0
$u = 0.798624 + 0.317069I$ $a = 1.49211 - 0.38463I$ $b = -1.13354 - 0.85618I$	$2.71888 + 4.11027I$	0
$u = 0.798624 - 0.317069I$ $a = 1.49211 + 0.38463I$ $b = -1.13354 + 0.85618I$	$2.71888 - 4.11027I$	0
$u = -0.958558 + 0.619174I$ $a = -1.304190 - 0.198758I$ $b = 1.190730 - 0.754942I$	$7.19572 - 4.42968I$	0
$u = -0.958558 - 0.619174I$ $a = -1.304190 + 0.198758I$ $b = 1.190730 + 0.754942I$	$7.19572 + 4.42968I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.010410 + 0.532785I$ $a = 1.63192 + 0.38601I$ $b = -1.26642 + 0.85939I$	$6.2099 - 13.8413I$	0
$u = -1.010410 - 0.532785I$ $a = 1.63192 - 0.38601I$ $b = -1.26642 - 0.85939I$	$6.2099 + 13.8413I$	0
$u = 1.012830 + 0.547009I$ $a = -0.666318 + 0.854147I$ $b = 0.845873 + 0.040235I$	$7.74795 + 5.61965I$	0
$u = 1.012830 - 0.547009I$ $a = -0.666318 - 0.854147I$ $b = 0.845873 - 0.040235I$	$7.74795 - 5.61965I$	0
$u = 1.158320 + 0.061570I$ $a = 2.09123 + 0.11464I$ $b = -1.43859 - 0.11203I$	$6.35878 - 0.00374I$	0
$u = 1.158320 - 0.061570I$ $a = 2.09123 - 0.11464I$ $b = -1.43859 + 0.11203I$	$6.35878 + 0.00374I$	0
$u = -0.827706 + 0.023758I$ $a = -1.94653 - 0.03034I$ $b = 1.30788 + 1.14736I$	$5.75955 + 4.36365I$	0
$u = -0.827706 - 0.023758I$ $a = -1.94653 + 0.03034I$ $b = 1.30788 - 1.14736I$	$5.75955 - 4.36365I$	0
$u = 1.20776$ $a = 1.23537$ $b = -0.150179$	1.50241	0
$u = -0.692576 + 0.369176I$ $a = -0.252568 + 1.293030I$ $b = -0.15549 - 1.61967I$	$3.29248 - 5.87120I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.692576 - 0.369176I$ $a = -0.252568 - 1.293030I$ $b = -0.15549 + 1.61967I$	$3.29248 + 5.87120I$	0
$u = 0.871395 + 0.870623I$ $a = 0.199766 - 0.694070I$ $b = -0.701199 + 0.494745I$	$4.43105 - 3.66394I$	0
$u = 0.871395 - 0.870623I$ $a = 0.199766 + 0.694070I$ $b = -0.701199 - 0.494745I$	$4.43105 + 3.66394I$	0
$u = -0.752182$ $a = 3.63130$ $b = -1.36493$	3.54118	0
$u = -0.741016$ $a = -0.850183$ $b = 0.113569$	1.10828	0
$u = -0.695366 + 0.186808I$ $a = 0.35620 + 2.27599I$ $b = -0.784084 + 0.061653I$	$2.27067 - 0.45074I$	0
$u = -0.695366 - 0.186808I$ $a = 0.35620 - 2.27599I$ $b = -0.784084 - 0.061653I$	$2.27067 + 0.45074I$	0
$u = -0.628840 + 0.325941I$ $a = -0.679726 + 0.307313I$ $b = -0.344482 - 0.126930I$	$1.371510 - 0.206959I$	0
$u = -0.628840 - 0.325941I$ $a = -0.679726 - 0.307313I$ $b = -0.344482 + 0.126930I$	$1.371510 + 0.206959I$	0
$u = 0.601513 + 0.261883I$ $a = 0.143854 + 0.590721I$ $b = 0.441427 - 1.013250I$	$-1.19187 + 2.41953I$	$0. - 7.66477I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.601513 - 0.261883I$ $a = 0.143854 - 0.590721I$ $b = 0.441427 + 1.013250I$	$-1.19187 - 2.41953I$	$0. + 7.66477I$
$u = 0.014121 + 0.652849I$ $a = 0.247154 - 0.479642I$ $b = 0.943310 - 0.640973I$	$-1.67591 - 4.97592I$	$4.00000 + 6.22523I$
$u = 0.014121 - 0.652849I$ $a = 0.247154 + 0.479642I$ $b = 0.943310 + 0.640973I$	$-1.67591 + 4.97592I$	$4.00000 - 6.22523I$
$u = -0.228822 + 0.569931I$ $a = 1.242050 - 0.011593I$ $b = -0.792425 + 1.135470I$	$1.91858 + 2.59973I$	$2.55627 - 3.29477I$
$u = -0.228822 - 0.569931I$ $a = 1.242050 + 0.011593I$ $b = -0.792425 - 1.135470I$	$1.91858 - 2.59973I$	$2.55627 + 3.29477I$
$u = -0.094291 + 0.541879I$ $a = -0.557308 + 1.003780I$ $b = -0.455963 + 0.707318I$	$-0.30212 - 2.71649I$	$1.16599 + 6.03643I$
$u = -0.094291 - 0.541879I$ $a = -0.557308 - 1.003780I$ $b = -0.455963 - 0.707318I$	$-0.30212 + 2.71649I$	$1.16599 - 6.03643I$
$u = -1.49316$ $a = -2.56595$ $b = 1.76633$	3.30274	0
$u = -0.001188 + 0.400466I$ $a = -1.271860 + 0.075004I$ $b = -0.674817 + 0.552835I$	$0.43902 - 1.57022I$	$4.00266 + 2.96421I$
$u = -0.001188 - 0.400466I$ $a = -1.271860 - 0.075004I$ $b = -0.674817 - 0.552835I$	$0.43902 + 1.57022I$	$4.00266 - 2.96421I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.60395+0.03130I$ $a=-0.211427-1.129280I$ $b=\ 0.29839+1.45886I$	$6.43796-3.26756I$	0
$u=-1.60395-0.03130I$ $a=-0.211427+1.129280I$ $b=\ 0.29839-1.45886I$	$6.43796+3.26756I$	0
$u=\ 1.61544+0.08861I$ $a=\ 0.184899+0.051274I$ $b=-0.407141-0.545139I$	$9.04789+1.72598I$	0
$u=\ 1.61544-0.08861I$ $a=\ 0.184899-0.051274I$ $b=-0.407141+0.545139I$	$9.04789-1.72598I$	0
$u=\ 0.141849+0.347474I$ $a=-1.10267+2.06537I$ $b=\ 0.641497+0.536873I$	$-2.40242-0.11800I$	$-5.09885-1.12207I$
$u=\ 0.141849-0.347474I$ $a=-1.10267-2.06537I$ $b=\ 0.641497-0.536873I$	$-2.40242+0.11800I$	$-5.09885+1.12207I$
$u=\ 1.63813+0.08293I$ $a=-0.15558-1.84572I$ $b=\ 0.06614+2.09277I$	$11.43140+7.43619I$	0
$u=\ 1.63813-0.08293I$ $a=-0.15558+1.84572I$ $b=\ 0.06614-2.09277I$	$11.43140-7.43619I$	0
$u=\ 1.64405+0.03849I$ $a=\ 1.38387-1.09007I$ $b=-0.893959-0.323763I$	$10.54520+1.19802I$	0
$u=\ 1.64405-0.03849I$ $a=\ 1.38387+1.09007I$ $b=-0.893959+0.323763I$	$10.54520-1.19802I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.65603$ $a = 2.84891$ $b = -1.56819$	12.0821	0
$u = -1.65904 + 0.08425I$ $a = 1.99380 - 0.30053I$ $b = -1.45706 + 0.97395I$	$11.30970 - 5.62963I$	0
$u = -1.65904 - 0.08425I$ $a = 1.99380 + 0.30053I$ $b = -1.45706 - 0.97395I$	$11.30970 + 5.62963I$	0
$u = -1.66431 + 0.10950I$ $a = -2.01278 - 0.18168I$ $b = 1.29842 - 0.76043I$	$9.5241 - 10.6370I$	0
$u = -1.66431 - 0.10950I$ $a = -2.01278 + 0.18168I$ $b = 1.29842 + 0.76043I$	$9.5241 + 10.6370I$	0
$u = -0.327010 + 0.024834I$ $a = -2.45501 + 0.42707I$ $b = -1.050700 - 0.022615I$	$2.25017 - 0.00521I$	$25.7179 - 12.5088I$
$u = -0.327010 - 0.024834I$ $a = -2.45501 - 0.42707I$ $b = -1.050700 + 0.022615I$	$2.25017 + 0.00521I$	$25.7179 + 12.5088I$
$u = 1.67382 + 0.00252I$ $a = -2.09500 + 0.64314I$ $b = 1.60216 - 1.26474I$	$14.6420 - 4.2859I$	0
$u = 1.67382 - 0.00252I$ $a = -2.09500 - 0.64314I$ $b = 1.60216 + 1.26474I$	$14.6420 + 4.2859I$	0
$u = 1.67890 + 0.04717I$ $a = -1.60010 + 0.25978I$ $b = 0.760804 + 0.612967I$	$9.37397 + 2.64843I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.67890 - 0.04717I$ $a = -1.60010 - 0.25978I$ $b = 0.760804 - 0.612967I$	$9.37397 - 2.64843I$	0
$u = -1.68883 + 0.03116I$ $a = -1.46816 + 0.84245I$ $b = 0.733381 + 0.158115I$	$16.0083 - 6.4456I$	0
$u = -1.68883 - 0.03116I$ $a = -1.46816 - 0.84245I$ $b = 0.733381 - 0.158115I$	$16.0083 + 6.4456I$	0
$u = -1.69089 + 0.08739I$ $a = 1.263860 - 0.324673I$ $b = -0.81079 + 1.19205I$	$11.91300 - 7.36719I$	0
$u = -1.69089 - 0.08739I$ $a = 1.263860 + 0.324673I$ $b = -0.81079 - 1.19205I$	$11.91300 + 7.36719I$	0
$u = 1.69395 + 0.07536I$ $a = -1.185220 + 0.193629I$ $b = 0.839978 + 0.209950I$	$10.47930 + 0.62266I$	0
$u = 1.69395 - 0.07536I$ $a = -1.185220 - 0.193629I$ $b = 0.839978 - 0.209950I$	$10.47930 - 0.62266I$	0
$u = -1.70284 + 0.02337I$ $a = 1.79568 - 0.24863I$ $b = -1.170090 - 0.204979I$	$16.0167 - 0.3960I$	0
$u = -1.70284 - 0.02337I$ $a = 1.79568 + 0.24863I$ $b = -1.170090 + 0.204979I$	$16.0167 + 0.3960I$	0
$u = -1.71287$ $a = 1.96336$ $b = -1.57408$	16.0925	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.70600 + 0.17492I$ $a = -2.06447 - 0.11832I$ $b = 1.53935 + 0.77519I$	$16.3686 + 7.5807I$	0
$u = 1.70600 - 0.17492I$ $a = -2.06447 + 0.11832I$ $b = 1.53935 - 0.77519I$	$16.3686 - 7.5807I$	0
$u = -1.71338 + 0.14789I$ $a = -1.251830 - 0.547436I$ $b = 1.002740 - 0.286277I$	$17.1980 - 8.3922I$	0
$u = -1.71338 - 0.14789I$ $a = -1.251830 + 0.547436I$ $b = 1.002740 + 0.286277I$	$17.1980 + 8.3922I$	0
$u = 1.71531 + 0.15107I$ $a = 2.11203 + 0.06014I$ $b = -1.46699 - 0.87443I$	$15.6677 + 16.6133I$	0
$u = 1.71531 - 0.15107I$ $a = 2.11203 - 0.06014I$ $b = -1.46699 + 0.87443I$	$15.6677 - 16.6133I$	0
$u = -0.118525 + 0.147072I$ $a = -5.10070 + 3.31269I$ $b = 0.784408 - 0.784768I$	$3.62366 - 4.82368I$	$8.27128 + 5.35281I$
$u = -0.118525 - 0.147072I$ $a = -5.10070 - 3.31269I$ $b = 0.784408 + 0.784768I$	$3.62366 + 4.82368I$	$8.27128 - 5.35281I$
$u = -1.81169 + 0.19062I$ $a = 0.936030 + 0.424848I$ $b = -0.702838 + 0.003311I$	$14.02360 - 1.03329I$	0
$u = -1.81169 - 0.19062I$ $a = 0.936030 - 0.424848I$ $b = -0.702838 - 0.003311I$	$14.02360 + 1.03329I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.0762493$ $a = -16.9219$ $b = 0.601126$	-2.56020	-18.0060

II.

$$\boldsymbol{I_2^u = \langle -u^{13}+10u^{11}+\cdots+b+2,\ 2u^{13}-u^{12}+\cdots+a-8,\ u^{14}-10u^{12}+\cdots-4u-1\rangle}$$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$

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

$$a_1 = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-2u^{13}+u^{12}+\cdots+3u+8\\u^{13}-10u^{11}+\cdots-2u-2\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-u^2+1\\u^4-2u^2\end{pmatrix}$$

$$a_6 = \begin{pmatrix}2u^{13}-21u^{11}+\cdots-5u-7\\-u^{12}+u^{11}+\cdots-6u-1\end{pmatrix}$$

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

$$a_4 = \begin{pmatrix}-2u^{13}+20u^{11}+\cdots-34u^2+7\\u^{13}+u^{12}+\cdots+u-1\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-2u^{13}+20u^{11}+\cdots-4u+6\\u^{13}-10u^{11}+\cdots+u-1\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}u^{10}-u^9-7u^8+9u^7+14u^6-26u^5-2u^4+24u^3-12u^2\\u^{11}-u^{10}+\cdots+4u+2\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-3u^{13}+u^{12}+\cdots+7u+12\\u^{10}-u^9-7u^8+7u^7+16u^6-16u^5-13u^4+14u^3+3u^2-5u-2\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 10u^{13}-98u^{11}+26u^{10}+356u^9-202u^8-553u^7+532u^6+258u^5-504u^4+116u^3+78u^2-41u+16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{14} - 4u^{13} + \cdots + 8u - 1$
c_2	$u^{14} + u^{13} + \cdots + 11u^2 - 1$
c_3	$u^{14} + 3u^{13} + \cdots + 2u + 1$
c_4	$u^{14} + 2u^{13} + \cdots - 6u - 6$
c_5	$u^{14} - 4u^{13} + \cdots + 4u^2 + 1$
c_6	$u^{14} + 2u^{13} + \cdots - 6u - 6$
c_7, c_8	$u^{14} - 10u^{12} + \cdots - 4u - 1$
c_9	$u^{14} - 2u^{13} + \cdots + 6u - 6$
c_{10}	$u^{14} - 3u^{12} + \cdots + 2u + 1$
c_{11}, c_{12}	$u^{14} - 10u^{12} + \cdots + 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{14} + 12y^{13} + \cdots + 4y + 1$
c_2	$y^{14} - 3y^{13} + \cdots - 22y + 1$
c_3	$y^{14} + 3y^{13} + \cdots + 6y + 1$
c_4, c_9	$y^{14} - 14y^{13} + \cdots - 408y + 36$
c_5	$y^{14} - 8y^{13} + \cdots + 8y + 1$
c_6	$y^{14} - 6y^{13} + \cdots - 264y + 36$
c_7, c_8, c_{11} c_{12}	$y^{14} - 20y^{13} + \cdots - 24y + 1$
c_{10}	$y^{14} - 6y^{13} + \cdots - 12y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.715737 + 0.583142I$ $a = 0.322278 - 1.095290I$ $b = -0.597611 + 0.693639I$	$4.04967 - 3.04608I$	$8.11198 - 0.20343I$
$u = 0.715737 - 0.583142I$ $a = 0.322278 + 1.095290I$ $b = -0.597611 - 0.693639I$	$4.04967 + 3.04608I$	$8.11198 + 0.20343I$
$u = 0.730681 + 0.320983I$ $a = 0.616791 + 0.061440I$ $b = -0.73392 - 1.24339I$	$4.41104 + 6.03285I$	$11.8777 - 9.4037I$
$u = 0.730681 - 0.320983I$ $a = 0.616791 - 0.061440I$ $b = -0.73392 + 1.24339I$	$4.41104 - 6.03285I$	$11.8777 + 9.4037I$
$u = -1.36413$ $a = -2.81767$ $b = 2.16302$	5.84944	-0.951100
$u = 1.47823$ $a = 2.36442$ $b = -1.49772$	3.66203	16.6360
$u = -0.443960 + 0.191879I$ $a = 1.90519 - 1.01523I$ $b = 0.947403 + 0.080912I$	$2.25868 - 0.13701I$	$39.5169 + 19.1943I$
$u = -0.443960 - 0.191879I$ $a = 1.90519 + 1.01523I$ $b = 0.947403 - 0.080912I$	$2.25868 + 0.13701I$	$39.5169 - 19.1943I$
$u = 1.65797 + 0.07828I$ $a = -0.994052 + 0.564977I$ $b = 0.741166 + 0.278839I$	$10.06360 + 1.56273I$	$8.70560 + 0.19907I$
$u = 1.65797 - 0.07828I$ $a = -0.994052 - 0.564977I$ $b = 0.741166 - 0.278839I$	$10.06360 - 1.56273I$	$8.70560 - 0.19907I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.66391 + 0.08405I$ $a = 1.120950 - 0.701232I$ $b = -0.88050 + 1.46101I$	$12.9092 - 7.5451I$	$13.8812 + 7.2706I$
$u = -1.66391 - 0.08405I$ $a = 1.120950 + 0.701232I$ $b = -0.88050 - 1.46101I$	$12.9092 + 7.5451I$	$13.8812 - 7.2706I$
$u = -0.279409$ $a = 5.33475$ $b = -0.698077$	-2.38362	27.8190
$u = -1.82774$ $a = 1.17619$ $b = -0.920280$	14.3142	13.3090

III. $I_3^u = \langle b,\ a+1,\ u+1 \rangle$

(i) Arc colorings

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

$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

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

$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$

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

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

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

$a_{11} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$

$a_4 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_5 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_2 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = 0$	0	0

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)(u^{14}-4u^{13}+\cdots+8u-1)(u^{91}+26u^{89}+\cdots+4521u-1063)$
c_2	$(u-1)(u^{14}+u^{13}+\cdots+11u^2-1)(u^{91}+3u^{90}+\cdots-107u+47)$
c_3	$(u-1)(u^{14}+3u^{13}+\cdots+2u+1)(u^{91}-u^{90}+\cdots-1664u+256)$
c_4	$u(u^{14}+2u^{13}+\cdots-6u-6)(u^{91}-u^{90}+\cdots+40u+16)$
c_5	$(u+1)(u^{14}-4u^{13}+\cdots+4u^2+1)(u^{91}-2u^{89}+\cdots-27u+1)$
c_6	$u(u^{14}+2u^{13}+\cdots-6u-6)(u^{91}-3u^{90}+\cdots-20u+478)$
c_7, c_8	$(u+1)(u^{14}-10u^{12}+\cdots-4u-1)(u^{91}-58u^{89}+\cdots-u+1)$
c_9	$u(u^{14}-2u^{13}+\cdots+6u-6)(u^{91}-u^{90}+\cdots+40u+16)$
c_{10}	$(u-1)(u^{14}-3u^{12}+\cdots+2u+1)(u^{91}-4u^{90}+\cdots+13u+1)$
c_{11}, c_{12}	$(u-1)(u^{14}-10u^{12}+\cdots+4u-1)(u^{91}-58u^{89}+\cdots-u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)(y^{14}+12y^{13}+\cdots+4y+1)$ $\cdot(y^{91}+52y^{90}+\cdots+271560435y-1129969)$
c_2	$(y-1)(y^{14}-3y^{13}+\cdots-22y+1)$ $\cdot(y^{91}-27y^{90}+\cdots+250585y-2209)$
c_3	$(y-1)(y^{14}+3y^{13}+\cdots+6y+1)$ $\cdot(y^{91}+19y^{90}+\cdots+638976y-65536)$
c_4, c_9	$y(y^{14}-14y^{13}+\cdots-408y+36)(y^{91}-77y^{90}+\cdots+20544y-256)$
c_5	$(y-1)(y^{14}-8y^{13}+\cdots+8y+1)(y^{91}-4y^{90}+\cdots+43y-1)$
c_6	$y(y^{14}-6y^{13}+\cdots-264y+36)$ $\cdot(y^{91}-33y^{90}+\cdots+38548232y-228484)$
c_7, c_8, c_{11} c_{12}	$(y-1)(y^{14}-20y^{13}+\cdots-24y+1)(y^{91}-116y^{90}+\cdots+183y-1)$
c_{10}	$(y-1)(y^{14}-6y^{13}+\cdots-12y+1)(y^{91}-14y^{90}+\cdots+35y-1)$