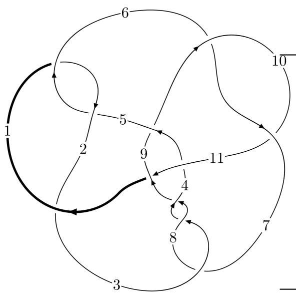
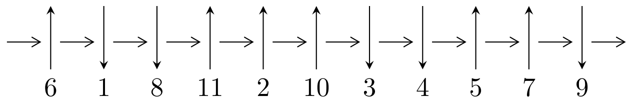
$11a_{112}$ ($K11a_{112}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -8.66742\times 10^{142}u^{65} - 1.85341\times 10^{143}u^{64} + \cdots + 5.23974\times 10^{142}b - 3.98318\times 10^{145},\\
& -2.38832\times 10^{145}u^{65} - 5.07173\times 10^{145}u^{64} + \cdots + 2.04874\times 10^{145}a - 1.06078\times 10^{148},\\
& u^{66} + 3u^{65} + \cdots - 698u + 391\rangle\\
I_2^u = \langle & u^{12} - 2u^{11} - 5u^{10} + 12u^9 + 8u^8 - 29u^7 + 34u^5 - 13u^4 - 18u^3 + 13u^2 + b + 3u - 3,\\
& -u^{13} + 4u^{12} + u^{11} - 22u^{10} + 16u^9 + 45u^8 - 58u^7 - 35u^6 + 83u^5 - 6u^4 - 54u^3 + 23u^2 + a + 11u - 7,\\
& u^{14} - 2u^{13} - 5u^{12} + 12u^{11} + 8u^{10} - 29u^9 + 35u^7 - 14u^6 - 21u^5 + 16u^4 + 5u^3 - 6u^2 + 1\rangle\\
I_3^u = \langle & -u^5 + 2u^4 + u^3 - 2u^2 + b - u,\ -u^5 + 2u^4 + 2u^3 - 4u^2 + a - u,\\
& u^{10} - 4u^9 + 2u^8 + 8u^7 - 5u^6 - 7u^5 + 3u^3 + 3u^2 + u + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 90 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. $\boldsymbol{I_1^u = \langle -8.67 \times 10^{142} u^{65} - 1.85 \times 10^{143} u^{64} + \cdots + 5.24 \times 10^{142} b - 3.98 \times 10^{145},\ -2.39 \times 10^{145} u^{65} - 5.07 \times 10^{145} u^{64} + \cdots + 2.05 \times 10^{145} a - 1.06 \times 10^{148},\ u^{66} + 3u^{65} + \cdots - 698u + 391 \rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.16575u^{65} + 2.47554u^{64} + \cdots - 1496.97u + 517.772 \\ 1.65417u^{65} + 3.53723u^{64} + \cdots - 2227.88u + 760.187 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.488417u^{65} - 1.06169u^{64} + \cdots + 730.907u - 242.415 \\ 1.65417u^{65} + 3.53723u^{64} + \cdots - 2227.88u + 760.187 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -4.63396u^{65} - 9.87610u^{64} + \cdots + 6180.95u - 2106.10 \\ 3.44579u^{65} + 7.31099u^{64} + \cdots - 4516.19u + 1545.50 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.21103u^{65} - 2.58621u^{64} + \cdots + 1614.03u - 550.273 \\ 2.65367u^{65} + 5.65967u^{64} + \cdots - 3544.37u + 1207.93 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -3.44270u^{65} - 7.34774u^{64} + \cdots + 4580.96u - 1560.01 \\ 2.08906u^{65} + 4.45851u^{64} + \cdots - 2799.61u + 954.194 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.82812u^{65} + 3.88511u^{64} + \cdots - 2437.77u + 836.494 \\ -1.49101u^{65} - 3.16113u^{64} + \cdots + 1941.13u - 660.317 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 6.19671u^{65} + 13.2052u^{64} + \cdots - 8254.78u + 2813.85 \\ -4.20938u^{65} - 8.93733u^{64} + \cdots + 5543.38u - 1893.47 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 6.19671u^{65} + 13.2052u^{64} + \cdots - 8254.78u + 2813.85 \\ -4.20938u^{65} - 8.93733u^{64} + \cdots + 5543.38u - 1893.47 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4.78436u^{65} - 10.2758u^{64} + \cdots + 6384.50u - 2162.36$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{66} + 5u^{65} + \cdots + 34u + 4$
c_2	$u^{66} + 27u^{65} + \cdots - 12u + 16$
c_3, c_7, c_8	$u^{66} - u^{65} + \cdots - 56u + 11$
c_4	$u^{66} - 3u^{65} + \cdots - 250u + 71$
c_6, c_{10}	$u^{66} - 3u^{65} + \cdots + 698u + 391$
c_9	$u^{66} + u^{65} + \cdots - 470u + 241$
c_{11}	$u^{66} - 7u^{65} + \cdots - 102u - 67$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{66} + 27y^{65} + \cdots - 12y + 16$
c_2	$y^{66} + 27y^{65} + \cdots - 164976y + 256$
c_3, c_7, c_8	$y^{66} - 69y^{65} + \cdots + 3574y + 121$
c_4	$y^{66} + 13y^{65} + \cdots + 99380y + 5041$
c_6, c_{10}	$y^{66} - 41y^{65} + \cdots - 3193706y + 152881$
c_9	$y^{66} - 21y^{65} + \cdots - 54610y + 58081$
c_{11}	$y^{66} - 3y^{65} + \cdots - 228020y + 4489$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.553994 + 0.817132I$ $a = 0.58544 + 1.58860I$ $b = 0.070442 + 0.432736I$	$-4.89628 + 4.04600I$	$0. - 7.91470I$
$u = 0.553994 - 0.817132I$ $a = 0.58544 - 1.58860I$ $b = 0.070442 - 0.432736I$	$-4.89628 - 4.04600I$	$0. + 7.91470I$
$u = 0.044651 + 1.027560I$ $a = -0.03585 - 1.60708I$ $b = 0.595192 - 0.987582I$	$-0.53608 - 6.26556I$	$0. + 8.67399I$
$u = 0.044651 - 1.027560I$ $a = -0.03585 + 1.60708I$ $b = 0.595192 + 0.987582I$	$-0.53608 + 6.26556I$	$0. - 8.67399I$
$u = -1.057280 + 0.123271I$ $a = -0.299700 + 0.067824I$ $b = 1.073380 - 0.701395I$	$0.04052 - 3.80627I$	0
$u = -1.057280 - 0.123271I$ $a = -0.299700 - 0.067824I$ $b = 1.073380 + 0.701395I$	$0.04052 + 3.80627I$	0
$u = 0.580719 + 0.732261I$ $a = -0.07117 + 1.86879I$ $b = 0.428988 + 1.124710I$	$-7.34513 + 3.69328I$	$-5.70329 - 3.99766I$
$u = 0.580719 - 0.732261I$ $a = -0.07117 - 1.86879I$ $b = 0.428988 - 1.124710I$	$-7.34513 - 3.69328I$	$-5.70329 + 3.99766I$
$u = -0.546154 + 0.917664I$ $a = 1.02255 + 1.19790I$ $b = -0.178208 + 1.154380I$	$-9.63085 + 2.05112I$	0
$u = -0.546154 - 0.917664I$ $a = 1.02255 - 1.19790I$ $b = -0.178208 - 1.154380I$	$-9.63085 - 2.05112I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.024070 + 0.311697I$ $a = 0.41730 - 1.46428I$ $b = -0.032613 - 1.192350I$	$-1.28697 + 4.18216I$	0
$u = 1.024070 - 0.311697I$ $a = 0.41730 + 1.46428I$ $b = -0.032613 + 1.192350I$	$-1.28697 - 4.18216I$	0
$u = -0.197995 + 0.874170I$ $a = 0.140181 + 0.842371I$ $b = 0.574376 + 0.595359I$	$0.60022 - 1.53805I$	$2.72682 + 4.17703I$
$u = -0.197995 - 0.874170I$ $a = 0.140181 - 0.842371I$ $b = 0.574376 - 0.595359I$	$0.60022 + 1.53805I$	$2.72682 - 4.17703I$
$u = 0.057515 + 1.110030I$ $a = 0.176652 + 0.885390I$ $b = -0.641007 + 0.405819I$	$-5.13042 + 4.43339I$	0
$u = 0.057515 - 1.110030I$ $a = 0.176652 - 0.885390I$ $b = -0.641007 - 0.405819I$	$-5.13042 - 4.43339I$	0
$u = -0.866529 + 0.013355I$ $a = -1.33674 + 0.64592I$ $b = 0.873691 + 1.006930I$	$-0.89589 + 3.10402I$	$0.54343 - 3.05170I$
$u = -0.866529 - 0.013355I$ $a = -1.33674 - 0.64592I$ $b = 0.873691 - 1.006930I$	$-0.89589 - 3.10402I$	$0.54343 + 3.05170I$
$u = 0.853665 + 0.135106I$ $a = -2.43454 + 0.28897I$ $b = 0.505356 - 0.698814I$	$-4.10664 + 2.85933I$	$0.363943 - 0.476166I$
$u = 0.853665 - 0.135106I$ $a = -2.43454 - 0.28897I$ $b = 0.505356 + 0.698814I$	$-4.10664 - 2.85933I$	$0.363943 + 0.476166I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.032450 + 0.507113I$ $a = -0.217969 - 1.258850I$ $b = 0.038438 - 1.392570I$	$-8.05212 - 7.21112I$	0
$u = -1.032450 - 0.507113I$ $a = -0.217969 + 1.258850I$ $b = 0.038438 + 1.392570I$	$-8.05212 + 7.21112I$	0
$u = 1.144210 + 0.214797I$ $a = 0.961366 - 0.866826I$ $b = -0.744120 - 1.117900I$	$2.95387 + 4.62224I$	0
$u = 1.144210 - 0.214797I$ $a = 0.961366 + 0.866826I$ $b = -0.744120 + 1.117900I$	$2.95387 - 4.62224I$	0
$u = 1.136700 + 0.303584I$ $a = -1.56569 - 0.14302I$ $b = 0.543699 + 0.963909I$	$-4.97139 + 7.17182I$	0
$u = 1.136700 - 0.303584I$ $a = -1.56569 + 0.14302I$ $b = 0.543699 - 0.963909I$	$-4.97139 - 7.17182I$	0
$u = -0.809325 + 0.115865I$ $a = -0.52327 - 2.10152I$ $b = -0.215765 - 1.035700I$	$-0.545532 + 0.599797I$	$1.64339 + 2.56314I$
$u = -0.809325 - 0.115865I$ $a = -0.52327 + 2.10152I$ $b = -0.215765 + 1.035700I$	$-0.545532 - 0.599797I$	$1.64339 - 2.56314I$
$u = -1.118470 + 0.456780I$ $a = 1.17750 + 1.75389I$ $b = -0.605458 + 1.064560I$	$2.13300 - 6.10455I$	0
$u = -1.118470 - 0.456780I$ $a = 1.17750 - 1.75389I$ $b = -0.605458 - 1.064560I$	$2.13300 + 6.10455I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.209870 + 0.001472I$ $a = 0.291036 - 0.003235I$ $b = -0.958064 - 0.487956I$	$4.84160 + 1.58290I$	0
$u = 1.209870 - 0.001472I$ $a = 0.291036 + 0.003235I$ $b = -0.958064 + 0.487956I$	$4.84160 - 1.58290I$	0
$u = 0.992580 + 0.743807I$ $a = 0.829585 - 0.896312I$ $b = 0.333033 - 0.931189I$	$-6.28712 + 1.90390I$	0
$u = 0.992580 - 0.743807I$ $a = 0.829585 + 0.896312I$ $b = 0.333033 + 0.931189I$	$-6.28712 - 1.90390I$	0
$u = 0.661473 + 0.362026I$ $a = 0.388489 - 0.220994I$ $b = 0.758076 + 0.048117I$	$-3.94345 - 0.27627I$	$-0.20377 - 1.42170I$
$u = 0.661473 - 0.362026I$ $a = 0.388489 + 0.220994I$ $b = 0.758076 - 0.048117I$	$-3.94345 + 0.27627I$	$-0.20377 + 1.42170I$
$u = -1.217260 + 0.293215I$ $a = -0.209546 + 0.352710I$ $b = -0.699865 - 0.501839I$	$3.79937 - 1.04615I$	0
$u = -1.217260 - 0.293215I$ $a = -0.209546 - 0.352710I$ $b = -0.699865 + 0.501839I$	$3.79937 + 1.04615I$	0
$u = 0.289729 + 0.632525I$ $a = -1.20205 + 2.02084I$ $b = 0.099360 + 0.983650I$	$-3.46107 - 0.67912I$	$-7.42755 + 0.90755I$
$u = 0.289729 - 0.632525I$ $a = -1.20205 - 2.02084I$ $b = 0.099360 - 0.983650I$	$-3.46107 + 0.67912I$	$-7.42755 - 0.90755I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.31931$ $a = -0.452314$ $b = 0.200297$	2.96244	0
$u = -1.33669$ $a = -0.327933$ $b = 1.10352$	1.97498	0
$u = -1.336450 + 0.216760I$ $a = -0.754740 - 0.809320I$ $b = 0.69935 - 1.27364I$	$-1.61048 - 6.33014I$	0
$u = -1.336450 - 0.216760I$ $a = -0.754740 + 0.809320I$ $b = 0.69935 + 1.27364I$	$-1.61048 + 6.33014I$	0
$u = 1.313190 + 0.421616I$ $a = -0.007522 + 0.224374I$ $b = 0.882628 - 0.511949I$	$5.12672 + 6.11193I$	0
$u = 1.313190 - 0.421616I$ $a = -0.007522 - 0.224374I$ $b = 0.882628 + 0.511949I$	$5.12672 - 6.11193I$	0
$u = -0.138682 + 1.399980I$ $a = 0.020109 - 1.269570I$ $b = -0.589344 - 1.066960I$	$-6.95817 + 9.29076I$	0
$u = -0.138682 - 1.399980I$ $a = 0.020109 + 1.269570I$ $b = -0.589344 + 1.066960I$	$-6.95817 - 9.29076I$	0
$u = 1.30750 + 0.54957I$ $a = -1.06901 + 1.35517I$ $b = 0.673865 + 1.105880I$	$3.31701 + 11.86690I$	0
$u = 1.30750 - 0.54957I$ $a = -1.06901 - 1.35517I$ $b = 0.673865 - 1.105880I$	$3.31701 - 11.86690I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.35147 + 0.54191I$ $a = 0.063163 + 0.131606I$ $b = -0.988314 - 0.489276I$	$-0.83745 - 10.20370I$	0
$u = -1.35147 - 0.54191I$ $a = 0.063163 - 0.131606I$ $b = -0.988314 + 0.489276I$	$-0.83745 + 10.20370I$	0
$u = -0.368991 + 0.379736I$ $a = -0.719106 + 0.942094I$ $b = -0.194366 + 0.419596I$	$0.210341 - 1.088940I$	$2.71206 + 6.43281I$
$u = -0.368991 - 0.379736I$ $a = -0.719106 - 0.942094I$ $b = -0.194366 - 0.419596I$	$0.210341 + 1.088940I$	$2.71206 - 6.43281I$
$u = -1.36359 + 0.61753I$ $a = -0.881623 - 1.082620I$ $b = 0.636156 - 0.930272I$	$3.70447 - 4.43878I$	0
$u = -1.36359 - 0.61753I$ $a = -0.881623 + 1.082620I$ $b = 0.636156 + 0.930272I$	$3.70447 + 4.43878I$	0
$u = 1.28331 + 0.78007I$ $a = 0.160169 + 0.274884I$ $b = -0.762107 + 0.779221I$	$0.022290 + 1.139270I$	0
$u = 1.28331 - 0.78007I$ $a = 0.160169 - 0.274884I$ $b = -0.762107 - 0.779221I$	$0.022290 - 1.139270I$	0
$u = -1.47641 + 0.39183I$ $a = -0.248686 + 0.207203I$ $b = 0.644167 + 0.746103I$	$4.27222 + 0.57322I$	0
$u = -1.47641 - 0.39183I$ $a = -0.248686 - 0.207203I$ $b = 0.644167 - 0.746103I$	$4.27222 - 0.57322I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.411878 + 0.216634I$ $a = -0.83054 - 2.42396I$ $b = 0.446886 - 1.198200I$	$-7.34762 - 4.66083I$	$-3.40198 - 1.35385I$
$u = 0.411878 - 0.216634I$ $a = -0.83054 + 2.42396I$ $b = 0.446886 + 1.198200I$	$-7.34762 + 4.66083I$	$-3.40198 + 1.35385I$
$u = -1.40430 + 0.66218I$ $a = 0.92865 + 1.22021I$ $b = -0.703220 + 1.153400I$	$-2.8953 - 16.3430I$	0
$u = -1.40430 - 0.66218I$ $a = 0.92865 - 1.22021I$ $b = -0.703220 - 1.153400I$	$-2.8953 + 16.3430I$	0
$u = 1.24829 + 0.96945I$ $a = 0.789126 - 1.086330I$ $b = -0.716542 - 0.934610I$	$-0.45544 + 6.74104I$	0
$u = 1.24829 - 0.96945I$ $a = 0.789126 + 1.086330I$ $b = -0.716542 + 0.934610I$	$-0.45544 - 6.74104I$	0

II.

$$\boldsymbol{I_2^u = \langle u^{12} - 2u^{11} + \cdots + b - 3,\ -u^{13} + 4u^{12} + \cdots + a - 7,\ u^{14} - 2u^{13} + \cdots - 6u^2 + 1\rangle}$$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{13} - 4u^{12} + \cdots - 11u + 7 \\ -u^{12} + 2u^{11} + \cdots - 3u + 3 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{13} - 3u^{12} + \cdots - 8u + 4 \\ -u^{12} + 2u^{11} + \cdots - 3u + 3 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^{13} - 4u^{12} + \cdots - 6u + 6 \\ u^7 - u^6 - 3u^5 + 3u^4 + 2u^3 - 3u^2 + u + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 4u^{13} - 9u^{12} + \cdots - 9u + 3 \\ u^{13} - 2u^{12} + \cdots - 3u - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 5u^{13} - 11u^{12} + \cdots - 11u + 3 \\ 2u^{13} - 4u^{12} + \cdots - 4u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{13} + 3u^{12} + \cdots + 10u - 5 \\ u^{12} - 2u^{11} + \cdots + 4u - 4 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -2u^{13} + 3u^{12} + \cdots + 5u + 1 \\ u^{12} - u^{11} - 6u^{10} + 6u^9 + 14u^8 - 15u^7 - 15u^6 + 20u^5 + 6u^4 - 14u^3 + 4u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -2u^{13} + 3u^{12} + \cdots + 5u + 1 \\ u^{12} - u^{11} - 6u^{10} + 6u^9 + 14u^8 - 15u^7 - 15u^6 + 20u^5 + 6u^4 - 14u^3 + 4u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -7u^{13} + 11u^{12} + 40u^{11} - 69u^{10} - 84u^9 + 177u^8 + 62u^7 - 230u^6 + 27u^5 + 152u^4 - 64u^3 - 43u^2 + 19u$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{14} - u^{13} + \cdots - u + 1$
c_2	$u^{14} + 7u^{13} + \cdots + 7u + 1$
c_3	$u^{14} - 7u^{12} + \cdots - 6u^2 + 1$
c_4	$u^{14} + 3u^{11} + 2u^{10} + u^8 + 3u^6 - u^5 - u^4 - 2u^3 + u^2 + 1$
c_5	$u^{14} + u^{13} + \cdots + u + 1$
c_6	$u^{14} - 2u^{13} + \cdots - 6u^2 + 1$
c_7, c_8	$u^{14} - 7u^{12} + \cdots - 6u^2 + 1$
c_9	$u^{14} + u^{12} - 2u^{11} - u^{10} - u^9 + 3u^8 + u^6 + 2u^4 + 3u^3 + 1$
c_{10}	$u^{14} + 2u^{13} + \cdots - 6u^2 + 1$
c_{11}	$u^{14} - 2u^{12} + 3u^{10} - u^9 + u^8 + 7u^7 + 2u^6 - 2u^5 + 2u^4 + 2u^3 + u^2 + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{14} + 7y^{13} + \cdots + 7y + 1$
c_2	$y^{14} + 7y^{13} + \cdots + 3y + 1$
c_3, c_7, c_8	$y^{14} - 14y^{13} + \cdots - 12y + 1$
c_4	$y^{14} + 4y^{12} + \cdots + 2y + 1$
c_6, c_{10}	$y^{14} - 14y^{13} + \cdots - 12y + 1$
c_9	$y^{14} + 2y^{13} + \cdots + 4y^2 + 1$
c_{11}	$y^{14} - 4y^{13} + \cdots - 2y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.596231 + 0.643046I$ $a = -0.81845 + 2.50573I$ $b = -0.203371 + 0.690149I$	$-5.26561 + 3.25287I$	$-6.82202 - 1.57098I$
$u = 0.596231 - 0.643046I$ $a = -0.81845 - 2.50573I$ $b = -0.203371 - 0.690149I$	$-5.26561 - 3.25287I$	$-6.82202 + 1.57098I$
$u = -1.086550 + 0.327347I$ $a = -1.11518 - 1.19569I$ $b = 0.646482 - 1.025240I$	$2.26991 - 4.07125I$	$0.78077 + 2.79812I$
$u = -1.086550 - 0.327347I$ $a = -1.11518 + 1.19569I$ $b = 0.646482 + 1.025240I$	$2.26991 + 4.07125I$	$0.78077 - 2.79812I$
$u = 1.250560 + 0.436225I$ $a = 0.826732 - 0.714819I$ $b = -0.790207 - 1.045030I$	$-0.94118 + 5.35545I$	$0.99788 - 4.06151I$
$u = 1.250560 - 0.436225I$ $a = 0.826732 + 0.714819I$ $b = -0.790207 + 1.045030I$	$-0.94118 - 5.35545I$	$0.99788 + 4.06151I$
$u = 0.548029 + 0.362087I$ $a = -0.82146 - 1.24943I$ $b = -0.324639 - 1.160970I$	$-7.21557 + 5.51825I$	$-2.78614 - 6.97305I$
$u = 0.548029 - 0.362087I$ $a = -0.82146 + 1.24943I$ $b = -0.324639 + 1.160970I$	$-7.21557 - 5.51825I$	$-2.78614 + 6.97305I$
$u = -1.337530 + 0.185973I$ $a = -0.156832 - 0.018857I$ $b = 0.586268 + 0.660807I$	$3.49025 + 0.87643I$	$1.45603 - 4.57034I$
$u = -1.337530 - 0.185973I$ $a = -0.156832 + 0.018857I$ $b = 0.586268 - 0.660807I$	$3.49025 - 0.87643I$	$1.45603 + 4.57034I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.534535 + 0.096454I$ $a = 2.05204 + 2.53274I$ $b = 0.253909 + 0.916694I$	$-1.18133 + 1.08400I$	$-6.90405 - 2.11871I$
$u = -0.534535 - 0.096454I$ $a = 2.05204 - 2.53274I$ $b = 0.253909 - 0.916694I$	$-1.18133 - 1.08400I$	$-6.90405 + 2.11871I$
$u = 1.56380 + 0.18585I$ $a = 0.533141 + 0.309692I$ $b = -0.668443 + 0.547497I$	$0.618868 - 0.444831I$	$2.27753 + 0.29534I$
$u = 1.56380 - 0.18585I$ $a = 0.533141 - 0.309692I$ $b = -0.668443 - 0.547497I$	$0.618868 + 0.444831I$	$2.27753 - 0.29534I$

III. $\boldsymbol{I^u_3 =}$
$\boldsymbol{\langle -u^5+2u^4+u^3-2u^2+b-u,\ -u^5+2u^4+2u^3-4u^2+a-u,\ u^{10}-4u^9+\cdots+u+1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^5 - 2u^4 - 2u^3 + 4u^2 + u \\ u^5 - 2u^4 - u^3 + 2u^2 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^3 + 2u^2 \\ u^5 - 2u^4 - u^3 + 2u^2 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u^8 - 4u^7 + 3u^6 + 5u^5 - 5u^4 - 3u^3 + 2u^2 + u \\ u^5 - 2u^4 - u^3 + 2u^2 + u + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^8 + 4u^7 - 3u^6 - 5u^5 + 5u^4 + 3u^3 - 2u^2 - u \\ -u^5 + 2u^4 + u^3 - 2u^2 - u - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^9 - 4u^8 + 4u^7 + 2u^6 - 5u^5 + 2u^4 + 2u^3 - 2u^2 - u \\ -u^9 + 2u^8 + 3u^7 - 4u^6 - 7u^5 + 2u^4 + 6u^3 + 2u^2 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^2 + 2u - 1 \\ u^4 - 2u^3 + 2u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$(y^2 + y + 1)^5$
c_3, c_4, c_7 c_8	$y^{10} - 4y^9 + 2y^8 + 8y^7 - 5y^6 - 7y^5 + 3y^3 + 3y^2 + y + 1$
c_6, c_{10}, c_{11}	$y^{10} - 12y^9 + 58y^8 - 140y^7 + 167y^6 - 75y^5 - 5y^3 + 3y^2 + 5y + 1$
c_9	$y^{10} + 4y^9 + \cdots - 39y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.976073 + 0.147815I$ $a = 2.22768 - 0.13034I$ $b = -0.500000 + 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = -0.976073 - 0.147815I$ $a = 2.22768 + 0.13034I$ $b = -0.500000 - 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = -0.427474 + 0.537706I$ $a = -1.00546 - 1.92475I$ $b = -0.500000 - 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = -0.427474 - 0.537706I$ $a = -1.00546 + 1.92475I$ $b = -0.500000 + 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = 0.064556 + 0.510596I$ $a = -0.96286 + 1.12461I$ $b = -0.500000 + 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = 0.064556 - 0.510596I$ $a = -0.96286 - 1.12461I$ $b = -0.500000 - 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = 1.52905 + 0.35576I$ $a = 0.92852 - 1.14039I$ $b = -0.500000 - 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = 1.52905 - 0.35576I$ $a = 0.92852 + 1.14039I$ $b = -0.500000 + 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = 1.80994 + 0.23506I$ $a = 0.312112 + 0.270713I$ $b = -0.500000 + 0.866025I$	$-2.02988I$	$0. + 3.46410I$
$u = 1.80994 - 0.23506I$ $a = 0.312112 - 0.270713I$ $b = -0.500000 - 0.866025I$	$2.02988I$	$0. - 3.46410I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^5)(u^{14}-u^{13}+\cdots-u+1)(u^{66}+5u^{65}+\cdots+34u+4)$
c_2	$((u^2+u+1)^5)(u^{14}+7u^{13}+\cdots+7u+1)(u^{66}+27u^{65}+\cdots-12u+16)$
c_3	$(u^{10}-2u^8+\cdots+u+1)(u^{14}-7u^{12}+\cdots-6u^2+1)$ $\cdot(u^{66}-u^{65}+\cdots-56u+11)$
c_4	$(u^{10}-2u^8-u^6-u^5+2u^4+u^3+u^2+u+1)$ $\cdot(u^{14}+3u^{11}+2u^{10}+u^8+3u^6-u^5-u^4-2u^3+u^2+1)$ $\cdot(u^{66}-3u^{65}+\cdots-250u+71)$
c_5	$((u^2-u+1)^5)(u^{14}+u^{13}+\cdots+u+1)(u^{66}+5u^{65}+\cdots+34u+4)$
c_6	$(u^{10}+4u^9+2u^8-8u^7-5u^6+7u^5-3u^3+3u^2-u+1)$ $\cdot(u^{14}-2u^{13}+\cdots-6u^2+1)(u^{66}-3u^{65}+\cdots+698u+391)$
c_7, c_8	$(u^{10}-2u^8+\cdots+u+1)(u^{14}-7u^{12}+\cdots-6u^2+1)$ $\cdot(u^{66}-u^{65}+\cdots-56u+11)$
c_9	$(u^{10}+2u^8+4u^7-3u^6+u^5+12u^4+u^3-5u^2+3u+3)$ $\cdot(u^{14}+u^{12}-2u^{11}-u^{10}-u^9+3u^8+u^6+2u^4+3u^3+1)$ $\cdot(u^{66}+u^{65}+\cdots-470u+241)$
c_{10}	$(u^{10}+4u^9+2u^8-8u^7-5u^6+7u^5-3u^3+3u^2-u+1)$ $\cdot(u^{14}+2u^{13}+\cdots-6u^2+1)(u^{66}-3u^{65}+\cdots+698u+391)$
c_{11}	$(u^{10}-4u^9+2u^8+8u^7-5u^6-7u^5+3u^3+3u^2+u+1)$ $\cdot(u^{14}-2u^{12}+3u^{10}-u^9+u^8+7u^7+2u^6-2u^5+2u^4+2u^3+u^2+2u+1)$ $\cdot(u^{66}-7u^{65}+\cdots-102u-67)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y^2+y+1)^5)(y^{14}+7y^{13}+\cdots+7y+1)(y^{66}+27y^{65}+\cdots-12y+16)$
c_2	$((y^2+y+1)^5)(y^{14}+7y^{13}+\cdots+3y+1)$ $\cdot(y^{66}+27y^{65}+\cdots-164976y+256)$
c_3, c_7, c_8	$(y^{10}-4y^9+2y^8+8y^7-5y^6-7y^5+3y^3+3y^2+y+1)$ $\cdot(y^{14}-14y^{13}+\cdots-12y+1)(y^{66}-69y^{65}+\cdots+3574y+121)$
c_4	$(y^{10}-4y^9+2y^8+8y^7-5y^6-7y^5+3y^3+3y^2+y+1)$ $\cdot(y^{14}+4y^{12}+\cdots+2y+1)(y^{66}+13y^{65}+\cdots+99380y+5041)$
c_6, c_{10}	$(y^{10}-12y^9+58y^8-140y^7+167y^6-75y^5-5y^3+3y^2+5y+1)$ $\cdot(y^{14}-14y^{13}+\cdots-12y+1)$ $\cdot(y^{66}-41y^{65}+\cdots-3193706y+152881)$
c_9	$(y^{10}+4y^9+\cdots-39y+9)(y^{14}+2y^{13}+\cdots+4y^2+1)$ $\cdot(y^{66}-21y^{65}+\cdots-54610y+58081)$
c_{11}	$(y^{10}-12y^9+58y^8-140y^7+167y^6-75y^5-5y^3+3y^2+5y+1)$ $\cdot(y^{14}-4y^{13}+\cdots-2y+1)(y^{66}-3y^{65}+\cdots-228020y+4489)$