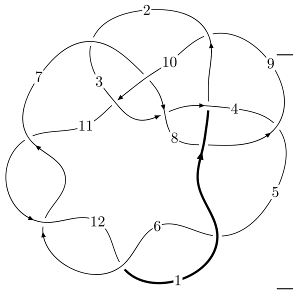
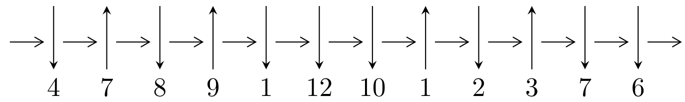
$12n_{0847}$ ($K12n_{0847}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 3u^{10} - 5u^9 - 28u^8 - 131u^7 - 313u^6 - 576u^5 - 809u^4 - 779u^3 - 575u^2 + 58b - 246u - 70, \\
& -35u^{10} - 222u^9 + \cdots + 232a - 556, \\
& u^{11} + 6u^{10} + 23u^9 + 62u^8 + 128u^7 + 210u^6 + 269u^5 + 270u^4 + 202u^3 + 108u^2 + 44u + 8\rangle \\
I_2^u = \langle & au + b,\ 8u^6a - 3u^6 + \cdots + 28a - 18,\ u^7 + 4u^6 + 11u^5 + 20u^4 + 26u^3 + 25u^2 + 14u + 4\rangle \\
I_3^u = \langle & -a^3u + 2a^3 - 7a^2u + 5a^2 - 12au + 6b - 9u - 9,\ a^4 - 2a^3u + 3a^3 - 4a^2u + 3a^2 - 7au + 2a - 2u + 1, \\
& u^2 - u + 1\rangle \\
I_4^u = \langle & -au + b - u,\ a^2 + a - 2u + 2,\ u^2 - u + 1\rangle \\
I_5^u = \langle & u^{12} - u^{11} + 8u^{10} - 8u^9 + 25u^8 - 24u^7 + 42u^6 - 36u^5 + 42u^4 - 31u^3 + 22u^2 + 2b - 13u + 5, \\
& -5u^{15} - 55u^{13} + \cdots + 38a - 247,\ u^{16} + 11u^{14} + 51u^{12} + 134u^{10} + 226u^8 + 256u^6 + 191u^4 + 88u^2 + 19\rangle \\
I_6^u = \langle & a^3u + a^3 + a^2u - 5a^2 - 6au + 3b + 3a + 6u + 3,\ a^4 + a^3u - 3a^3 - 2a^2u + 2a^2 + 2au + 2a - u - 1, \\
& u^2 - u + 1\rangle \\
I_7^u = \langle & -au + b + u - 1,\ a^2 - au - 2u + 1,\ u^2 - u + 1\rangle \\
I_8^u = \langle & b - u + 1,\ a - 1,\ u^2 - u + 1\rangle \\
I_9^u = \langle & b + u,\ a + u,\ u^2 - u + 1\rangle \\
I_{10}^u = \langle & b + u + 1,\ a + u,\ u^2 + u + 1\rangle
\end{aligned}$$

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

[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`).

* 11 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 73 representations.

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $I_1^u = \langle 3u^{10} - 5u^9 + \cdots + 58b - 70,\ -35u^{10} - 222u^9 + \cdots + 232a - 556,\ u^{11} + 6u^{10} + \cdots + 44u + 8\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.150862u^{10} + 0.956897u^9 + \cdots + 6.37931u + 2.39655 \\ -0.0517241u^{10} + 0.0862069u^9 + \cdots + 4.24138u + 1.20690 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.314655u^{10} + 1.51724u^9 + \cdots + 9.94828u + 3.74138 \\ 0.370690u^{10} + 1.96552u^9 + \cdots + 11.1034u + 2.51724 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.193966u^{10} - 0.801724u^9 + \cdots - 1.34483u + 0.775862 \\ -0.620690u^{10} - 3.46552u^9 + \cdots - 22.1034u - 4.51724 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.150862u^{10} + 0.706897u^9 + \cdots + 4.87931u + 1.39655 \\ 0.698276u^{10} + 2.58621u^9 + \cdots + 12.2414u + 3.20690 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.150862u^{10} + 0.956897u^9 + \cdots + 6.37931u + 2.39655 \\ -0.448276u^{10} - 1.58621u^9 + \cdots + 0.758621u + 0.793103 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.564655u^{10} + 2.76724u^9 + \cdots + 11.4483u + 2.74138 \\ 0.620690u^{10} + 3.46552u^9 + \cdots + 32.1034u + 6.51724 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^3 + 2u \\ u^5 + 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $=$
$-\frac{55}{58}u^{10} - \frac{162}{29}u^9 - \frac{1217}{58}u^8 - \frac{1588}{29}u^7 - \frac{3216}{29}u^6 - \frac{5073}{29}u^5 - \frac{12583}{58}u^4 - \frac{5972}{29}u^3 - \frac{4159}{29}u^2 - \frac{2124}{29}u - \frac{702}{29}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{11} - 5u^{10} + \cdots + 5u + 7$
c_2, c_4, c_8 c_{10}	$u^{11} + u^{10} + 6u^9 + 4u^8 + 14u^7 + 4u^6 + 8u^5 - 5u^3 - 3u^2 + u + 1$
c_3, c_9	$u^{11} - 2u^{10} + \cdots - 9u + 24$
c_5, c_6, c_{11} c_{12}	$u^{11} + 6u^{10} + \cdots + 44u + 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{11} + 5y^{10} + \cdots - 31y - 49$
c_2, c_4, c_8 c_{10}	$y^{11} + 11y^{10} + \cdots + 7y - 1$
c_3, c_9	$y^{11} - 22y^{10} + \cdots + 4305y - 576$
c_5, c_6, c_{11} c_{12}	$y^{11} + 10y^{10} + \cdots + 208y - 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.077559 + 0.704837I$ $a = 0.121802 - 0.808314I$ $b = -0.560282 - 0.148542I$	$0.79523 + 1.67374I$	$1.92464 - 5.47847I$
$u = -0.077559 - 0.704837I$ $a = 0.121802 + 0.808314I$ $b = -0.560282 + 0.148542I$	$0.79523 - 1.67374I$	$1.92464 + 5.47847I$
$u = -1.377920 + 0.101637I$ $a = -0.324451 + 1.135490I$ $b = -0.33166 + 1.59759I$	$-11.42710 - 8.15511I$	$-7.08884 + 4.54839I$
$u = -1.377920 - 0.101637I$ $a = -0.324451 - 1.135490I$ $b = -0.33166 - 1.59759I$	$-11.42710 + 8.15511I$	$-7.08884 - 4.54839I$
$u = -0.72850 + 1.42389I$ $a = -0.649822 + 0.893927I$ $b = 0.79946 + 1.57650I$	$-7.3754 + 15.4551I$	$-4.41387 - 7.80880I$
$u = -0.72850 - 1.42389I$ $a = -0.649822 - 0.893927I$ $b = 0.79946 - 1.57650I$	$-7.3754 - 15.4551I$	$-4.41387 + 7.80880I$
$u = -0.361176$ $a = 1.44545$ $b = 0.522063$	-1.26726	-9.58390
$u = 0.08198 + 1.70897I$ $a = -0.264638 + 0.259315I$ $b = 0.464855 + 0.430999I$	$9.26814 + 1.07224I$	$1.58191 - 6.79260I$
$u = 0.08198 - 1.70897I$ $a = -0.264638 - 0.259315I$ $b = 0.464855 - 0.430999I$	$9.26814 - 1.07224I$	$1.58191 + 6.79260I$
$u = -0.71742 + 1.60214I$ $a = 0.644383 - 0.371812I$ $b = -0.133405 - 1.299140I$	$-6.25408 - 0.69480I$	$-6.21186 + 0.79724I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.71742 - 1.60214I$		
$a = \quad 0.644383 + 0.371812I$	$-6.25408 + 0.69480I$	$-6.21186 - 0.79724I$
$b = -0.133405 + 1.299140I$		

II. $\boldsymbol{I_2^u = \langle au + b,\ 8u^6a - 3u^6 + \cdots + 28a - 18,\ u^7 + 4u^6 + \cdots + 14u + 4\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} a \\ -au \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{1}{2}u^6a - 2u^5a + \cdots - 4a + \frac{5}{2} \\ -\frac{1}{2}u^6 - u^5 + \cdots - 2a - \frac{3}{2}u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{2}u^6 - \frac{3}{2}u^5 + \cdots - a - \frac{3}{2} \\ \frac{1}{2}u^6 + u^5 + \cdots - au + \frac{5}{2}u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{2}u^6a + \frac{1}{4}u^6 + \cdots + \frac{21}{4}u + \frac{5}{2} \\ -u^6a - 3u^5a + \cdots - 2a - 1 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} \frac{1}{2}u^5 + u^4 + \cdots - a + \frac{5}{2} \\ -u^5a - \frac{1}{2}u^6 + \cdots - au - \frac{3}{2}u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^3 + 2u \\ u^5 + 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -u^6 - 3u^5 - 11u^4 - 21u^3 - 30u^2 - 28u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{14} - 8u^{13} + \cdots - 21u + 3$
c_2, c_4, c_8 c_{10}	$u^{14} + 8u^{12} + \cdots - 3u + 1$
c_3, c_9	$(u^7 + u^6 - 2u^5 - 2u^4 - u^3 - 3u^2 - 1)^2$
c_5, c_6, c_{11} c_{12}	$(u^7 + 4u^6 + 11u^5 + 20u^4 + 26u^3 + 25u^2 + 14u + 4)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{14} + 2y^{13} + \cdots - 33y + 9$
c_2, c_4, c_8 c_{10}	$y^{14} + 16y^{13} + \cdots - 3y + 1$
c_3, c_9	$(y^7 - 5y^6 + 6y^5 + 6y^4 - 9y^3 - 13y^2 - 6y - 1)^2$
c_5, c_6, c_{11} c_{12}	$(y^7 + 6y^6 + 13y^5 - 48y^3 - 57y^2 - 4y - 16)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.532984 + 0.464109I$ $a = 0.595528 - 0.213565I$ $b = 0.218289 - 0.390217I$	$-0.57333 + 1.84126I$	$-2.97768 - 3.50098I$
$u = -0.532984 + 0.464109I$ $a = 0.58819 - 1.42915I$ $b = -0.349784 - 1.034700I$	$-0.57333 + 1.84126I$	$-2.97768 - 3.50098I$
$u = -0.532984 - 0.464109I$ $a = 0.595528 + 0.213565I$ $b = 0.218289 + 0.390217I$	$-0.57333 - 1.84126I$	$-2.97768 + 3.50098I$
$u = -0.532984 - 0.464109I$ $a = 0.58819 + 1.42915I$ $b = -0.349784 + 1.034700I$	$-0.57333 - 1.84126I$	$-2.97768 + 3.50098I$
$u = -1.33180$ $a = 0.228400 + 1.212910I$ $b = 0.30418 + 1.61536I$	-12.0300	-7.93040
$u = -1.33180$ $a = 0.228400 - 1.212910I$ $b = 0.30418 - 1.61536I$	-12.0300	-7.93040
$u = -0.11506 + 1.49422I$ $a = -0.755700 + 0.587068I$ $b = 0.79026 + 1.19673I$	$5.82905 + 4.07787I$	$5.41510 + 4.51647I$
$u = -0.11506 + 1.49422I$ $a = -0.095547 - 0.221715I$ $b = -0.342285 + 0.117257I$	$5.82905 + 4.07787I$	$5.41510 + 4.51647I$
$u = -0.11506 - 1.49422I$ $a = -0.755700 - 0.587068I$ $b = 0.79026 - 1.19673I$	$5.82905 - 4.07787I$	$5.41510 - 4.51647I$
$u = -0.11506 - 1.49422I$ $a = -0.095547 + 0.221715I$ $b = -0.342285 - 0.117257I$	$5.82905 - 4.07787I$	$5.41510 - 4.51647I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.68606+1.48551I$ $a=\ \ 0.668554-0.820572I$ $b=-0.76030-1.55610I$	$-7.46541+7.10242I$	$-5.97220-3.89199I$
$u=-0.68606+1.48551I$ $a=-0.729428+0.430875I$ $b=\ \ 0.139642+1.379180I$	$-7.46541+7.10242I$	$-5.97220-3.89199I$
$u=-0.68606-1.48551I$ $a=\ \ 0.668554+0.820572I$ $b=-0.76030+1.55610I$	$-7.46541-7.10242I$	$-5.97220+3.89199I$
$u=-0.68606-1.48551I$ $a=-0.729428-0.430875I$ $b=\ \ 0.139642-1.379180I$	$-7.46541-7.10242I$	$-5.97220+3.89199I$

III.

$$\boldsymbol{I^u_3 = \langle -a^3u - 7a^2u + \cdots + 5a^2 - 9,\ -2a^3u - 4a^2u + \cdots + 2a + 1,\ u^2 - u + 1\rangle}$$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 12u - 18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$(u^4 + u^3 - 2u + 1)^2$
c_2, c_4, c_8 c_{10}	$u^8 + 5u^7 + 12u^6 + 20u^5 + 28u^4 + 33u^3 + 36u^2 + 6u + 3$
c_3, c_9	$(u^4 + 2u^3 - 3u^2 - 4u + 7)^2$
c_5, c_6, c_{11} c_{12}	$(u^2 - u + 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^4 - y^3 + 6y^2 - 4y + 1)^2$
c_2, c_4, c_8 c_{10}	$y^8 - y^7 + 14y^5 + 274y^4 + 759y^3 + 1068y^2 + 180y + 9$
c_3, c_9	$(y^4 - 10y^3 + 39y^2 - 58y + 49)^2$
c_5, c_6, c_{11} c_{12}	$(y^2 + y + 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = -0.91531 - 1.09688I$ $b = 0.87030 - 1.52885I$	$-3.28987 - 6.08965I$	$-12.0000 + 10.3923I$
$u = 0.500000 + 0.866025I$ $a = -0.293656 - 0.109216I$ $b = 2.06972 + 0.74483I$	$-3.28987 - 6.08965I$	$-12.0000 + 10.3923I$
$u = 0.500000 + 0.866025I$ $a = 0.88888 + 1.51813I$ $b = -0.49226 + 1.34112I$	$-3.28987 - 6.08965I$	$-12.0000 + 10.3923I$
$u = 0.500000 + 0.866025I$ $a = -1.67991 + 1.42001I$ $b = 0.052244 + 0.308922I$	$-3.28987 - 6.08965I$	$-12.0000 + 10.3923I$
$u = 0.500000 - 0.866025I$ $a = -0.91531 + 1.09688I$ $b = 0.87030 + 1.52885I$	$-3.28987 + 6.08965I$	$-12.0000 - 10.3923I$
$u = 0.500000 - 0.866025I$ $a = -0.293656 + 0.109216I$ $b = 2.06972 - 0.74483I$	$-3.28987 + 6.08965I$	$-12.0000 - 10.3923I$
$u = 0.500000 - 0.866025I$ $a = 0.88888 - 1.51813I$ $b = -0.49226 - 1.34112I$	$-3.28987 + 6.08965I$	$-12.0000 - 10.3923I$
$u = 0.500000 - 0.866025I$ $a = -1.67991 - 1.42001I$ $b = 0.052244 - 0.308922I$	$-3.28987 + 6.08965I$	$-12.0000 - 10.3923I$

IV. $\boldsymbol{I_4^u = \langle -au + b - u,\ a^2 + a - 2u + 2,\ u^2 - u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 12u - 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_7, c_{11}, c_{12}	$(y^2 + y + 1)^2$
c_2, c_4, c_8 c_{10}	$y^4 + 5y^3 + 9y^2 + 8y + 16$
c_3, c_9	$y^4 + 6y^3 + 15y^2 - 18y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = 0.254141 + 1.148360I$ $b = -0.36744 + 1.66030I$	$-6.08965I$	$0. + 10.39230I$
$u = 0.500000 + 0.866025I$ $a = -1.25414 - 1.14836I$ $b = 0.867438 - 0.794273I$	$-6.08965I$	$0. + 10.39230I$
$u = 0.500000 - 0.866025I$ $a = 0.254141 - 1.148360I$ $b = -0.36744 - 1.66030I$	$6.08965I$	$0. - 10.39230I$
$u = 0.500000 - 0.866025I$ $a = -1.25414 + 1.14836I$ $b = 0.867438 + 0.794273I$	$6.08965I$	$0. - 10.39230I$

V. $I_5^u = \langle u^{12} - u^{11} + \cdots + 2b + 5,\ -5u^{15} - 55u^{13} + \cdots + 38a - 247,\ u^{16} + 11u^{14} + \cdots + 88u^2 + 19\rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.131579u^{15} + 1.44737u^{13} + \cdots + 0.578947u + 6.50000 \\ -\frac{1}{2}u^{12} + \frac{1}{2}u^{11} + \cdots + \frac{13}{2}u - \frac{5}{2} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0789474u^{15} - 0.368421u^{13} + \cdots + 6.55263u + 6.50000 \\ \frac{1}{2}u^{14} + \frac{1}{2}u^{13} + \cdots + \frac{11}{2}u + \frac{3}{2} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.131579u^{15} - 0.947368u^{13} + \cdots + 8.42105u + 9 \\ \frac{1}{2}u^{15} + u^{14} + \cdots + \frac{23}{2}u + \frac{5}{2} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{3}{38}u^{15} + \frac{1}{2}u^{14} + \cdots + \frac{94}{19}u + 12 \\ \frac{1}{2}u^{15} + \frac{1}{2}u^{14} + \cdots + \frac{7}{2}u - \frac{3}{2} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.131579u^{15} + 1.44737u^{13} + \cdots + 0.578947u + 6.50000 \\ -\frac{1}{2}u^{13} - \frac{7}{2}u^{11} + \cdots + 4u - \frac{5}{2} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.131579u^{15} + 0.500000u^{14} + \cdots + 14.9211u + 11.5000 \\ u^{15} + \frac{1}{2}u^{14} + \cdots + \frac{23}{2}u - 7 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^3 + 2u \\ u^5 + 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6u^{14} - 56u^{12} - 216u^{10} - 468u^8 - 639u^6 - 555u^4 - 288u^2 - 73$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{16} - 7u^{15} + \cdots + u + 1$
c_2, c_4, c_8 c_{10}	$u^{16} - u^{15} + \cdots - 3u + 1$
c_3, c_9	$(u^8 - 4u^6 + 6u^4 + 3u^3 - 2u^2 - 4u - 1)^2$
c_5, c_6, c_{11} c_{12}	$u^{16} + 11u^{14} + 51u^{12} + 134u^{10} + 226u^8 + 256u^6 + 191u^4 + 88u^2 + 19$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{16} + 7y^{15} + \cdots - 11y + 1$
c_2, c_4, c_8 c_{10}	$y^{16} + 7y^{15} + \cdots + 9y + 1$
c_3, c_9	$(y^8 - 8y^7 + 28y^6 - 52y^5 + 50y^4 - 25y^3 + 16y^2 - 12y + 1)^2$
c_5, c_6, c_{11} c_{12}	$(y^8 + 11y^7 + 51y^6 + 134y^5 + 226y^4 + 256y^3 + 191y^2 + 88y + 19)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.450136 + 0.896465I$ $a = 0.94613 + 1.22806I$ $b = -0.67503 + 1.40096I$	$-2.63935 - 5.65917I$	$-1.08017 + 3.20273I$
$u = 0.450136 - 0.896465I$ $a = 0.94613 - 1.22806I$ $b = -0.67503 - 1.40096I$	$-2.63935 + 5.65917I$	$-1.08017 - 3.20273I$
$u = -0.450136 + 0.896465I$ $a = -0.841491 - 0.713776I$ $b = 1.018660 - 0.433071I$	$-2.63935 + 5.65917I$	$-1.08017 - 3.20273I$
$u = -0.450136 - 0.896465I$ $a = -0.841491 + 0.713776I$ $b = 1.018660 + 0.433071I$	$-2.63935 - 5.65917I$	$-1.08017 + 3.20273I$
$u = 0.539427 + 0.986711I$ $a = 0.988608 + 0.489509I$ $b = 0.050278 + 1.239530I$	$-2.28512 + 1.91134I$	$-2.25611 - 2.12602I$
$u = 0.539427 - 0.986711I$ $a = 0.988608 - 0.489509I$ $b = 0.050278 - 1.239530I$	$-2.28512 - 1.91134I$	$-2.25611 + 2.12602I$
$u = -0.539427 + 0.986711I$ $a = 0.628905 + 0.629308I$ $b = -0.960194 + 0.281082I$	$-2.28512 - 1.91134I$	$-2.25611 + 2.12602I$
$u = -0.539427 - 0.986711I$ $a = 0.628905 - 0.629308I$ $b = -0.960194 - 0.281082I$	$-2.28512 + 1.91134I$	$-2.25611 - 2.12602I$
$u = 0.846388I$ $a = 1.181140 + 0.332598I$ $b = -0.281507 + 0.999702I$	-1.93059	-6.07620
$u = -0.846388I$ $a = 1.181140 - 0.332598I$ $b = -0.281507 - 0.999702I$	-1.93059	-6.07620

Solutions to I_5^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.04760 + 1.50314I$ $a = -0.799076 - 0.569432I$ $b = 0.81790 - 1.22823I$	$5.58575 - 4.39316I$	$-7.09441 + 10.90971I$
$u = 0.04760 - 1.50314I$ $a = -0.799076 + 0.569432I$ $b = 0.81790 + 1.22823I$	$5.58575 + 4.39316I$	$-7.09441 - 10.90971I$
$u = -0.04760 + 1.50314I$ $a = 0.247325 - 0.146593I$ $b = 0.208575 + 0.378743I$	$5.58575 + 4.39316I$	$-7.09441 - 10.90971I$
$u = -0.04760 - 1.50314I$ $a = 0.247325 + 0.146593I$ $b = 0.208575 - 0.378743I$	$5.58575 - 4.39316I$	$-7.09441 + 10.90971I$
$u = 1.78942I$ $a = -0.351537 - 0.179565I$ $b = 0.321316 - 0.629047I$	8.83269	-4.06250
$u = -1.78942I$ $a = -0.351537 + 0.179565I$ $b = 0.321316 + 0.629047I$	8.83269	-4.06250

VI. $I_6^u = \langle a^3u + a^2u + \cdots + 3a + 3,\ a^3u - 2a^2u + \cdots + 2a - 1,\ u^2 - u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$(u^4 + u^3 - 2u + 1)^2$
c_2, c_4, c_8 c_{10}	$u^8 - 4u^7 + 9u^6 - 16u^5 + 22u^4 - 18u^3 + 18u^2 - 6u + 3$
c_3, c_9	$(u^4 - u^3 - 3u^2 + 2u + 4)^2$
c_5, c_6, c_{11} c_{12}	$(u^2 - u + 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^4 - y^3 + 6y^2 - 4y + 1)^2$
c_2, c_4, c_8 c_{10}	$y^8 + 2y^7 - 3y^6 + 32y^5 + 190y^4 + 330y^3 + 240y^2 + 72y + 9$
c_3, c_9	$(y^4 - 7y^3 + 21y^2 - 28y + 16)^2$
c_5, c_6, c_{11} c_{12}	$(y^2 + y + 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = -0.968092 - 0.487878I$ $b = -0.08797 - 1.50359I$	$-3.28987 + 2.02988I$	$-12.00000 - 3.46410I$
$u = 0.500000 + 0.866025I$ $a = 0.521310 + 0.118664I$ $b = -1.81567 - 0.80000I$	$-3.28987 + 2.02988I$	$-12.00000 - 3.46410I$
$u = 0.500000 + 0.866025I$ $a = 1.34613 + 0.67561I$ $b = 0.061531 + 1.082330I$	$-3.28987 + 2.02988I$	$-12.00000 - 3.46410I$
$u = 0.500000 + 0.866025I$ $a = 1.60065 - 1.17242I$ $b = -0.157889 - 0.510800I$	$-3.28987 + 2.02988I$	$-12.00000 - 3.46410I$
$u = 0.500000 - 0.866025I$ $a = -0.968092 + 0.487878I$ $b = -0.08797 + 1.50359I$	$-3.28987 - 2.02988I$	$-12.00000 + 3.46410I$
$u = 0.500000 - 0.866025I$ $a = 0.521310 - 0.118664I$ $b = -1.81567 + 0.80000I$	$-3.28987 - 2.02988I$	$-12.00000 + 3.46410I$
$u = 0.500000 - 0.866025I$ $a = 1.34613 - 0.67561I$ $b = 0.061531 - 1.082330I$	$-3.28987 - 2.02988I$	$-12.00000 + 3.46410I$
$u = 0.500000 - 0.866025I$ $a = 1.60065 + 1.17242I$ $b = -0.157889 + 0.510800I$	$-3.28987 - 2.02988I$	$-12.00000 + 3.46410I$

VII. $I_7^u = \langle -au + b + u - 1,\ a^2 - au - 2u + 1,\ u^2 - u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u - 14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y-1)^4$
c_2, c_4, c_8 c_{10}	$y^4 + 7y^3 + 22y^2 + 24y + 9$
c_3, c_5, c_6 c_9, c_{11}, c_{12}	$(y^2 + y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_7^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = -0.705919 - 0.586193I$ $b = 0.65470 - 1.77047I$	$-3.28987 - 2.02988I$	$-12.00000 + 3.46410I$
$u = 0.500000 + 0.866025I$ $a = 1.20592 + 1.45222I$ $b = -0.154699 + 0.904441I$	$-3.28987 - 2.02988I$	$-12.00000 + 3.46410I$
$u = 0.500000 - 0.866025I$ $a = -0.705919 + 0.586193I$ $b = 0.65470 + 1.77047I$	$-3.28987 + 2.02988I$	$-12.00000 - 3.46410I$
$u = 0.500000 - 0.866025I$ $a = 1.20592 - 1.45222I$ $b = -0.154699 - 0.904441I$	$-3.28987 + 2.02988I$	$-12.00000 - 3.46410I$

VIII. $I_8^u = \langle b - u + 1,\ a - 1,\ u^2 - u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u + 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_8^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = 1.00000$ $b = -0.500000 + 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = 0.500000 - 0.866025I$ $a = 1.00000$ $b = -0.500000 - 0.866025I$	$-2.02988I$	$0. + 3.46410I$

IX. $I_9^u = \langle b+u,\ a+u,\ u^2-u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u+2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_9^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.500000 + 0.866025I$ $a = -0.500000 - 0.866025I$ $b = -0.500000 - 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = \quad 0.500000 - 0.866025I$ $a = -0.500000 + 0.866025I$ $b = -0.500000 + 0.866025I$	$-2.02988I$	$0. + 3.46410I$

X. $\boldsymbol{I^u_{10} = \langle b+u+1,\ a+u,\ u^2+u+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u-2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{10}	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = 0.500000 - 0.866025I$ $b = -0.500000 - 0.866025I$	$2.02988I$	$0. - 3.46410I$
$u = -0.500000 - 0.866025I$ $a = 0.500000 + 0.866025I$ $b = -0.500000 + 0.866025I$	$-2.02988I$	$0. + 3.46410I$

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

(i) Arc colorings

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

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

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

$$a_9 = \begin{pmatrix} 0 \\ b \end{pmatrix}$$

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

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

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

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

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

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8b + 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = -0.500000 + 0.866025I$	$-4.05977I$	$0. + 6.92820I$
$v = -1.00000$ $a = 0$ $b = -0.500000 - 0.866025I$	$4.05977I$	$0. - 6.92820I$

XII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^2(u+1)^4(u^2-u+1)(u^2+u+1)^4(u^4+u^3-2u+1)^4$ $\cdot (u^{11}-5u^{10}+\cdots+5u+7)(u^{14}-8u^{13}+\cdots-21u+3)$ $\cdot (u^{16}-7u^{15}+\cdots+u+1)$
c_2, c_4, c_8 c_{10}	$((u^2-u+1)^3)(u^2+u+1)(u^4+u^3+\cdots+4u+4)(u^4+u^3+4u^2+3)$ $\cdot (u^8-4u^7+9u^6-16u^5+22u^4-18u^3+18u^2-6u+3)$ $\cdot (u^8+5u^7+12u^6+20u^5+28u^4+33u^3+36u^2+6u+3)$ $\cdot (u^{11}+u^{10}+6u^9+4u^8+14u^7+4u^6+8u^5-5u^3-3u^2+u+1)$ $\cdot (u^{14}+8u^{12}+\cdots-3u+1)(u^{16}-u^{15}+\cdots-3u+1)$
c_3, c_9	$u^2(u^2-3u+3)(u^2-u+1)^2(u^2+u+1)^2(u^4+3u^2-6u+3)$ $\cdot (u^4-u^3-3u^2+2u+4)^2(u^4+2u^3-3u^2-4u+7)^2$ $\cdot (u^7+u^6-2u^5-2u^4-u^3-3u^2-1)^2$ $\cdot ((u^8-4u^6+\cdots-4u-1)^2)(u^{11}-2u^{10}+\cdots-9u+24)$
c_5, c_6, c_{11} c_{12}	$u^2(u^2-u+1)^{14}(u^2+u+1)$ $\cdot (u^7+4u^6+11u^5+20u^4+26u^3+25u^2+14u+4)^2$ $\cdot (u^{11}+6u^{10}+\cdots+44u+8)$ $\cdot (u^{16}+11u^{14}+51u^{12}+134u^{10}+226u^8+256u^6+191u^4+88u^2+19)$

XIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^2(y-1)^4(y^2+y+1)^5(y^4-y^3+6y^2-4y+1)^4$ $\cdot (y^{11}+5y^{10}+\cdots-31y-49)(y^{14}+2y^{13}+\cdots-33y+9)$ $\cdot (y^{16}+7y^{15}+\cdots-11y+1)$
c_2, c_4, c_8 c_{10}	$((y^2+y+1)^4)(y^4+5y^3+\cdots+8y+16)(y^4+7y^3+\cdots+24y+9)$ $\cdot (y^8-y^7+14y^5+274y^4+759y^3+1068y^2+180y+9)$ $\cdot (y^8+2y^7-3y^6+32y^5+190y^4+330y^3+240y^2+72y+9)$ $\cdot (y^{11}+11y^{10}+\cdots+7y-1)(y^{14}+16y^{13}+\cdots-3y+1)$ $\cdot (y^{16}+7y^{15}+\cdots+9y+1)$
c_3, c_9	$y^2(y^2-3y+9)(y^2+y+1)^4(y^4-10y^3+39y^2-58y+49)^2$ $\cdot (y^4-7y^3+21y^2-28y+16)^2(y^4+6y^3+15y^2-18y+9)$ $\cdot (y^7-5y^6+6y^5+6y^4-9y^3-13y^2-6y-1)^2$ $\cdot (y^8-8y^7+28y^6-52y^5+50y^4-25y^3+16y^2-12y+1)^2$ $\cdot (y^{11}-22y^{10}+\cdots+4305y-576)$
c_5, c_6, c_{11} c_{12}	$y^2(y^2+y+1)^{15}(y^7+6y^6+13y^5-48y^3-57y^2-4y-16)^2$ $\cdot (y^8+11y^7+51y^6+134y^5+226y^4+256y^3+191y^2+88y+19)^2$ $\cdot (y^{11}+10y^{10}+\cdots+208y-64)$