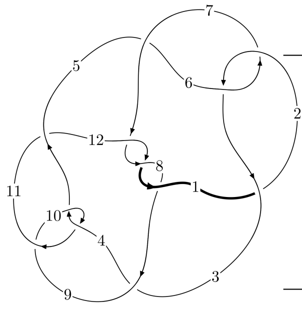
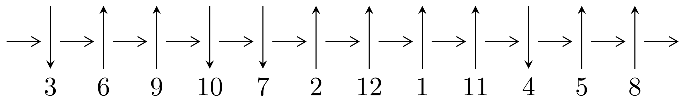
$12a_{0382}$ ($K12a_{0382}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 5.25760 \times 10^{40} u^{79} - 7.60567 \times 10^{40} u^{78} + \cdots + 2.32478 \times 10^{40} b + 1.39471 \times 10^{38}, \\ & 2.10242 \times 10^{40} u^{79} - 1.11824 \times 10^{40} u^{78} + \cdots + 2.32478 \times 10^{40} a - 6.38186 \times 10^{40},\ u^{80} - u^{79} + \cdots + 4u - 4\rangle \\ I_2^u = \langle & u^2 a + u^3 + 2b + u,\ 2u^3 a - 2u^2 a + 2a^2 + 5u^2 - 4a + 2u + 6,\ u^4 + 2u^2 + 2\rangle \end{aligned}$$

$$I_1^v = \langle a,\ b + v - 1,\ v^2 - v + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 90 representations.

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[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.

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$$I^u_1 = \langle 5.26\times10^{40}u^{79} - 7.61\times10^{40}u^{78} + \cdots + 2.32\times10^{40}b + 1.39\times10^{38},\ 2.10\times10^{40}u^{79} - 1.12\times10^{40}u^{78} + \cdots + 2.32\times10^{40}a - 6.38\times10^{40},\ u^{80} - u^{79} + \cdots + 4u - 4\rangle$$

(i) Arc colorings

$$a_5 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u\\u^3+u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-0.904354u^{79} + 0.481007u^{78} + \cdots - 1.07187u + 2.74514\\-2.26155u^{79} + 3.27156u^{78} + \cdots + 11.4214u - 0.00599931\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u^3\\u^3+u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}0.904354u^{79} - 0.481007u^{78} + \cdots + 1.07187u - 2.74514\\-1.40429u^{79} + 2.20008u^{78} + \cdots + 9.49738u - 1.69939\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-1.13657u^{79} + 1.84293u^{78} + \cdots + 7.02460u - 2.17652\\-1.70006u^{79} + 2.60937u^{78} + \cdots + 9.55138u - 0.627990\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-0.0263781u^{79} + 1.69363u^{78} + \cdots + 11.1328u - 6.06948\\1.38845u^{79} - 2.43528u^{78} + \cdots - 9.84146u + 1.92979\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-u^3\\u^5+u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^6-u^4+1\\u^8+2u^6+2u^4\end{pmatrix}$$
$$a_2 = \begin{pmatrix}2.09245u^{79} - 2.33106u^{78} + \cdots - 5.71599u - 2.00297\\-0.784122u^{79} + 0.549512u^{78} + \cdots + 0.603346u + 2.47675\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 5.47878u^{79} - 9.68885u^{78} + \cdots - 54.6240u + 21.2301$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{80} + 24u^{79} + \cdots + 8u + 1$
c_2, c_6	$u^{80} - 2u^{79} + \cdots - 2u + 1$
c_3, c_{11}	$u^{80} + u^{79} + \cdots - 452u - 404$
c_4, c_{10}	$u^{80} - u^{79} + \cdots + 4u - 4$
c_7, c_8, c_{12}	$u^{80} - 3u^{79} + \cdots - 83u - 13$
c_9	$u^{80} - 45u^{79} + \cdots - 80u + 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{80} + 72y^{79} + \cdots - 56y + 1$
c_2, c_6	$y^{80} + 24y^{79} + \cdots + 8y + 1$
c_3, c_{11}	$y^{80} - 75y^{79} + \cdots - 2017456y + 163216$
c_4, c_{10}	$y^{80} + 45y^{79} + \cdots + 80y + 16$
c_7, c_8, c_{12}	$y^{80} - 85y^{79} + \cdots - 3353y + 169$
c_9	$y^{80} - 15y^{79} + \cdots - 1792y + 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.465995+0.890027I$ $a=-0.441303+0.096283I$ $b=-1.45500-0.66755I$	$1.05476+4.92101I$	0
$u=-0.465995-0.890027I$ $a=-0.441303-0.096283I$ $b=-1.45500+0.66755I$	$1.05476-4.92101I$	0
$u=\ \ 0.138898+0.959842I$ $a=-1.40999+1.38132I$ $b=-0.376133+1.039330I$	$3.54764+1.95603I$	$12.28857-3.06785I$
$u=\ \ 0.138898-0.959842I$ $a=-1.40999-1.38132I$ $b=-0.376133-1.039330I$	$3.54764-1.95603I$	$12.28857+3.06785I$
$u=-0.255592+0.927697I$ $a=\ \ 1.34947+2.03332I$ $b=\ \ 0.009870+1.328880I$	$3.00368+3.13036I$	$10.09819-3.88096I$
$u=-0.255592-0.927697I$ $a=\ \ 1.34947-2.03332I$ $b=\ \ 0.009870-1.328880I$	$3.00368-3.13036I$	$10.09819+3.88096I$
$u=-0.407948+0.961740I$ $a=-1.228550-0.288226I$ $b=-0.209191-0.418092I$	$1.82577+1.64059I$	0
$u=-0.407948-0.961740I$ $a=-1.228550+0.288226I$ $b=-0.209191+0.418092I$	$1.82577-1.64059I$	0
$u=\ \ 0.482819+0.934965I$ $a=\ \ 1.079240-0.701792I$ $b=-0.200382-0.585726I$	$1.16955-6.69579I$	0
$u=\ \ 0.482819-0.934965I$ $a=\ \ 1.079240+0.701792I$ $b=-0.200382+0.585726I$	$1.16955+6.69579I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.304527 + 1.033480I$ $a = 0.389055 + 0.408709I$ $b = 0.914489 - 0.830590I$	$4.63163 - 3.09536I$	0
$u = 0.304527 - 1.033480I$ $a = 0.389055 - 0.408709I$ $b = 0.914489 + 0.830590I$	$4.63163 + 3.09536I$	0
$u = -0.718292 + 0.564408I$ $a = 0.30054 + 1.50770I$ $b = -0.699048 + 0.453179I$	$6.00409 - 4.34016I$	$7.41183 + 2.66481I$
$u = -0.718292 - 0.564408I$ $a = 0.30054 - 1.50770I$ $b = -0.699048 - 0.453179I$	$6.00409 + 4.34016I$	$7.41183 - 2.66481I$
$u = -0.222929 + 0.884136I$ $a = -0.215941 + 0.267184I$ $b = -1.07893 - 1.42958I$	$2.79044 - 1.07850I$	$9.91240 - 0.16778I$
$u = -0.222929 - 0.884136I$ $a = -0.215941 - 0.267184I$ $b = -1.07893 + 1.42958I$	$2.79044 + 1.07850I$	$9.91240 + 0.16778I$
$u = -0.897293 + 0.111616I$ $a = 0.271629 - 0.075634I$ $b = 2.77247 + 0.37666I$	$13.07070 - 4.01680I$	$9.61331 + 0.81202I$
$u = -0.897293 - 0.111616I$ $a = 0.271629 + 0.075634I$ $b = 2.77247 - 0.37666I$	$13.07070 + 4.01680I$	$9.61331 - 0.81202I$
$u = 0.890645 + 0.137467I$ $a = -0.265905 - 0.093191I$ $b = -2.73738 + 0.46410I$	$12.1328 + 10.4310I$	$8.31438 - 5.43420I$
$u = 0.890645 - 0.137467I$ $a = -0.265905 + 0.093191I$ $b = -2.73738 - 0.46410I$	$12.1328 - 10.4310I$	$8.31438 + 5.43420I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.473965 + 0.759787I$ $a = 0.499997 - 0.399523I$ $b = -0.386214 + 0.092533I$	$-2.89498 - 1.99126I$	$-3.21441 + 4.67828I$
$u = 0.473965 - 0.759787I$ $a = 0.499997 + 0.399523I$ $b = -0.386214 - 0.092533I$	$-2.89498 + 1.99126I$	$-3.21441 - 4.67828I$
$u = 0.730077 + 0.516813I$ $a = -0.33209 + 1.43938I$ $b = 0.692107 + 0.425189I$	$6.24399 - 1.64013I$	$7.94611 + 2.56376I$
$u = 0.730077 - 0.516813I$ $a = -0.33209 - 1.43938I$ $b = 0.692107 - 0.425189I$	$6.24399 + 1.64013I$	$7.94611 - 2.56376I$
$u = -0.621172 + 0.959007I$ $a = -0.596898 - 0.048619I$ $b = -1.37777 - 0.41758I$	$7.15122 + 9.41978I$	0
$u = -0.621172 - 0.959007I$ $a = -0.596898 + 0.048619I$ $b = -1.37777 + 0.41758I$	$7.15122 - 9.41978I$	0
$u = -0.853744$ $a = 0.244881$ $b = 3.05747$	8.46558	10.3700
$u = -0.835740 + 0.069667I$ $a = 0.121736 - 0.573005I$ $b = -0.860834 - 0.096641I$	$5.16321 - 5.92875I$	$6.57093 + 5.18628I$
$u = -0.835740 - 0.069667I$ $a = 0.121736 + 0.573005I$ $b = -0.860834 + 0.096641I$	$5.16321 + 5.92875I$	$6.57093 - 5.18628I$
$u = 0.608825 + 0.993182I$ $a = 0.636243 - 0.025508I$ $b = 1.345400 - 0.421772I$	$7.63224 - 3.42695I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.608825 - 0.993182I$ $a = 0.636243 + 0.025508I$ $b = 1.345400 + 0.421772I$	$7.63224 + 3.42695I$	0
$u = 0.830514 + 0.028983I$ $a = -0.168471 - 0.606307I$ $b = 0.834469 - 0.116020I$	$5.51190 - 0.08562I$	$7.53170 - 0.02621I$
$u = 0.830514 - 0.028983I$ $a = -0.168471 + 0.606307I$ $b = 0.834469 + 0.116020I$	$5.51190 + 0.08562I$	$7.53170 + 0.02621I$
$u = 0.814288 + 0.058409I$ $a = -0.218467 - 0.037164I$ $b = -3.20383 + 0.31940I$	$4.47676 + 4.08811I$	$5.94358 - 3.55557I$
$u = 0.814288 - 0.058409I$ $a = -0.218467 + 0.037164I$ $b = -3.20383 - 0.31940I$	$4.47676 - 4.08811I$	$5.94358 + 3.55557I$
$u = -0.420036 + 1.121960I$ $a = -1.312780 + 0.338786I$ $b = -0.980693 - 0.347373I$	$2.29503 + 1.39582I$	0
$u = -0.420036 - 1.121960I$ $a = -1.312780 - 0.338786I$ $b = -0.980693 + 0.347373I$	$2.29503 - 1.39582I$	0
$u = 0.022114 + 1.201810I$ $a = 0.026017 + 0.667704I$ $b = 0.051525 - 0.715255I$	$12.02500 - 3.18270I$	0
$u = 0.022114 - 1.201810I$ $a = 0.026017 - 0.667704I$ $b = 0.051525 + 0.715255I$	$12.02500 + 3.18270I$	0
$u = 0.427711 + 1.135650I$ $a = 0.800534 + 0.574575I$ $b = 0.980152 - 0.405539I$	$4.29603 - 3.85211I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.427711 - 1.135650I$ $a = 0.800534 - 0.574575I$ $b = 0.980152 + 0.405539I$	$4.29603 + 3.85211I$	0
$u = -0.462927 + 0.633291I$ $a = 0.53377 + 1.87620I$ $b = -0.529788 + 0.626997I$	$0.307290 - 0.999281I$	$1.095810 - 0.533831I$
$u = -0.462927 - 0.633291I$ $a = 0.53377 - 1.87620I$ $b = -0.529788 - 0.626997I$	$0.307290 + 0.999281I$	$1.095810 + 0.533831I$
$u = 0.484079 + 1.119780I$ $a = 0.866749 + 0.224504I$ $b = 1.140810 - 0.396001I$	$3.93599 - 3.81750I$	0
$u = 0.484079 - 1.119780I$ $a = 0.866749 - 0.224504I$ $b = 1.140810 + 0.396001I$	$3.93599 + 3.81750I$	0
$u = -0.213622 + 0.748341I$ $a = -0.526734 + 0.180517I$ $b = -0.072777 + 0.311265I$	$0.469913 + 1.044090I$	$6.86138 - 6.22374I$
$u = -0.213622 - 0.748341I$ $a = -0.526734 - 0.180517I$ $b = -0.072777 - 0.311265I$	$0.469913 - 1.044090I$	$6.86138 + 6.22374I$
$u = -0.477124 + 1.149760I$ $a = -1.013430 + 0.942548I$ $b = -1.032000 - 0.244669I$	$1.86076 + 6.51679I$	0
$u = -0.477124 - 1.149760I$ $a = -1.013430 - 0.942548I$ $b = -1.032000 + 0.244669I$	$1.86076 - 6.51679I$	0
$u = 0.478853 + 0.518342I$ $a = 0.157255 - 0.210245I$ $b = -0.243674 + 0.798703I$	$0.01114 + 2.66370I$	$0.22333 - 3.59171I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.478853 - 0.518342I$ $a = 0.157255 + 0.210245I$ $b = -0.243674 - 0.798703I$	$0.01114 - 2.66370I$	$0.22333 + 3.59171I$
$u = 0.430621 + 1.222960I$ $a = -3.99939 - 1.81832I$ $b = -3.41999 + 0.85134I$	$8.27741 - 0.27610I$	0
$u = 0.430621 - 1.222960I$ $a = -3.99939 + 1.81832I$ $b = -3.41999 - 0.85134I$	$8.27741 + 0.27610I$	0
$u = -0.423343 + 1.234360I$ $a = -1.180390 + 0.077989I$ $b = -1.128210 - 0.192853I$	$9.08229 - 1.53556I$	0
$u = -0.423343 - 1.234360I$ $a = -1.180390 - 0.077989I$ $b = -1.128210 + 0.192853I$	$9.08229 + 1.53556I$	0
$u = 0.484159 + 1.214790I$ $a = -3.23346 - 2.92931I$ $b = -3.61500 - 0.04388I$	$7.89154 - 8.79580I$	0
$u = 0.484159 - 1.214790I$ $a = -3.23346 + 2.92931I$ $b = -3.61500 + 0.04388I$	$7.89154 + 8.79580I$	0
$u = 0.445621 + 1.230110I$ $a = 1.142860 + 0.074777I$ $b = 1.143680 - 0.218383I$	$9.26755 - 4.60038I$	0
$u = 0.445621 - 1.230110I$ $a = 1.142860 - 0.074777I$ $b = 1.143680 + 0.218383I$	$9.26755 + 4.60038I$	0
$u = 0.473133 + 1.225410I$ $a = 0.674158 + 1.005180I$ $b = 0.842255 - 0.176963I$	$9.06923 - 4.59966I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.473133 - 1.225410I$ $a = 0.674158 - 1.005180I$ $b = 0.842255 + 0.176963I$	$9.06923 + 4.59966I$	0
$u = -0.491722 + 1.221380I$ $a = -0.696670 + 1.055440I$ $b = -0.864778 - 0.142267I$	$8.58962 + 10.73420I$	0
$u = -0.491722 - 1.221380I$ $a = -0.696670 - 1.055440I$ $b = -0.864778 + 0.142267I$	$8.58962 - 10.73420I$	0
$u = -0.461673 + 1.239500I$ $a = 3.34624 - 2.19469I$ $b = 3.30822 + 0.35003I$	$12.19070 + 4.68445I$	0
$u = -0.461673 - 1.239500I$ $a = 3.34624 + 2.19469I$ $b = 3.30822 - 0.35003I$	$12.19070 - 4.68445I$	0
$u = -0.659131 + 0.138583I$ $a = 0.131715 - 0.302385I$ $b = -0.783683 + 0.078001I$	$-1.00843 - 2.17613I$	$-0.72572 + 4.89946I$
$u = -0.659131 - 0.138583I$ $a = 0.131715 + 0.302385I$ $b = -0.783683 - 0.078001I$	$-1.00843 + 2.17613I$	$-0.72572 - 4.89946I$
$u = 0.376961 + 1.272580I$ $a = -3.27843 - 0.87003I$ $b = -2.59679 + 0.91122I$	$16.5475 + 6.0856I$	0
$u = 0.376961 - 1.272580I$ $a = -3.27843 + 0.87003I$ $b = -2.59679 - 0.91122I$	$16.5475 - 6.0856I$	0
$u = -0.395993 + 1.275570I$ $a = 3.25352 - 1.08729I$ $b = 2.70154 + 0.80021I$	$17.3961 + 0.4584I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.395993 - 1.275570I$ $a = 3.25352 + 1.08729I$ $b = 2.70154 - 0.80021I$	$17.3961 - 0.4584I$	0
$u = 0.532038 + 1.229040I$ $a = -2.22989 - 2.75471I$ $b = -3.06819 - 0.43695I$	$15.4242 - 15.5867I$	0
$u = 0.532038 - 1.229040I$ $a = -2.22989 + 2.75471I$ $b = -3.06819 + 0.43695I$	$15.4242 + 15.5867I$	0
$u = -0.522093 + 1.238600I$ $a = 2.39580 - 2.61515I$ $b = 3.07981 - 0.29683I$	$16.4786 + 9.1429I$	0
$u = -0.522093 - 1.238600I$ $a = 2.39580 + 2.61515I$ $b = 3.07981 + 0.29683I$	$16.4786 - 9.1429I$	0
$u = 0.589183 + 0.225941I$ $a = -0.856805 + 1.015170I$ $b = 0.572688 + 0.230131I$	$1.41466 - 0.43042I$	$4.49722 - 0.21738I$
$u = 0.589183 - 0.225941I$ $a = -0.856805 - 1.015170I$ $b = 0.572688 - 0.230131I$	$1.41466 + 0.43042I$	$4.49722 + 0.21738I$
$u = 0.603179$ $a = -0.604155$ $b = 0.636890$	1.24472	8.33220
$u = -0.441124 + 0.397291I$ $a = -0.091294 - 0.136266I$ $b = -0.316370 + 0.765160I$	$0.25766 + 1.95200I$	$-0.06852 - 3.23110I$
$u = -0.441124 - 0.397291I$ $a = -0.091294 + 0.136266I$ $b = -0.316370 - 0.765160I$	$0.25766 - 1.95200I$	$-0.06852 + 3.23110I$

II.

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^2a + 2u^3 + 4u^2 + 2u + 12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6	$(y^2 + y + 1)^4$
c_3, c_{11}	$(y^2 - 2y + 2)^4$
c_4, c_{10}	$(y^2 + 2y + 2)^4$
c_7, c_8, c_{12}	$(y - 1)^8$
c_9	$(y^2 + 4)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.455090 + 1.098680I$ $a = 0.41086 + 1.68782I$ $b = 1.59868 + 0.41094I$	$4.11234 - 5.69375I$	$10.00000 + 7.46410I$
$u = 0.455090 + 1.098680I$ $a = 2.14291 - 0.04423I$ $b = 1.59868 - 1.32112I$	$4.11234 - 1.63398I$	$10.00000 + 0.53590I$
$u = 0.455090 - 1.098680I$ $a = 0.41086 - 1.68782I$ $b = 1.59868 - 0.41094I$	$4.11234 + 5.69375I$	$10.00000 - 7.46410I$
$u = 0.455090 - 1.098680I$ $a = 2.14291 + 0.04423I$ $b = 1.59868 + 1.32112I$	$4.11234 + 1.63398I$	$10.00000 - 0.53590I$
$u = -0.455090 + 1.098680I$ $a = 0.589138 + 0.687823I$ $b = -0.598684 + 0.410936I$	$4.11234 + 1.63398I$	$10.00000 - 0.53590I$
$u = -0.455090 + 1.098680I$ $a = -1.14291 - 1.04423I$ $b = -0.59868 - 1.32112I$	$4.11234 + 5.69375I$	$10.00000 - 7.46410I$
$u = -0.455090 - 1.098680I$ $a = 0.589138 - 0.687823I$ $b = -0.598684 - 0.410936I$	$4.11234 - 1.63398I$	$10.00000 + 0.53590I$
$u = -0.455090 - 1.098680I$ $a = -1.14291 + 1.04423I$ $b = -0.59868 + 1.32112I$	$4.11234 - 5.69375I$	$10.00000 + 7.46410I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4v + 8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v =$	$0.500000 + 0.866025I$		
$a =$	0	$1.64493 + 2.02988I$	$6.00000 - 3.46410I$
$b =$	$0.500000 - 0.866025I$		
$v =$	$0.500000 - 0.866025I$		
$a =$	0	$1.64493 - 2.02988I$	$6.00000 + 3.46410I$
$b =$	$0.500000 + 0.866025I$		

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$((u^2-u+1)^5)(u^{80}+24u^{79}+\cdots+8u+1)$
c_2	$((u^2-u+1)^4)(u^2+u+1)(u^{80}-2u^{79}+\cdots-2u+1)$
c_3, c_{11}	$u^2(u^4-2u^2+2)^2(u^{80}+u^{79}+\cdots-452u-404)$
c_4, c_{10}	$u^2(u^4+2u^2+2)^2(u^{80}-u^{79}+\cdots+4u-4)$
c_6	$(u^2-u+1)(u^2+u+1)^4(u^{80}-2u^{79}+\cdots-2u+1)$
c_7, c_8	$((u-1)^8)(u+1)^2(u^{80}-3u^{79}+\cdots-83u-13)$
c_9	$u^2(u^2+2u+2)^4(u^{80}-45u^{79}+\cdots-80u+16)$
c_{12}	$((u-1)^2)(u+1)^8(u^{80}-3u^{79}+\cdots-83u-13)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y^2+y+1)^5)(y^{80}+72y^{79}+\cdots-56y+1)$
c_2, c_6	$((y^2+y+1)^5)(y^{80}+24y^{79}+\cdots+8y+1)$
c_3, c_{11}	$y^2(y^2-2y+2)^4(y^{80}-75y^{79}+\cdots-2017456y+163216)$
c_4, c_{10}	$y^2(y^2+2y+2)^4(y^{80}+45y^{79}+\cdots+80y+16)$
c_7, c_8, c_{12}	$((y-1)^{10})(y^{80}-85y^{79}+\cdots-3353y+169)$
c_9	$y^2(y^2+4)^4(y^{80}-15y^{79}+\cdots-1792y+256)$