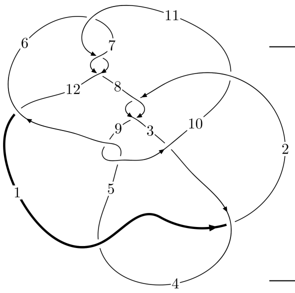
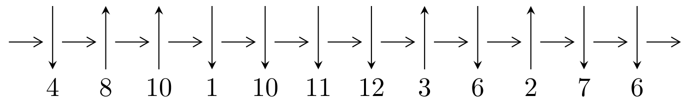
$12n_{0875}$ ($K12n_{0875}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -41u^{26} + 353u^{25} + \cdots + 8b + 776,\ -421u^{26} + 3271u^{25} + \cdots + 16a + 5248, \\
&\quad u^{27} - 9u^{26} + \cdots + 32u + 16 \rangle \\
I_2^u &= \langle 5.05025 \times 10^{19} a^7u^4 + 2.52836 \times 10^{19} a^6u^4 + \cdots - 5.62996 \times 10^{20} a - 3.53454 \times 10^{20}, \\
&\quad a^7u^4 + 2a^6u^4 + \cdots + 2a + 8,\ u^5 + u^4 - 2u^3 - u^2 + u - 1 \rangle \\
I_3^u &= \langle -u^{17} + u^{16} + \cdots + b - 1,\ -u^{17} + 2u^{16} + \cdots + a + 1,\ u^{18} - 10u^{16} + \cdots + 2u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 85 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. $\boldsymbol{I^u_1 = \langle -41u^{26} + 353u^{25} + \cdots + 8b + 776,\ -421u^{26} + 3271u^{25} + \cdots + 16a + 5248,\ u^{27} - 9u^{26} + \cdots + 32u + 16\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{421}{16}u^{26} - \frac{3271}{16}u^{25} + \cdots - 900u - 328 \\ \frac{41}{8}u^{26} - \frac{353}{8}u^{25} + \cdots - 287u - 97 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{389}{16}u^{26} - \frac{2911}{16}u^{25} + \cdots - 639u - 246 \\ \frac{185}{8}u^{26} - \frac{1413}{8}u^{25} + \cdots - 660u - 251 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^4 + u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -9.50000u^{26} + 71.5000u^{25} + \cdots + 263.500u + 100.500 \\ -6u^{26} + \frac{93}{2}u^{25} + \cdots + \frac{393}{2}u + 72 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{95}{4}u^{26} - \frac{689}{4}u^{25} + \cdots - \frac{2027}{4}u - 204 \\ \frac{143}{4}u^{26} - 267u^{25} + \cdots - 951u - 364 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -34u^{26} + \frac{997}{4}u^{25} + \cdots + \frac{3177}{4}u + 312 \\ -\frac{61}{4}u^{26} + 114u^{25} + \cdots + 409u + 156 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 2u^{26} - \frac{25}{2}u^{25} + \cdots - \frac{1}{2}u - \frac{7}{2} \\ \frac{11}{2}u^{26} - \frac{75}{2}u^{25} + \cdots - \frac{135}{2}u - 32 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{21}{2}u^{26} - \frac{155}{2}u^{25} + \cdots - 328u - 122$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{27} - 12u^{26} + \cdots + 208u - 32$
c_2, c_8, c_{10}	$u^{27} - u^{26} + \cdots - u^2 + 1$
c_3	$u^{27} + 14u^{25} + \cdots + 15u + 6$
c_5, c_9	$u^{27} + u^{26} + \cdots + 3u + 1$
c_6, c_7, c_{11}	$u^{27} - 9u^{26} + \cdots + 32u + 16$
c_{12}	$u^{27} + 27u^{26} + \cdots + 69984u + 2544$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{27} + 12y^{26} + \cdots + 2816y - 1024$
c_2, c_8, c_{10}	$y^{27} - 11y^{26} + \cdots + 2y - 1$
c_3	$y^{27} + 28y^{26} + \cdots - 735y - 36$
c_5, c_9	$y^{27} - 39y^{26} + \cdots - 23y - 1$
c_6, c_7, c_{11}	$y^{27} - 25y^{26} + \cdots - 896y - 256$
c_{12}	$y^{27} - 5y^{26} + \cdots + 1414291584y - 6471936$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.964369$ $a = -0.318344$ $b = -0.603064$	-1.76934	-4.68310
$u = -0.803711 + 0.683866I$ $a = 0.491705 + 0.343530I$ $b = 1.095410 - 0.539428I$	$-0.57691 - 5.99392I$	$-1.84311 + 4.05619I$
$u = -0.803711 - 0.683866I$ $a = 0.491705 - 0.343530I$ $b = 1.095410 + 0.539428I$	$-0.57691 + 5.99392I$	$-1.84311 - 4.05619I$
$u = -0.370454 + 0.864963I$ $a = 0.583628 - 0.747382I$ $b = -1.26577 - 0.69912I$	$0.74691 + 11.25370I$	$-0.99031 - 7.88400I$
$u = -0.370454 - 0.864963I$ $a = 0.583628 + 0.747382I$ $b = -1.26577 + 0.69912I$	$0.74691 - 11.25370I$	$-0.99031 + 7.88400I$
$u = -0.771780 + 0.532650I$ $a = -0.558602 - 0.144325I$ $b = -0.800896 + 0.600402I$	$-2.49843 + 0.05140I$	$-5.15323 - 0.12545I$
$u = -0.771780 - 0.532650I$ $a = -0.558602 + 0.144325I$ $b = -0.800896 - 0.600402I$	$-2.49843 - 0.05140I$	$-5.15323 + 0.12545I$
$u = -0.041989 + 0.912394I$ $a = 0.651675 - 0.346284I$ $b = -0.856463 - 0.371397I$	$6.42911 + 1.54622I$	$-1.38870 - 4.76643I$
$u = -0.041989 - 0.912394I$ $a = 0.651675 + 0.346284I$ $b = -0.856463 + 0.371397I$	$6.42911 - 1.54622I$	$-1.38870 + 4.76643I$
$u = -0.313750 + 0.820442I$ $a = -0.691743 + 0.655778I$ $b = 1.056140 + 0.752548I$	$-0.95670 + 4.64749I$	$-3.11625 - 4.28962I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.313750 - 0.820442I$ $a = -0.691743 - 0.655778I$ $b = 1.056140 - 0.752548I$	$-0.95670 - 4.64749I$	$-3.11625 + 4.28962I$
$u = 1.291790 + 0.132006I$ $a = 0.39275 + 1.80597I$ $b = -0.236326 + 0.731369I$	$-4.71486 - 2.66219I$	$-10.24513 + 2.16538I$
$u = 1.291790 - 0.132006I$ $a = 0.39275 - 1.80597I$ $b = -0.236326 - 0.731369I$	$-4.71486 + 2.66219I$	$-10.24513 - 2.16538I$
$u = -1.235650 + 0.498505I$ $a = 0.272822 + 0.119393I$ $b = 0.892468 - 0.171957I$	$2.75085 + 3.44962I$	$-3.04006 - 0.75559I$
$u = -1.235650 - 0.498505I$ $a = 0.272822 - 0.119393I$ $b = 0.892468 + 0.171957I$	$2.75085 - 3.44962I$	$-3.04006 + 0.75559I$
$u = 1.304880 + 0.416381I$ $a = -0.322702 - 1.316720I$ $b = 0.810130 - 0.511841I$	$2.23251 - 6.28195I$	$-4.42614 + 9.81569I$
$u = 1.304880 - 0.416381I$ $a = -0.322702 + 1.316720I$ $b = 0.810130 + 0.511841I$	$2.23251 + 6.28195I$	$-4.42614 - 9.81569I$
$u = 1.44686 + 0.33023I$ $a = -0.06455 + 1.78314I$ $b = -1.14982 + 0.91803I$	$-6.58526 - 8.82619I$	$-6.63229 + 4.83886I$
$u = 1.44686 - 0.33023I$ $a = -0.06455 - 1.78314I$ $b = -1.14982 - 0.91803I$	$-6.58526 + 8.82619I$	$-6.63229 - 4.83886I$
$u = 1.47459 + 0.33777I$ $a = 0.27730 - 1.78435I$ $b = 1.33721 - 0.86260I$	$-5.1650 - 15.6109I$	$-4.73031 + 8.36235I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.47459 - 0.33777I$ $a = 0.27730 + 1.78435I$ $b = 1.33721 + 0.86260I$	$-5.1650 + 15.6109I$	$-4.73031 - 8.36235I$
$u = 1.56344 + 0.10077I$ $a = 0.666759 + 0.733427I$ $b = 0.423378 + 0.781537I$	$-10.26540 - 2.14143I$	$-10.01123 - 1.60680I$
$u = 1.56344 - 0.10077I$ $a = 0.666759 - 0.733427I$ $b = 0.423378 - 0.781537I$	$-10.26540 + 2.14143I$	$-10.01123 + 1.60680I$
$u = -0.207167 + 0.338394I$ $a = -0.807617 + 0.644314I$ $b = 0.198877 + 0.473880I$	$-0.191214 + 0.917747I$	$-4.07825 - 7.40992I$
$u = -0.207167 - 0.338394I$ $a = -0.807617 - 0.644314I$ $b = 0.198877 - 0.473880I$	$-0.191214 - 0.917747I$	$-4.07825 + 7.40992I$
$u = 1.64512 + 0.10744I$ $a = -0.732246 - 0.267743I$ $b = -0.702805 - 0.461250I$	$-9.10720 + 3.18920I$	$-2.50344 - 8.37472I$
$u = 1.64512 - 0.10744I$ $a = -0.732246 + 0.267743I$ $b = -0.702805 + 0.461250I$	$-9.10720 - 3.18920I$	$-2.50344 + 8.37472I$

II. $\boldsymbol{I^u_2 = \langle 5.05 \times 10^{19} a^7 u^4 + 2.53 \times 10^{19} a^6 u^4 + \cdots - 5.63 \times 10^{20} a - 3.53 \times 10^{20},\ a^7 u^4 + 2a^6 u^4 + \cdots + 2a + 8,\ u^5 + u^4 - 2u^3 - u^2 + u - 1\rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} a \\ -0.122834a^7u^4 - 0.0614957a^6u^4 + \cdots + 1.36934a + 0.859686 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0599628a^7u^4 - 0.0892303a^6u^4 + \cdots + 0.480015a - 0.153698 \\ -0.0963330a^7u^4 + 0.0655129a^6u^4 + \cdots + 0.468860a + 0.984014 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^4 + u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.00880396a^7u^4 + 0.0745605a^6u^4 + \cdots - 0.0852193a + 1.19688 \\ -0.102685a^7u^4 + 0.0867561a^6u^4 + \cdots + 0.183710a + 0.753308 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0864621a^7u^4 - 0.0164718a^6u^4 + \cdots - 0.406676a + 0.181351 \\ -0.0228102a^7u^4 + 0.150985a^6u^4 + \cdots + 0.872274a - 0.350649 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0542117a^7u^4 - 0.181136a^6u^4 + \cdots + 2.21194a + 1.16802 \\ 0.0222538a^7u^4 + 0.109064a^6u^4 + \cdots + 1.48393a + 0.181306 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0452252a^7u^4 - 0.158091a^6u^4 + \cdots + 0.0512540a + 2.19986 \\ -0.0662635a^7u^4 - 0.145896a^6u^4 + \cdots + 0.320183a + 1.75629 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{16148707462802547 6936}{411143306059987191701}a^7u^4 + \frac{242282595791648428492}{411143306059987191701}a^6u^4 + \cdots - \frac{212148591445709258134 4}{411143306059987191701}a - \frac{287727592780997542503 0}{411143306059987191701}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^4 + u^3 + u^2 + 1)^{10}$
c_2, c_8, c_{10}	$u^{40} + u^{39} + \cdots - 2070u + 277$
c_3	$u^{40} + u^{39} + \cdots + 19056u + 6533$
c_5, c_9	$u^{40} + 3u^{39} + \cdots + 2230u + 179$
c_6, c_7, c_{11}	$(u^5 + u^4 - 2u^3 - u^2 + u - 1)^8$
c_{12}	$(u^5 - 3u^4 + 4u^3 - u^2 - u + 1)^8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^4 + y^3 + 3y^2 + 2y + 1)^{10}$
c_2, c_8, c_{10}	$y^{40} - 21y^{39} + \cdots - 2195212y + 76729$
c_3	$y^{40} - y^{39} + \cdots + 822647562y + 42680089$
c_5, c_9	$y^{40} - 13y^{39} + \cdots - 585968y + 32041$
c_6, c_7, c_{11}	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)^8$
c_{12}	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^8$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.21774$ $a = 0.013355 + 0.679058I$ $b = 1.42762 + 0.04887I$	$2.74473 - 1.41510I$	$0.34560 + 4.90874I$
$u = 1.21774$ $a = 0.013355 - 0.679058I$ $b = 1.42762 - 0.04887I$	$2.74473 + 1.41510I$	$0.34560 - 4.90874I$
$u = 1.21774$ $a = -1.156090 + 0.786785I$ $b = -1.73061 + 0.33980I$	$2.74473 - 1.41510I$	$0.34560 + 4.90874I$
$u = 1.21774$ $a = -1.156090 - 0.786785I$ $b = -1.73061 - 0.33980I$	$2.74473 + 1.41510I$	$0.34560 - 4.90874I$
$u = 1.21774$ $a = -0.02233 + 2.04699I$ $b = 0.309062 + 0.060548I$	$-4.25702 - 3.16396I$	$-3.30788 + 2.56480I$
$u = 1.21774$ $a = -0.02233 - 2.04699I$ $b = 0.309062 - 0.060548I$	$-4.25702 + 3.16396I$	$-3.30788 - 2.56480I$
$u = 1.21774$ $a = -0.28099 + 2.44297I$ $b = -0.389484 + 1.129940I$	$-4.25702 - 3.16396I$	$-3.30788 + 2.56480I$
$u = 1.21774$ $a = -0.28099 - 2.44297I$ $b = -0.389484 - 1.129940I$	$-4.25702 + 3.16396I$	$-3.30788 - 2.56480I$
$u = 0.309916 + 0.549911I$ $a = 0.146171 - 1.055970I$ $b = 1.055970 - 0.619228I$	$4.81671 - 2.94568I$	$1.31162 + 9.33939I$
$u = 0.309916 + 0.549911I$ $a = -0.346370 - 1.015430I$ $b = 1.46492 - 0.16034I$	$4.81671 - 0.11547I$	$1.311623 - 0.478094I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.309916 + 0.549911I$ $a = 0.315118 - 0.341217I$ $b = -0.330723 - 1.174280I$	$-2.18504 - 4.69454I$	$-2.34185 + 6.99545I$
$u = 0.309916 + 0.549911I$ $a = -0.391964 + 0.132667I$ $b = 0.693402 + 0.981583I$	$-2.18504 + 1.63338I$	$-2.34185 + 1.86585I$
$u = 0.309916 + 0.549911I$ $a = -0.46708 + 1.64131I$ $b = -0.914109 + 0.007273I$	$4.81671 - 0.11547I$	$1.311623 - 0.478094I$
$u = 0.309916 + 0.549911I$ $a = 0.65926 + 1.69213I$ $b = -1.338800 + 0.122412I$	$4.81671 - 2.94568I$	$1.31162 + 9.33939I$
$u = 0.309916 + 0.549911I$ $a = -2.08847 + 0.01907I$ $b = 0.618894 - 0.541366I$	$-2.18504 + 1.63338I$	$-2.34185 + 1.86585I$
$u = 0.309916 + 0.549911I$ $a = 2.16319 + 0.52446I$ $b = -0.910444 + 0.561565I$	$-2.18504 - 4.69454I$	$-2.34185 + 6.99545I$
$u = 0.309916 - 0.549911I$ $a = 0.146171 + 1.055970I$ $b = 1.055970 + 0.619228I$	$4.81671 + 2.94568I$	$1.31162 - 9.33939I$
$u = 0.309916 - 0.549911I$ $a = -0.346370 + 1.015430I$ $b = 1.46492 + 0.16034I$	$4.81671 + 0.11547I$	$1.311623 + 0.478094I$
$u = 0.309916 - 0.549911I$ $a = 0.315118 + 0.341217I$ $b = -0.330723 + 1.174280I$	$-2.18504 + 4.69454I$	$-2.34185 - 6.99545I$
$u = 0.309916 - 0.549911I$ $a = -0.391964 - 0.132667I$ $b = 0.693402 - 0.981583I$	$-2.18504 - 1.63338I$	$-2.34185 - 1.86585I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.309916 - 0.549911I$ $a = -0.46708 - 1.64131I$ $b = -0.914109 - 0.007273I$	$4.81671 + 0.11547I$	$1.311623 + 0.478094I$
$u = 0.309916 - 0.549911I$ $a = 0.65926 - 1.69213I$ $b = -1.338800 - 0.122412I$	$4.81671 + 2.94568I$	$1.31162 - 9.33939I$
$u = 0.309916 - 0.549911I$ $a = -2.08847 - 0.01907I$ $b = 0.618894 + 0.541366I$	$-2.18504 - 1.63338I$	$-2.34185 - 1.86585I$
$u = 0.309916 - 0.549911I$ $a = 2.16319 - 0.52446I$ $b = -0.910444 - 0.561565I$	$-2.18504 + 4.69454I$	$-2.34185 - 6.99545I$
$u = -1.41878 + 0.21917I$ $a = 0.365290 - 1.160210I$ $b = -1.073010 - 0.613252I$	$-7.72850 + 1.23687I$	$-6.57105 - 0.93379I$
$u = -1.41878 + 0.21917I$ $a = 0.71484 + 1.27508I$ $b = 0.589674 + 0.279437I$	$-0.72676 + 2.98573I$	$-2.91758 + 1.41016I$
$u = -1.41878 + 0.21917I$ $a = -0.25095 + 1.45980I$ $b = 1.226260 + 0.624039I$	$-7.72850 + 7.56480I$	$-6.57105 - 6.06338I$
$u = -1.41878 + 0.21917I$ $a = -0.93744 + 1.18988I$ $b = -0.83801 + 1.19485I$	$-7.72850 + 1.23687I$	$-6.57105 - 0.93379I$
$u = -1.41878 + 0.21917I$ $a = -0.91744 - 1.39733I$ $b = -1.37802 - 0.52268I$	$-0.72676 + 2.98573I$	$-2.91758 + 1.41016I$
$u = -1.41878 + 0.21917I$ $a = 0.70648 + 1.58918I$ $b = 1.227650 + 0.310123I$	$-0.72676 + 5.81594I$	$-2.91758 - 8.40733I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.41878 + 0.21917I$ $a = 0.81391 - 1.56615I$ $b = 0.58917 - 1.45737I$	$-7.72850 + 7.56480I$	$-6.57105 - 6.06338I$
$u = -1.41878 + 0.21917I$ $a = -0.53850 - 1.75583I$ $b = -0.799412 - 1.015300I$	$-0.72676 + 5.81594I$	$-2.91758 - 8.40733I$
$u = -1.41878 - 0.21917I$ $a = 0.365290 + 1.160210I$ $b = -1.073010 + 0.613252I$	$-7.72850 - 1.23687I$	$-6.57105 + 0.93379I$
$u = -1.41878 - 0.21917I$ $a = 0.71484 - 1.27508I$ $b = 0.589674 - 0.279437I$	$-0.72676 - 2.98573I$	$-2.91758 - 1.41016I$
$u = -1.41878 - 0.21917I$ $a = -0.25095 - 1.45980I$ $b = 1.226260 - 0.624039I$	$-7.72850 - 7.56480I$	$-6.57105 + 6.06338I$
$u = -1.41878 - 0.21917I$ $a = -0.93744 - 1.18988I$ $b = -0.83801 - 1.19485I$	$-7.72850 - 1.23687I$	$-6.57105 + 0.93379I$
$u = -1.41878 - 0.21917I$ $a = -0.91744 + 1.39733I$ $b = -1.37802 + 0.52268I$	$-0.72676 - 2.98573I$	$-2.91758 - 1.41016I$
$u = -1.41878 - 0.21917I$ $a = 0.70648 - 1.58918I$ $b = 1.227650 - 0.310123I$	$-0.72676 - 5.81594I$	$-2.91758 + 8.40733I$
$u = -1.41878 - 0.21917I$ $a = 0.81391 + 1.56615I$ $b = 0.58917 + 1.45737I$	$-7.72850 - 7.56480I$	$-6.57105 + 6.06338I$
$u = -1.41878 - 0.21917I$ $a = -0.53850 + 1.75583I$ $b = -0.799412 + 1.015300I$	$-0.72676 - 5.81594I$	$-2.91758 + 8.40733I$

III.
$\boldsymbol{I_3^u = \langle -u^{17}+u^{16}+\cdots+b-1,\ -u^{17}+2u^{16}+\cdots+a+1,\ u^{18}-10u^{16}+\cdots+2u+1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{17} - 2u^{16} + \cdots + 2u - 1 \\ u^{17} - u^{16} + \cdots - 5u^2 + 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{16} + 2u^{15} + \cdots + u - 2 \\ u^{17} - 9u^{15} + \cdots - 4u^2 + 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^4 + u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^{17} - u^{16} + \cdots - 3u + 4 \\ u^{15} - 8u^{13} + \cdots - 2u^2 + 2u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{17} - 2u^{16} + \cdots + 3u - 4 \\ -2u^{16} + 17u^{14} + \cdots + 2u + 2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^{16} + 2u^{15} + \cdots + u - 2 \\ -u^{16} + 9u^{14} + \cdots + u + 2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{17} - 9u^{15} + \cdots - 4u + 3 \\ u^{16} + u^{15} + \cdots + u - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3u^{17} + 9u^{16} + 24u^{15} - 78u^{14} - 71u^{13} + 270u^{12} + 65u^{11} - 443u^{10} + 105u^9 + 266u^8 - 278u^7 + 136u^6 + 173u^5 - 194u^4 + 5u^3 + 8u^2 - 4u - 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{18} - 3u^{17} + \cdots + 7u^2 + 1$
c_2, c_{10}	$u^{18} - u^{17} + \cdots - u + 1$
c_3	$u^{18} - 4u^{15} + \cdots + 72u + 89$
c_4	$u^{18} + 3u^{17} + \cdots + 7u^2 + 1$
c_5	$u^{18} + u^{17} + \cdots + 4u^2 + 1$
c_6, c_7	$u^{18} - 10u^{16} + \cdots - 2u + 1$
c_8	$u^{18} + u^{17} + \cdots + u + 1$
c_9	$u^{18} - u^{17} + \cdots + 4u^2 + 1$
c_{11}	$u^{18} - 10u^{16} + \cdots + 2u + 1$
c_{12}	$u^{18} - 2u^{16} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{18} + 11y^{17} + \cdots + 14y + 1$
c_2, c_8, c_{10}	$y^{18} - 15y^{17} + \cdots + 3y + 1$
c_3	$y^{18} + 18y^{16} + \cdots + 13506y + 7921$
c_5, c_9	$y^{18} - 3y^{17} + \cdots + 8y + 1$
c_6, c_7, c_{11}	$y^{18} - 20y^{17} + \cdots - 12y + 1$
c_{12}	$y^{18} - 4y^{17} + \cdots - 20y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.150560 + 0.836512I$ $a = -0.533179 - 0.729886I$ $b = 1.075140 - 0.196010I$	$7.45701 - 0.86946I$	$5.92156 + 0.65299I$
$u = 0.150560 - 0.836512I$ $a = -0.533179 + 0.729886I$ $b = 1.075140 + 0.196010I$	$7.45701 + 0.86946I$	$5.92156 - 0.65299I$
$u = 1.168950 + 0.333469I$ $a = -0.464909 + 0.152055I$ $b = -1.296280 - 0.148875I$	$4.40486 - 3.34214I$	$1.38697 + 3.55930I$
$u = 1.168950 - 0.333469I$ $a = -0.464909 - 0.152055I$ $b = -1.296280 + 0.148875I$	$4.40486 + 3.34214I$	$1.38697 - 3.55930I$
$u = -1.235970 + 0.060491I$ $a = 0.03532 + 2.77384I$ $b = 0.257150 + 0.795688I$	$-5.01572 + 3.63551I$	$-13.7646 - 8.6540I$
$u = -1.235970 - 0.060491I$ $a = 0.03532 - 2.77384I$ $b = 0.257150 - 0.795688I$	$-5.01572 - 3.63551I$	$-13.7646 + 8.6540I$
$u = 1.239720 + 0.079694I$ $a = 0.573148 + 0.001579I$ $b = 1.58735 + 0.16330I$	$2.15137 + 0.50360I$	$-5.12126 + 2.00101I$
$u = 1.239720 - 0.079694I$ $a = 0.573148 - 0.001579I$ $b = 1.58735 - 0.16330I$	$2.15137 - 0.50360I$	$-5.12126 - 2.00101I$
$u = -1.38028 + 0.40167I$ $a = -0.176194 - 1.167390I$ $b = -0.889583 - 0.299807I$	$2.62231 + 5.36601I$	$0.26863 - 2.79489I$
$u = -1.38028 - 0.40167I$ $a = -0.176194 + 1.167390I$ $b = -0.889583 + 0.299807I$	$2.62231 - 5.36601I$	$0.26863 + 2.79489I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.44054 + 0.19476I$ $a = 0.93259 + 1.49794I$ $b = 1.105240 + 0.552133I$	$-0.52793 + 4.33231I$	$-1.41553 - 3.95185I$
$u = -1.44054 - 0.19476I$ $a = 0.93259 - 1.49794I$ $b = 1.105240 - 0.552133I$	$-0.52793 - 4.33231I$	$-1.41553 + 3.95185I$
$u = 0.280243 + 0.395808I$ $a = -0.21841 + 2.05894I$ $b = -1.315850 + 0.281244I$	$5.17187 - 1.97060I$	$5.62846 + 1.71237I$
$u = 0.280243 - 0.395808I$ $a = -0.21841 - 2.05894I$ $b = -1.315850 - 0.281244I$	$5.17187 + 1.97060I$	$5.62846 - 1.71237I$
$u = 1.59243 + 0.02692I$ $a = 0.0586212 + 0.1050240I$ $b = 0.230133 + 0.440093I$	$-9.22204 + 2.50043I$	$-4.24190 + 1.59514I$
$u = 1.59243 - 0.02692I$ $a = 0.0586212 - 0.1050240I$ $b = 0.230133 - 0.440093I$	$-9.22204 - 2.50043I$	$-4.24190 - 1.59514I$
$u = -0.375129 + 0.106964I$ $a = 1.29301 - 2.41807I$ $b = -0.253290 + 0.629019I$	$-2.10693 - 3.00421I$	$-1.16234 + 3.79276I$
$u = -0.375129 - 0.106964I$ $a = 1.29301 + 2.41807I$ $b = -0.253290 - 0.629019I$	$-2.10693 + 3.00421I$	$-1.16234 - 3.79276I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^4+u^3+u^2+1)^{10})(u^{18}-3u^{17}+\cdots+7u^2+1)$ $\cdot(u^{27}-12u^{26}+\cdots+208u-32)$
c_2, c_{10}	$(u^{18}-u^{17}+\cdots-u+1)(u^{27}-u^{26}+\cdots-u^2+1)$ $\cdot(u^{40}+u^{39}+\cdots-2070u+277)$
c_3	$(u^{18}-4u^{15}+\cdots+72u+89)(u^{27}+14u^{25}+\cdots+15u+6)$ $\cdot(u^{40}+u^{39}+\cdots+19056u+6533)$
c_4	$((u^4+u^3+u^2+1)^{10})(u^{18}+3u^{17}+\cdots+7u^2+1)$ $\cdot(u^{27}-12u^{26}+\cdots+208u-32)$
c_5	$(u^{18}+u^{17}+\cdots+4u^2+1)(u^{27}+u^{26}+\cdots+3u+1)$ $\cdot(u^{40}+3u^{39}+\cdots+2230u+179)$
c_6, c_7	$((u^5+u^4-2u^3-u^2+u-1)^8)(u^{18}-10u^{16}+\cdots-2u+1)$ $\cdot(u^{27}-9u^{26}+\cdots+32u+16)$
c_8	$(u^{18}+u^{17}+\cdots+u+1)(u^{27}-u^{26}+\cdots-u^2+1)$ $\cdot(u^{40}+u^{39}+\cdots-2070u+277)$
c_9	$(u^{18}-u^{17}+\cdots+4u^2+1)(u^{27}+u^{26}+\cdots+3u+1)$ $\cdot(u^{40}+3u^{39}+\cdots+2230u+179)$
c_{11}	$((u^5+u^4-2u^3-u^2+u-1)^8)(u^{18}-10u^{16}+\cdots+2u+1)$ $\cdot(u^{27}-9u^{26}+\cdots+32u+16)$
c_{12}	$((u^5-3u^4+4u^3-u^2-u+1)^8)(u^{18}-2u^{16}+\cdots+2u+1)$ $\cdot(u^{27}+27u^{26}+\cdots+69984u+2544)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^4+y^3+3y^2+2y+1)^{10})(y^{18}+11y^{17}+\cdots+14y+1)$ $\cdot\,(y^{27}+12y^{26}+\cdots+2816y-1024)$
c_2, c_8, c_{10}	$(y^{18}-15y^{17}+\cdots+3y+1)(y^{27}-11y^{26}+\cdots+2y-1)$ $\cdot\,(y^{40}-21y^{39}+\cdots-2195212y+76729)$
c_3	$(y^{18}+18y^{16}+\cdots+13506y+7921)(y^{27}+28y^{26}+\cdots-735y-36)$ $\cdot\,(y^{40}-y^{39}+\cdots+822647562y+42680089)$
c_5, c_9	$(y^{18}-3y^{17}+\cdots+8y+1)(y^{27}-39y^{26}+\cdots-23y-1)$ $\cdot\,(y^{40}-13y^{39}+\cdots-585968y+32041)$
c_6, c_7, c_{11}	$((y^5-5y^4+8y^3-3y^2-y-1)^8)(y^{18}-20y^{17}+\cdots-12y+1)$ $\cdot\,(y^{27}-25y^{26}+\cdots-896y-256)$
c_{12}	$((y^5-y^4+8y^3-3y^2+3y-1)^8)(y^{18}-4y^{17}+\cdots-20y+1)$ $\cdot\,(y^{27}-5y^{26}+\cdots+1414291584y-6471936)$