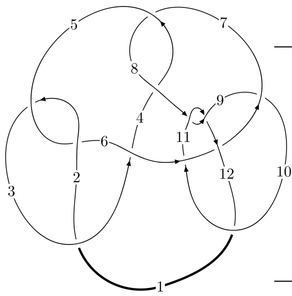
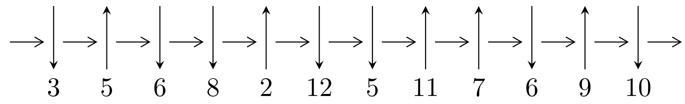
$12n_{0026}$ ($K12n_{0026}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle &-2.31952 \times 10^{254} u^{64} + 5.24011 \times 10^{254} u^{63} + \cdots + 1.57588 \times 10^{257} b - 1.11184 \times 10^{258}, \\ &3.56772 \times 10^{254} u^{64} - 1.12418 \times 10^{254} u^{63} + \cdots + 3.15176 \times 10^{257} a + 1.06289 \times 10^{259}, \\ &u^{65} - 2u^{64} + \cdots + 4096u + 4096 \rangle \\ I_2^u = \langle &u^4 - 2u^3 + b + 3u,\ -4u^4 + 5u^3 + 8u^2 + a - 8u - 3,\ u^5 - u^4 - 2u^3 + u^2 + u + 1 \rangle \end{aligned}$$

$$\begin{aligned} I_1^v = \langle &a,\ 309980v^{11} - 790238v^{10} + \cdots + 707733b - 1249018, \\ &v^{12} - 3v^{11} + 3v^{10} - 18v^9 + 31v^8 + 29v^7 - 31v^6 + 9v^5 + 19v^4 - 5v^3 - 4v^2 - v + 1 \rangle \end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 82 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. $\boldsymbol{I^u_1 = \langle -2.32 \times 10^{254} u^{64} + 5.24 \times 10^{254} u^{63} + \cdots + 1.58 \times 10^{257} b - 1.11 \times 10^{258},\ 3.57 \times 10^{254} u^{64} - 1.12 \times 10^{254} u^{63} + \cdots + 3.15 \times 10^{257} a + 1.06 \times 10^{259},\ u^{65} - 2u^{64} + \cdots + 4096u + 4096 \rangle}$

(i) Arc colorings

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

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

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

$$a_{11} = \begin{pmatrix} -0.00113198u^{64} + 0.000356685u^{63} + \cdots + 25.6060u - 33.7239 \\ 0.00147189u^{64} - 0.00332520u^{63} + \cdots + 10.0304u + 7.05539 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00104664u^{64} + 0.000312990u^{63} + \cdots + 25.0527u - 30.2720 \\ 0.00140862u^{64} - 0.00318679u^{63} + \cdots + 8.77753u + 7.26608 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0000458644u^{64} - 0.000173442u^{63} + \cdots + 1.67151u - 5.60504 \\ 0.0000363689u^{64} - 0.000165732u^{63} + \cdots + 2.08385u - 0.210615 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.000476569u^{64} - 0.000749697u^{63} + \cdots + 3.33404u + 5.48921 \\ -0.0000745146u^{64} + 0.000168353u^{63} + \cdots - 0.709852u - 0.337516 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.000390199u^{64} + 0.000564940u^{63} + \cdots - 0.279557u - 4.94851 \\ 0.000137437u^{64} - 0.000304135u^{63} + \cdots + 2.61125u + 0.546810 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.000390199u^{64} + 0.000564940u^{63} + \cdots - 0.279557u - 4.94851 \\ 0.000398870u^{64} - 0.000884646u^{63} + \cdots + 5.09202u + 1.42933 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.000327023u^{64} + 0.000433323u^{63} + \cdots - 1.25857u - 4.99343 \\ 0.000149546u^{64} - 0.000316374u^{63} + \cdots + 2.07547u + 0.495780 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.000361977u^{64} - 0.00287380u^{63} + \cdots + 33.8302u - 23.0060 \\ 0.00140862u^{64} - 0.00318679u^{63} + \cdots + 8.77753u + 7.26608 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0401453u^{64} - 0.0971031u^{63} + \cdots + 376.505u + 118.641$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{65} + 18u^{64} + \cdots - 47u - 1$
c_2, c_5	$u^{65} + 8u^{64} + \cdots + 5u + 1$
c_3	$u^{65} - 8u^{64} + \cdots + 103537045u + 13657673$
c_4, c_7	$u^{65} - 2u^{64} + \cdots + 4096u + 4096$
c_6	$u^{65} - 4u^{64} + \cdots - 3u + 1$
c_8, c_{11}	$u^{65} + 8u^{64} + \cdots + 3u + 1$
c_9	$u^{65} + 10u^{64} + \cdots + 497u + 101$
c_{10}	$u^{65} + 4u^{64} + \cdots - 606921u + 85049$
c_{12}	$u^{65} - 11u^{64} + \cdots - 192u + 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{65} + 66y^{64} + \cdots + 213y - 1$
c_2, c_5	$y^{65} + 18y^{64} + \cdots - 47y - 1$
c_3	$y^{65} + 114y^{64} + \cdots - 13102594991519615y - 186532031774929$
c_4, c_7	$y^{65} + 60y^{64} + \cdots - 134217728y - 16777216$
c_6	$y^{65} + 2y^{64} + \cdots - 19y - 1$
c_8, c_{11}	$y^{65} - 58y^{64} + \cdots - 4257y - 1$
c_9	$y^{65} - 72y^{64} + \cdots + 1225295y - 10201$
c_{10}	$y^{65} + 4y^{64} + \cdots + 132226628699y - 7233332401$
c_{12}	$y^{65} + 27y^{64} + \cdots - 52736y - 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.130385 + 0.943634I$ $a = -0.104094 + 0.791021I$ $b = -0.316979 + 0.153020I$	$-0.74329 - 4.73729I$	$-2.00000 + 8.64739I$
$u = 0.130385 - 0.943634I$ $a = -0.104094 - 0.791021I$ $b = -0.316979 - 0.153020I$	$-0.74329 + 4.73729I$	$-2.00000 - 8.64739I$
$u = 0.887268 + 0.125733I$ $a = 1.11539 - 1.61653I$ $b = 0.693000 - 0.264439I$	$1.48232 - 4.00344I$	$-0.95634 + 8.48185I$
$u = 0.887268 - 0.125733I$ $a = 1.11539 + 1.61653I$ $b = 0.693000 + 0.264439I$	$1.48232 + 4.00344I$	$-0.95634 - 8.48185I$
$u = 0.668516 + 0.588632I$ $a = -0.30780 - 1.76910I$ $b = -0.102545 - 0.380931I$	$3.65615 - 1.42936I$	$6.46603 + 3.32743I$
$u = 0.668516 - 0.588632I$ $a = -0.30780 + 1.76910I$ $b = -0.102545 + 0.380931I$	$3.65615 + 1.42936I$	$6.46603 - 3.32743I$
$u = -0.802999$ $a = 0.876374$ $b = 1.07960$	-1.43422	-8.16770
$u = 0.243832 + 0.761247I$ $a = 0.564345 - 0.323221I$ $b = -0.889123 - 0.264885I$	$1.88543 + 1.32823I$	$3.63769 - 3.79947I$
$u = 0.243832 - 0.761247I$ $a = 0.564345 + 0.323221I$ $b = -0.889123 + 0.264885I$	$1.88543 - 1.32823I$	$3.63769 + 3.79947I$
$u = -0.607968 + 0.481302I$ $a = 0.739828 + 0.188137I$ $b = 0.889610 - 0.904503I$	$-1.68242 - 0.00290I$	$-4.75043 - 0.81603I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.607968-0.481302I$ $a=\ \ 0.739828-0.188137I$ $b=\ \ 0.889610+0.904503I$	$-1.68242+0.00290I$	$-4.75043+0.81603I$
$u=-0.031117+0.710250I$ $a=\ \ 1.090600+0.832946I$ $b=-0.596154-0.230703I$	$-0.54684+1.46329I$	$-1.59201-1.40388I$
$u=-0.031117-0.710250I$ $a=\ \ 1.090600-0.832946I$ $b=-0.596154+0.230703I$	$-0.54684-1.46329I$	$-1.59201+1.40388I$
$u=-0.704902+0.035674I$ $a=\ \ 2.88280+1.01497I$ $b=\ \ 0.917162-0.007031I$	$1.30008-0.99581I$	$-3.39411-0.67872I$
$u=-0.704902-0.035674I$ $a=\ \ 2.88280-1.01497I$ $b=\ \ 0.917162+0.007031I$	$1.30008+0.99581I$	$-3.39411+0.67872I$
$u=\ \ 0.536940+0.442415I$ $a=\ \ 0.751417+0.483739I$ $b=\ \ 0.105811-0.455125I$	$-2.50902+1.89252I$	$-7.42573-0.50006I$
$u=\ \ 0.536940-0.442415I$ $a=\ \ 0.751417-0.483739I$ $b=\ \ 0.105811+0.455125I$	$-2.50902-1.89252I$	$-7.42573+0.50006I$
$u=-0.423794+0.531866I$ $a=\ \ 1.13755-2.43053I$ $b=-2.10389-0.25817I$	$1.19925+1.20786I$	$13.02298-5.31257I$
$u=-0.423794-0.531866I$ $a=\ \ 1.13755+2.43053I$ $b=-2.10389+0.25817I$	$1.19925-1.20786I$	$13.02298+5.31257I$
$u=-0.584385+0.334144I$ $a=\ \ 0.489359-0.286607I$ $b=\ \ 1.027040+0.217065I$	$-0.48772+4.09297I$	$-7.37755-9.24327I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.584385 - 0.334144I$ $a = 0.489359 + 0.286607I$ $b = 1.027040 - 0.217065I$	$-0.48772 - 4.09297I$	$-7.37755 + 9.24327I$
$u = -0.340196 + 0.558280I$ $a = 0.849025 + 0.074675I$ $b = -0.136657 - 0.358705I$	$-0.33530 + 1.50733I$	$-2.98038 - 4.24113I$
$u = -0.340196 - 0.558280I$ $a = 0.849025 - 0.074675I$ $b = -0.136657 + 0.358705I$	$-0.33530 - 1.50733I$	$-2.98038 + 4.24113I$
$u = 0.462414 + 0.447292I$ $a = 0.449545 - 0.265010I$ $b = 1.25726 + 0.77432I$	$0.05754 + 7.13285I$	$-1.292669 + 0.043034I$
$u = 0.462414 - 0.447292I$ $a = 0.449545 + 0.265010I$ $b = 1.25726 - 0.77432I$	$0.05754 - 7.13285I$	$-1.292669 - 0.043034I$
$u = -0.237497 + 0.569452I$ $a = -2.85997 + 4.01034I$ $b = 0.594548 - 0.092050I$	$2.38609 - 2.85839I$	$7.30042 - 0.29630I$
$u = -0.237497 - 0.569452I$ $a = -2.85997 - 4.01034I$ $b = 0.594548 + 0.092050I$	$2.38609 + 2.85839I$	$7.30042 + 0.29630I$
$u = 1.356580 + 0.325626I$ $a = 0.728286 + 0.004128I$ $b = 2.21649 + 0.75169I$	$-4.31980 - 4.20818I$	0
$u = 1.356580 - 0.325626I$ $a = 0.728286 - 0.004128I$ $b = 2.21649 - 0.75169I$	$-4.31980 + 4.20818I$	0
$u = -0.324505 + 0.474102I$ $a = -0.43671 + 12.18570I$ $b = 2.82488 - 1.32418I$	$1.37708 + 1.55327I$	$81.0765 + 4.2253I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.324505-0.474102I$ $a=-0.43671-12.18570I$ $b=\ \ 2.82488+1.32418I$	$1.37708-1.55327I$	$81.0765-4.2253I$
$u=\ \ 0.361073+0.261174I$ $a=\ \ 1.043050+0.216750I$ $b=-1.007600-0.210459I$	$1.90413+1.10524I$	$1.74598-1.88050I$
$u=\ \ 0.361073-0.261174I$ $a=\ \ 1.043050-0.216750I$ $b=-1.007600+0.210459I$	$1.90413-1.10524I$	$1.74598+1.88050I$
$u=-0.33997+1.55682I$ $a=\ \ 0.056169+0.440660I$ $b=\ \ 0.07069-1.73548I$	$6.96782+4.95648I$	0
$u=-0.33997-1.55682I$ $a=\ \ 0.056169-0.440660I$ $b=\ \ 0.07069+1.73548I$	$6.96782-4.95648I$	0
$u=\ \ 0.12238+1.58993I$ $a=\ \ 0.042265-0.527798I$ $b=-0.30486+1.96959I$	$7.32759+1.41648I$	0
$u=\ \ 0.12238-1.58993I$ $a=\ \ 0.042265+0.527798I$ $b=-0.30486-1.96959I$	$7.32759-1.41648I$	0
$u=\ \ 0.19403+1.60184I$ $a=\ \ 1.60495+0.16607I$ $b=-2.71478+0.22301I$	$4.63170-9.18200I$	0
$u=\ \ 0.19403-1.60184I$ $a=\ \ 1.60495-0.16607I$ $b=-2.71478-0.22301I$	$4.63170+9.18200I$	0
$u=-0.11845+1.68248I$ $a=-2.17829+0.21768I$ $b=\ \ 4.95963+0.21904I$	$9.32058+3.26408I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.11845 - 1.68248I$ $a = -2.17829 - 0.21768I$ $b = 4.95963 - 0.21904I$	$9.32058 - 3.26408I$	0
$u = -0.38021 + 1.66959I$ $a = 1.358240 - 0.341389I$ $b = -2.63924 - 0.88231I$	$4.26944 + 0.46934I$	0
$u = -0.38021 - 1.66959I$ $a = 1.358240 + 0.341389I$ $b = -2.63924 + 0.88231I$	$4.26944 - 0.46934I$	0
$u = 0.46996 + 1.65519I$ $a = -0.313034 + 0.036553I$ $b = 0.535176 + 0.909314I$	$7.48257 - 9.61839I$	0
$u = 0.46996 - 1.65519I$ $a = -0.313034 - 0.036553I$ $b = 0.535176 - 0.909314I$	$7.48257 + 9.61839I$	0
$u = -0.25917 + 1.70792I$ $a = -0.228762 - 0.060124I$ $b = 0.267931 - 1.102580I$	$8.03127 + 3.06347I$	0
$u = -0.25917 - 1.70792I$ $a = -0.228762 + 0.060124I$ $b = 0.267931 + 1.102580I$	$8.03127 - 3.06347I$	0
$u = 1.79527 + 0.04387I$ $a = 0.463967 - 0.137513I$ $b = 3.02532 - 0.10583I$	$8.03839 + 7.65970I$	0
$u = 1.79527 - 0.04387I$ $a = 0.463967 + 0.137513I$ $b = 3.02532 + 0.10583I$	$8.03839 - 7.65970I$	0
$u = 0.24346 + 1.80056I$ $a = -1.135210 - 0.249064I$ $b = 2.07921 + 0.59972I$	$12.17050 - 5.84377I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.24346 - 1.80056I$ $a = -1.135210 + 0.249064I$ $b = 2.07921 - 0.59972I$	$12.17050 + 5.84377I$	0
$u = 0.00594 + 1.82235I$ $a = -1.128270 + 0.061752I$ $b = 1.92274 - 0.92455I$	$12.34330 - 0.87809I$	0
$u = 0.00594 - 1.82235I$ $a = -1.128270 - 0.061752I$ $b = 1.92274 + 0.92455I$	$12.34330 + 0.87809I$	0
$u = -1.81397 + 0.20782I$ $a = 0.486078 - 0.112646I$ $b = 2.98204 - 0.59250I$	$7.91932 + 0.95011I$	0
$u = -1.81397 - 0.20782I$ $a = 0.486078 + 0.112646I$ $b = 2.98204 + 0.59250I$	$7.91932 - 0.95011I$	0
$u = 0.07790 + 1.85868I$ $a = 1.338270 + 0.067138I$ $b = -3.10970 + 0.35595I$	$9.02288 + 4.28735I$	0
$u = 0.07790 - 1.85868I$ $a = 1.338270 - 0.067138I$ $b = -3.10970 - 0.35595I$	$9.02288 - 4.28735I$	0
$u = 0.83937 + 1.67276I$ $a = 1.204110 + 0.689221I$ $b = -2.91118 + 1.34779I$	$12.9811 - 16.7369I$	0
$u = 0.83937 - 1.67276I$ $a = 1.204110 - 0.689221I$ $b = -2.91118 - 1.34779I$	$12.9811 + 16.7369I$	0
$u = -0.91937 + 1.70937I$ $a = 1.075370 - 0.557472I$ $b = -2.54762 - 1.92063I$	$12.4197 + 8.6105I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.91937-1.70937I$ $a=\ \ 1.075370+0.557472I$ $b=-2.54762+1.92063I$	$12.4197-8.6105I$	0
$u=-0.72464+1.81573I$ $a=\ \ 1.205180-0.538506I$ $b=-3.17021-1.14256I$	$14.1227+9.9944I$	0
$u=-0.72464-1.81573I$ $a=\ \ 1.205180+0.538506I$ $b=-3.17021+1.14256I$	$14.1227-9.9944I$	0
$u=\ \ 0.81635+1.85467I$ $a=\ \ 1.078160+0.454227I$ $b=-2.85780+1.78574I$	$13.66850-1.78524I$	0
$u=\ \ 0.81635-1.85467I$ $a=\ \ 1.078160-0.454227I$ $b=-2.85780-1.78574I$	$13.66850+1.78524I$	0

II.

$$\boldsymbol{I_2^u = \langle u^4-2u^3+b+3u,\ -4u^4+5u^3+8u^2+a-8u-3,\ u^5-u^4-2u^3+u^2+u+1\rangle}$$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 24u^4 - 21u^3 - 27u^2 + 28u - 11$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_2, c_5	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_3, c_4, c_7	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_6	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_8, c_{11}	$(y-1)^5$
c_9, c_{10}	$y^5 + 5y^4 + 35y^3 - 32y^2 + 9y - 1$
c_{12}	y^5

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.21774$ $a = -0.780402$ $b = -2.15724$	-0.756147	5.56100
$u = -0.309916 + 0.549911I$ $a = \quad 0.62016 + 7.72799I$ $b = \quad 1.50612 - 1.80609I$	$1.31583 + 1.53058I$	$-21.1516 + 28.1413I$
$u = -0.309916 - 0.549911I$ $a = \quad 0.62016 - 7.72799I$ $b = \quad 1.50612 + 1.80609I$	$1.31583 - 1.53058I$	$-21.1516 - 28.1413I$
$u = \quad 1.41878 + 0.21917I$ $a = -0.729964 - 0.010955I$ $b = -2.42750 - 0.47549I$	$-4.22763 - 4.40083I$	$3.3711 + 20.4276I$
$u = \quad 1.41878 - 0.21917I$ $a = -0.729964 + 0.010955I$ $b = -2.42750 + 0.47549I$	$-4.22763 + 4.40083I$	$3.3711 - 20.4276I$

III. $\boldsymbol{I_1^v = \langle a,\ 3.10 \times 10^5 v^{11} - 7.90 \times 10^5 v^{10} + \cdots + 7.08 \times 10^5 b - 1.25 \times 10^6,\ v^{12} - 3v^{11} + \cdots - v + 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ -0.437990v^{11} + 1.11658v^{10} + \cdots + 0.432058v + 1.76482 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 1.00827v^{11} - 2.68986v^{10} + \cdots - 1.09637v - 2.28028 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.437990v^{11} + 1.11658v^{10} + \cdots + 0.432058v + 1.76482 \\ 1.04198v^{11} - 2.90360v^{10} + \cdots - 1.23849v - 0.574544 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.613949v^{11} + 1.71800v^{10} + \cdots + 0.735835v + 0.454734 \\ -1.86146v^{11} + 5.23525v^{10} + \cdots + 2.25349v + 3.04348 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.197394v^{11} + 0.527234v^{10} + \cdots + 3.32683v + 0.437990 \\ 0.861460v^{11} - 2.23525v^{10} + \cdots + 1.74651v - 2.04348 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.588834v^{11} + 1.67328v^{10} + \cdots + 3.83916v + 0.787117 \\ 0.861460v^{11} - 2.23525v^{10} + \cdots + 1.74651v - 2.04348 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.613949v^{11} - 1.71800v^{10} + \cdots - 0.735835v - 0.454734 \\ 1.86146v^{11} - 5.23525v^{10} + \cdots - 2.25349v - 3.04348 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1.00827v^{11} - 2.68986v^{10} + \cdots - 1.09637v - 1.28028 \\ 1.00827v^{11} - 2.68986v^{10} + \cdots - 1.09637v - 2.28028 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{142431}{78637}v^{11} - \frac{528010}{78637}v^{10} + \cdots + \frac{712177}{78637}v + \frac{123275}{78637}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.834826 + 0.083652I$ $a = 0$ $b = 0.428243 + 0.664531I$	$-1.89061 - 2.95419I$	$-3.63443 + 4.40052I$
$v = -0.834826 - 0.083652I$ $a = 0$ $b = 0.428243 - 0.664531I$	$-1.89061 + 2.95419I$	$-3.63443 - 4.40052I$
$v = 0.489858 + 0.681154I$ $a = 0$ $b = 0.428243 + 0.664531I$	$-1.89061 + 1.10558I$	$-6.39280 - 3.34928I$
$v = 0.489858 - 0.681154I$ $a = 0$ $b = 0.428243 - 0.664531I$	$-1.89061 - 1.10558I$	$-6.39280 + 3.34928I$
$v = 0.458424 + 0.081263I$ $a = 0$ $b = 1.073950 - 0.558752I$	$-3.66314I$	$2.53591 + 0.53518I$
$v = 0.458424 - 0.081263I$ $a = 0$ $b = 1.073950 + 0.558752I$	$3.66314I$	$2.53591 - 0.53518I$
$v = -0.299588 + 0.356375I$ $a = 0$ $b = 1.073950 - 0.558752I$	$-7.72290I$	$-2.83009 + 13.30597I$
$v = -0.299588 - 0.356375I$ $a = 0$ $b = 1.073950 + 0.558752I$	$7.72290I$	$-2.83009 - 13.30597I$
$v = -0.82520 + 2.42341I$ $a = 0$ $b = -1.002190 + 0.295542I$	$1.89061 - 2.95419I$	$-3.59610 + 0.35185I$
$v = -0.82520 - 2.42341I$ $a = 0$ $b = -1.002190 - 0.295542I$	$1.89061 + 2.95419I$	$-3.59610 - 0.35185I$

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 2.51133 + 0.49706I$ $a = 0$ $b = -1.002190 - 0.295542I$	$1.89061 - 1.10558I$	$7.91752 + 5.10831I$
$v = 2.51133 - 0.49706I$ $a = 0$ $b = -1.002190 + 0.295542I$	$1.89061 + 1.10558I$	$7.91752 - 5.10831I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^6)(u^5-3u^4+\cdots-u+1)(u^{65}+18u^{64}+\cdots-47u-1)$
c_2	$((u^2+u+1)^6)(u^5-u^4+\cdots+u-1)(u^{65}+8u^{64}+\cdots+5u+1)$
c_3	$(u^2-u+1)^6(u^5+u^4-2u^3-u^2+u-1)$ $\cdot(u^{65}-8u^{64}+\cdots+103537045u+13657673)$
c_4	$u^{12}(u^5+u^4+\cdots+u-1)(u^{65}-2u^{64}+\cdots+4096u+4096)$
c_5	$((u^2-u+1)^6)(u^5+u^4+\cdots+u+1)(u^{65}+8u^{64}+\cdots+5u+1)$
c_6	$(u^5+5u^4+8u^3+3u^2-u+1)(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^2$ $\cdot(u^{65}-4u^{64}+\cdots-3u+1)$
c_7	$u^{12}(u^5-u^4+\cdots+u+1)(u^{65}-2u^{64}+\cdots+4096u+4096)$
c_8	$((u+1)^5)(u^6-u^5+\cdots-u+1)^2(u^{65}+8u^{64}+\cdots+3u+1)$
c_9	$(u^5+u^4+3u^3-8u^2+5u-1)(u^6-3u^5+5u^4-4u^3+2u^2-u+1)^2$ $\cdot(u^{65}+10u^{64}+\cdots+497u+101)$
c_{10}	$(u^5+u^4+3u^3-8u^2+5u-1)(u^6-u^5-u^4+2u^3-u+1)^2$ $\cdot(u^{65}+4u^{64}+\cdots-606921u+85049)$
c_{11}	$((u-1)^5)(u^6+u^5+\cdots+u+1)^2(u^{65}+8u^{64}+\cdots+3u+1)$
c_{12}	$u^5(u^6-u^5+\cdots-u+1)^2(u^{65}-11u^{64}+\cdots-192u+32)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)^6(y^5-y^4+8y^3-3y^2+3y-1)$ $\cdot(y^{65}+66y^{64}+\cdots+213y-1)$
c_2, c_5	$((y^2+y+1)^6)(y^5+3y^4+\cdots-y-1)(y^{65}+18y^{64}+\cdots-47y-1)$
c_3	$(y^2+y+1)^6(y^5-5y^4+8y^3-3y^2-y-1)$ $\cdot(y^{65}+114y^{64}+\cdots-13102594991519615y-186532031774929)$
c_4, c_7	$y^{12}(y^5-5y^4+8y^3-3y^2-y-1)$ $\cdot(y^{65}+60y^{64}+\cdots-134217728y-16777216)$
c_6	$(y^5-9y^4+32y^3-35y^2-5y-1)(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{65}+2y^{64}+\cdots-19y-1)$
c_8, c_{11}	$(y-1)^5(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{65}-58y^{64}+\cdots-4257y-1)$
c_9	$(y^5+5y^4+35y^3-32y^2+9y-1)(y^6+y^5+5y^4+6y^2+3y+1)^2$ $\cdot(y^{65}-72y^{64}+\cdots+1225295y-10201)$
c_{10}	$(y^5+5y^4+35y^3-32y^2+9y-1)$ $\cdot(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{65}+4y^{64}+\cdots+132226628699y-7233332401)$
c_{12}	$y^5(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot(y^{65}+27y^{64}+\cdots-52736y-1024)$