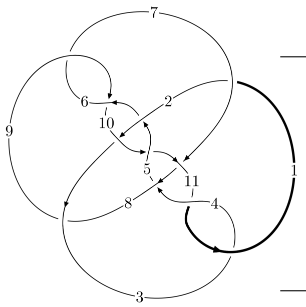
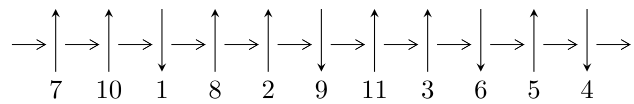
$11a_{297}$ ($K11a_{297}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -u^{14} - 5u^{13} + \cdots + 2b - 4, \\
& u^{13} + 5u^{12} + 17u^{11} + 38u^{10} + 66u^9 + 91u^8 + 106u^7 + 108u^6 + 96u^5 + 76u^4 + 53u^3 + 33u^2 + 2a + 14u + 1, \\
& u^{15} + 5u^{14} + \cdots + 18u + 4\rangle \\
I_2^u = \langle & 458u^{21} + 5062u^{20} + \cdots + 989b + 22293,\ 16339u^{21} + 151170u^{20} + \cdots + 12857a + 26538, \\
& u^{22} + 10u^{21} + \cdots + 121u + 13\rangle \\
I_3^u = \langle & -1564u^{11}a^3 - 1275u^{11}a^2 + \cdots + 2263a + 139,\ 3u^{11}a^3 - 3u^{11}a^2 + \cdots - 17a + 30, \\
& u^{12} - 3u^{11} + 8u^{10} - 13u^9 + 18u^8 - 21u^7 + 19u^6 - 17u^5 + 10u^4 - 6u^3 + 4u^2 + 1\rangle \\
I_4^u = \langle & -44u^{15} + 195u^{14} + \cdots + 31b - 7,\ 139u^{15} - 752u^{14} + \cdots + 93a - 538,\ u^{16} - 5u^{15} + \cdots - 13u + 3\rangle \\
I_5^u = \langle & 17a^3u^2 - 4a^3u - 24a^2u^2 + 28a^3 + 13a^2u + 27u^2a - 41a^2 - 24au - 19u^2 + 25b + 68a + 3u - 46, \\
& -2a^3u^2 + a^4 + a^3u + 3a^2u^2 - 2a^3 - a^2u - 2u^2a + 3a^2 + 3au - 2u^2 - 5a + 3u + 1,\ u^3 - u^2 + 2u - 1\rangle \\
I_6^u = \langle & b - u + 1,\ a - u,\ u^2 - u + 1\rangle \\
I_7^u = \langle & b + u - 2,\ a + 2,\ u^2 - u + 1\rangle \\
I_8^u = \langle & b + u - 1,\ a + 1,\ u^2 - u + 1\rangle \\
I_9^u = \langle & b,\ a - 1,\ u^2 - u + 1\rangle \\
I_{10}^u = \langle & b + u,\ a - u,\ u^2 - u + 1\rangle
\end{aligned}$$

* 10 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 123 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`).

I.

$$I_1^u = \langle -u^{14}-5u^{13}+\cdots+2b-4,\ u^{13}+5u^{12}+\cdots+2a+1,\ u^{15}+5u^{14}+\cdots+18u+4\rangle$$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} -\frac{1}{2}u^{13} - \frac{5}{2}u^{12} + \cdots - 7u - \frac{1}{2} \\ \frac{1}{2}u^{14} + \frac{5}{2}u^{13} + \cdots + \frac{15}{2}u + 2 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -\frac{1}{2}u^{13} - \frac{5}{2}u^{12} + \cdots - \frac{9}{2}u^2 + \frac{3}{2} \\ \frac{1}{2}u^{14} + \frac{5}{2}u^{13} + \cdots + 7u^2 + \frac{1}{2}u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{2}u^{14} - 3u^{13} + \cdots - \frac{11}{2}u - \frac{1}{2} \\ \frac{3}{2}u^{14} + \frac{15}{2}u^{13} + \cdots + \frac{19}{2}u + 2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{3}{4}u^{14} + \frac{17}{4}u^{13} + \cdots + \frac{53}{4}u + 4 \\ -\frac{1}{2}u^{14} - \frac{5}{2}u^{13} + \cdots + \frac{1}{2}u + 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{14} - \frac{9}{2}u^{13} + \cdots - 4u - \frac{3}{2} \\ \frac{1}{2}u^{14} + \frac{3}{2}u^{13} + \cdots - \frac{25}{2}u - 4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{4}u^{14} + \frac{3}{4}u^{13} + \cdots - \frac{15}{2}u^2 - \frac{13}{4}u \\ \frac{1}{2}u^{14} + \frac{5}{2}u^{13} + \cdots + \frac{15}{2}u + 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{1}{2}u^{14} + u^{13} + \cdots - \frac{17}{2}u - \frac{1}{2} \\ \frac{1}{2}u^{14} + \frac{9}{2}u^{13} + \cdots + \frac{51}{2}u + 6 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{1}{2}u^{14} + u^{13} + \cdots - \frac{17}{2}u - \frac{1}{2} \\ \frac{1}{2}u^{14} + \frac{9}{2}u^{13} + \cdots + \frac{51}{2}u + 6 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2u^{14} + 10u^{13} + 32u^{12} + 70u^{11} + 120u^{10} + 168u^9 + 200u^8 + 210u^7 + 194u^6 + 166u^5 + 124u^4 + 88u^3 + 46u^2 + 20u + 14$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{15} + 5u^{13} + \cdots + 4u - 4$
c_2, c_4, c_5 c_7	$u^{15} - 3u^{13} + \cdots + u - 1$
c_3, c_6, c_9 c_{11}	$u^{15} - 5u^{14} + \cdots + 18u - 4$
c_{10}	$u^{15} - 11u^{14} + \cdots + 176u - 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{15} + 10y^{14} + \cdots - 96y - 16$
c_2, c_4, c_5 c_7	$y^{15} - 6y^{14} + \cdots + y - 1$
c_3, c_6, c_9 c_{11}	$y^{15} + 9y^{14} + \cdots + 12y - 16$
c_{10}	$y^{15} + y^{14} + \cdots + 768y - 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.098485 + 1.023240I$ $a = 2.08691 - 0.20313I$ $b = -1.16195 - 0.84340I$	$3.40393 + 1.50668I$	$7.87127 - 3.28737I$
$u = 0.098485 - 1.023240I$ $a = 2.08691 + 0.20313I$ $b = -1.16195 + 0.84340I$	$3.40393 - 1.50668I$	$7.87127 + 3.28737I$
$u = -1.047180 + 0.169551I$ $a = -0.083836 - 0.178717I$ $b = -0.766772 + 0.909869I$	$-4.75552 - 7.02459I$	$-1.15185 + 6.50183I$
$u = -1.047180 - 0.169551I$ $a = -0.083836 + 0.178717I$ $b = -0.766772 - 0.909869I$	$-4.75552 + 7.02459I$	$-1.15185 - 6.50183I$
$u = 0.512134 + 0.744784I$ $a = 0.671930 + 0.465248I$ $b = -0.192367 - 0.393774I$	$0.10584 - 1.99596I$	$0.94373 + 4.15257I$
$u = 0.512134 - 0.744784I$ $a = 0.671930 - 0.465248I$ $b = -0.192367 + 0.393774I$	$0.10584 + 1.99596I$	$0.94373 - 4.15257I$
$u = 0.169504 + 1.110950I$ $a = -1.315650 + 0.395534I$ $b = 0.893182 + 0.343990I$	$4.49181 - 2.74770I$	$10.33723 + 3.64679I$
$u = 0.169504 - 1.110950I$ $a = -1.315650 - 0.395534I$ $b = 0.893182 - 0.343990I$	$4.49181 + 2.74770I$	$10.33723 - 3.64679I$
$u = -0.779677 + 0.941659I$ $a = -0.230487 + 0.628566I$ $b = 0.809054 - 0.248430I$	$2.30094 + 0.81192I$	$14.02805 + 1.67822I$
$u = -0.779677 - 0.941659I$ $a = -0.230487 - 0.628566I$ $b = 0.809054 + 0.248430I$	$2.30094 - 0.81192I$	$14.02805 - 1.67822I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.64988+1.32515I$ $a=\ \ 1.108270-0.321240I$ $b=-1.128320-0.520392I$	$6.65899+10.66370I$	$9.06568-8.84200I$
$u=-0.64988-1.32515I$ $a=\ \ 1.108270+0.321240I$ $b=-1.128320+0.520392I$	$6.65899-10.66370I$	$9.06568+8.84200I$
$u=-0.57422+1.36194I$ $a=-1.61047-0.06346I$ $b=\ \ 1.23126+1.12739I$	$2.8705+18.8513I$	$5.24479-9.91686I$
$u=-0.57422-1.36194I$ $a=-1.61047+0.06346I$ $b=\ \ 1.23126-1.12739I$	$2.8705-18.8513I$	$5.24479+9.91686I$
$u=-0.458343$ $a=\ \ 0.746665$ $b=\ \ 0.631819$	1.10086	9.32220

II. $\boldsymbol{I_2^u = \langle 458u^{21} + 5062u^{20} + \cdots + 989b + 22293,\ 16339u^{21} + 151170u^{20} + \cdots + 12857a + 26538,\ u^{22} + 10u^{21} + \cdots + 121u + 13\rangle}$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} -1.27083u^{21} - 11.7578u^{20} + \cdots - 38.7638u - 2.06409 \\ -0.463094u^{21} - 5.11830u^{20} + \cdots - 185.199u - 22.5410 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -0.783464u^{21} - 6.59400u^{20} + \cdots - 72.2572u - 8.08431 \\ -0.950455u^{21} - 10.2821u^{20} + \cdots - 151.706u - 16.5207 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.0301781u^{21} - 0.556584u^{20} + \cdots + 47.9511u + 8.12095 \\ -0.670374u^{21} - 5.63195u^{20} + \cdots - 55.4914u - 6.87260 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.407793u^{21} + 6.13961u^{20} + \cdots + 99.4987u + 9.79093 \\ -3.21941u^{21} - 31.0364u^{20} + \cdots - 312.446u - 36.5511 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -5.46939u^{21} - 50.2551u^{20} + \cdots + 127.721u + 29.0951 \\ 4.94338u^{21} + 38.8938u^{20} + \cdots - 396.051u - 48.6906 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1.50828u^{21} - 13.8280u^{20} + \cdots - 167.105u - 21.2748 \\ 0.758342u^{21} + 6.17189u^{20} + \cdots - 85.3943u - 11.7867 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.164424u^{21} + 1.44170u^{20} + \cdots + 36.5840u + 0.859998 \\ -2.96461u^{21} - 29.0586u^{20} + \cdots - 325.218u - 37.9434 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.164424u^{21} + 1.44170u^{20} + \cdots + 36.5840u + 0.859998 \\ -2.96461u^{21} - 29.0586u^{20} + \cdots - 325.218u - 37.9434 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{26708}{989}u^{21} + \frac{254306}{989}u^{20} + \cdots + \frac{1482904}{989}u + \frac{166160}{989}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$(u^{11} - u^9 + u^8 + 2u^7 - 2u^6 - 5u^5 - 3u^4 - u^2 - 2u - 1)^2$
c_2, c_4, c_5 c_7	$u^{22} - 2u^{21} + \cdots + u + 1$
c_3, c_6, c_9 c_{11}	$u^{22} - 10u^{21} + \cdots - 121u + 13$
c_{10}	$(u^{11} - 9u^{10} + \cdots + 288u - 64)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$(y^{11} - 2y^{10} + \cdots + 2y - 1)^2$
c_2, c_4, c_5 c_7	$y^{22} - 8y^{21} + \cdots - 27y + 1$
c_3, c_6, c_9 c_{11}	$y^{22} + 18y^{21} + \cdots + 335y + 169$
c_{10}	$(y^{11} + 7y^{10} + \cdots - 3072y - 4096)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.115902+0.927291I$ $a=-1.75739+0.44731I$ $b=\ \ 1.063560+0.786366I$	$2.66286+2.55524I$	$8.64051-2.98354I$
$u=-0.115902-0.927291I$ $a=-1.75739-0.44731I$ $b=\ \ 1.063560-0.786366I$	$2.66286-2.55524I$	$8.64051+2.98354I$
$u=-1.176180+0.028069I$ $a=-0.095579+0.158176I$ $b=\ \ 0.764183-0.949488I$	$-1.29847-12.74380I$	$2.12242+8.78453I$
$u=-1.176180-0.028069I$ $a=-0.095579-0.158176I$ $b=\ \ 0.764183+0.949488I$	$-1.29847+12.74380I$	$2.12242-8.78453I$
$u=-0.406334+1.133600I$ $a=-1.85192+0.12875I$ $b=\ \ 1.26965+1.19997I$	$3.91310+5.97461I$	$23.9284-13.7192I$
$u=-0.406334-1.133600I$ $a=-1.85192-0.12875I$ $b=\ \ 1.26965-1.19997I$	$3.91310-5.97461I$	$23.9284+13.7192I$
$u=-1.131520+0.515293I$ $a=\ \ 0.212406-0.219355I$ $b=-0.710834-0.065637I$	$3.59155-3.95294I$	$13.25217+1.78901I$
$u=-1.131520-0.515293I$ $a=\ \ 0.212406+0.219355I$ $b=-0.710834+0.065637I$	$3.59155+3.95294I$	$13.25217-1.78901I$
$u=\ \ 0.120881+0.735421I$ $a=\ \ 1.04658-1.15332I$ $b=-0.865794+0.005763I$	$2.66286-2.55524I$	$8.64051+2.98354I$
$u=\ \ 0.120881-0.735421I$ $a=\ \ 1.04658+1.15332I$ $b=-0.865794-0.005763I$	$2.66286+2.55524I$	$8.64051-2.98354I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.516445 + 1.146110I$ $a = -1.291240 + 0.466206I$ $b = 1.233030 + 0.635865I$	$3.59155 + 3.95294I$	$13.25217 - 1.78901I$
$u = -0.516445 - 1.146110I$ $a = -1.291240 - 0.466206I$ $b = 1.233030 - 0.635865I$	$3.59155 - 3.95294I$	$13.25217 + 1.78901I$
$u = -0.294431 + 1.334600I$ $a = 1.358550 - 0.270993I$ $b = -1.096640 - 0.608492I$	9.48854	$11.69821 + 0.I$
$u = -0.294431 - 1.334600I$ $a = 1.358550 + 0.270993I$ $b = -1.096640 + 0.608492I$	9.48854	$11.69821 + 0.I$
$u = -0.014795 + 1.378240I$ $a = 0.518042 - 0.284615I$ $b = -0.476892 - 0.061840I$	$1.19109 - 2.38125I$	$9.20735 + 4.36639I$
$u = -0.014795 - 1.378240I$ $a = 0.518042 + 0.284615I$ $b = -0.476892 + 0.061840I$	$1.19109 + 2.38125I$	$9.20735 - 4.36639I$
$u = -0.566257 + 1.273700I$ $a = 1.60595 - 0.02258I$ $b = -1.23709 - 1.11266I$	$-1.29847 + 12.74380I$	$2.12242 - 8.78453I$
$u = -0.566257 - 1.273700I$ $a = 1.60595 + 0.02258I$ $b = -1.23709 + 1.11266I$	$-1.29847 - 12.74380I$	$2.12242 + 8.78453I$
$u = -0.438712 + 0.175989I$ $a = 1.317360 - 0.248972I$ $b = 0.692955 - 0.824926I$	$1.19109 - 2.38125I$	$9.20735 + 4.36639I$
$u = -0.438712 - 0.175989I$ $a = 1.317360 + 0.248972I$ $b = 0.692955 + 0.824926I$	$1.19109 + 2.38125I$	$9.20735 - 4.36639I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.46031 + 1.82644I$ $a = -0.255076 + 0.291430I$ $b = \quad 0.363872 - 0.119625I$	$3.91310 - 5.97461I$	0
$u = -0.46031 - 1.82644I$ $a = -0.255076 - 0.291430I$ $b = \quad 0.363872 + 0.119625I$	$3.91310 + 5.97461I$	0

III. $\boldsymbol{I^u_3 = \langle -1564u^{11}a^3 - 1275u^{11}a^2 + \cdots + 2263a + 139,\ 3u^{11}a^3 - 3u^{11}a^2 + \cdots - 17a + 30,\ u^{12} - 3u^{11} + \cdots + 4u^2 + 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ 1.84652a^3u^{11} + 1.50531a^2u^{11} + \cdots - 2.67178a - 0.164109 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 3.56080a^3u^{11} + 0.0767414a^2u^{11} + \cdots + 4.18536a - 0.592680 \\ -1.71429a^3u^{11} + 1.42857a^2u^{11} + \cdots - 5.85714a + 0.428571 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1.84652a^3u^{11} - 1.50531a^2u^{11} + \cdots + 3.67178a + 0.164109 \\ -1.71429a^3u^{11} + 1.42857a^2u^{11} + \cdots - 5.85714a + 0.428571 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.923259a^3u^{11} + 0.243211a^2u^{11} + \cdots - 1.16411a - 4.40142 \\ 0.219599a^3u^{11} - 0.0342385a^2u^{11} + \cdots + 1.40732a + 5.27981 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1.70366a^3u^{11} + 2.20897a^2u^{11} + \cdots - 4.75679a - 5.12161 \\ u^{11}a^3 - 2u^{11}a^2 + \cdots + 5a + 6 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.0979929a^3u^{11} - 3.20425a^2u^{11} + \cdots - 3.96340a + 0.531287 \\ 0.780401a^3u^{11} + 0.0425030a^2u^{11} + \cdots + 3.59268a + 0.687131 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.587957a^3u^{11} + 1.84888a^2u^{11} + \cdots - 1.78040a - 2.10980 \\ -1.57143a^3u^{11} + 1.14286a^2u^{11} + \cdots + 2.71429a + 3.14286 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.587957a^3u^{11} + 1.84888a^2u^{11} + \cdots - 1.78040a - 2.10980 \\ -1.57143a^3u^{11} + 1.14286a^2u^{11} + \cdots + 2.71429a + 3.14286 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1972}{847}u^{11}a^3 - \frac{4616}{847}u^{11}a^2 + \cdots + \frac{4696}{847}a + \frac{2734}{847}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$(u^{24} + 5u^{22} + \cdots - 10u + 1)^2$
c_2, c_4, c_5 c_7	$u^{48} - 3u^{47} + \cdots + 14u + 7$
c_3, c_6, c_9 c_{11}	$(u^{12} + 3u^{11} + \cdots + 4u^2 + 1)^4$
c_{10}	$(u^2 + u + 1)^{24}$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$(y^{24}+10y^{23}+\cdots+20y+1)^2$
c_2, c_4, c_5 c_7	$y^{48}+17y^{47}+\cdots+1428y+49$
c_3, c_6, c_9 c_{11}	$(y^{12}+7y^{11}+\cdots+8y+1)^4$
c_{10}	$(y^2+y+1)^{24}$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.234552 + 1.002020I$ $a = -0.597795 - 0.302093I$ $b = 0.22904 + 1.51797I$	$2.07792 + 4.93563I$	$4.02829 - 7.11030I$
$u = -0.234552 + 1.002020I$ $a = -1.25972 + 1.80552I$ $b = 1.41318 - 2.05306I$	$2.07792 + 8.99540I$	$4.0283 - 14.0385I$
$u = -0.234552 + 1.002020I$ $a = -2.51733 - 0.10179I$ $b = 1.131840 + 0.654685I$	$2.07792 + 4.93563I$	$4.02829 - 7.11030I$
$u = -0.234552 + 1.002020I$ $a = 2.46751 + 1.09420I$ $b = -0.212046 - 0.211827I$	$2.07792 + 8.99540I$	$4.0283 - 14.0385I$
$u = -0.234552 - 1.002020I$ $a = -0.597795 + 0.302093I$ $b = 0.22904 - 1.51797I$	$2.07792 - 4.93563I$	$4.02829 + 7.11030I$
$u = -0.234552 - 1.002020I$ $a = -1.25972 - 1.80552I$ $b = 1.41318 + 2.05306I$	$2.07792 - 8.99540I$	$4.0283 + 14.0385I$
$u = -0.234552 - 1.002020I$ $a = -2.51733 + 0.10179I$ $b = 1.131840 - 0.654685I$	$2.07792 - 4.93563I$	$4.02829 + 7.11030I$
$u = -0.234552 - 1.002020I$ $a = 2.46751 - 1.09420I$ $b = -0.212046 + 0.211827I$	$2.07792 - 8.99540I$	$4.0283 + 14.0385I$
$u = 1.090290 + 0.140460I$ $a = 0.538183 - 0.070205I$ $b = -0.746925 + 0.933267I$	$-2.70277 - 3.11251I$	$-4.28153 + 9.09172I$
$u = 1.090290 + 0.140460I$ $a = -0.165125 - 0.441725I$ $b = 0.537490 + 1.055820I$	$-2.70277 + 0.94726I$	$-4.28153 + 2.16352I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.090290 + 0.140460I$ $a = -0.287918 - 0.168255I$ $b = -0.319731 - 0.721848I$	$-2.70277 + 0.94726I$	$-4.28153 + 2.16352I$
$u = 1.090290 + 0.140460I$ $a = 0.216596 - 0.017151I$ $b = 0.348815 - 0.911669I$	$-2.70277 - 3.11251I$	$-4.28153 + 9.09172I$
$u = 1.090290 - 0.140460I$ $a = 0.538183 + 0.070205I$ $b = -0.746925 - 0.933267I$	$-2.70277 + 3.11251I$	$-4.28153 - 9.09172I$
$u = 1.090290 - 0.140460I$ $a = -0.165125 + 0.441725I$ $b = 0.537490 - 1.055820I$	$-2.70277 - 0.94726I$	$-4.28153 - 2.16352I$
$u = 1.090290 - 0.140460I$ $a = -0.287918 + 0.168255I$ $b = -0.319731 + 0.721848I$	$-2.70277 - 0.94726I$	$-4.28153 - 2.16352I$
$u = 1.090290 - 0.140460I$ $a = 0.216596 + 0.017151I$ $b = 0.348815 + 0.911669I$	$-2.70277 + 3.11251I$	$-4.28153 - 9.09172I$
$u = -0.185688 + 0.817666I$ $a = 0.378746 - 1.189790I$ $b = -0.006229 - 0.983343I$	$-2.70277 - 0.94726I$	$-4.28153 - 2.16352I$
$u = -0.185688 + 0.817666I$ $a = 0.35004 - 1.84034I$ $b = -0.69044 + 2.01862I$	$-2.70277 + 3.11251I$	$-4.28153 - 9.09172I$
$u = -0.185688 + 0.817666I$ $a = -2.61261 - 0.58128I$ $b = 0.082567 + 0.311441I$	$-2.70277 + 3.11251I$	$-4.28153 - 9.09172I$
$u = -0.185688 + 0.817666I$ $a = 2.84972 + 0.44116I$ $b = -1.70773 - 0.70812I$	$-2.70277 - 0.94726I$	$-4.28153 - 2.16352I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.185688 - 0.817666I$ $a = 0.378746 + 1.189790I$ $b = -0.006229 + 0.983343I$	$-2.70277 + 0.94726I$	$-4.28153 + 2.16352I$
$u = -0.185688 - 0.817666I$ $a = 0.35004 + 1.84034I$ $b = -0.69044 - 2.01862I$	$-2.70277 - 3.11251I$	$-4.28153 + 9.09172I$
$u = -0.185688 - 0.817666I$ $a = -2.61261 + 0.58128I$ $b = 0.082567 - 0.311441I$	$-2.70277 - 3.11251I$	$-4.28153 + 9.09172I$
$u = -0.185688 - 0.817666I$ $a = 2.84972 - 0.44116I$ $b = -1.70773 + 0.70812I$	$-2.70277 + 0.94726I$	$-4.28153 + 2.16352I$
$u = 0.529049 + 1.245360I$ $a = 0.882539 + 0.059263I$ $b = -0.550794 + 0.261194I$	$0.62485 - 2.52824I$	$0.25324 - 1.69361I$
$u = 0.529049 + 1.245360I$ $a = 1.195580 + 0.202913I$ $b = -0.816916 + 0.968854I$	$0.62485 - 6.58801I$	$0.25324 + 5.23459I$
$u = 0.529049 + 1.245360I$ $a = -1.68191 + 0.25584I$ $b = 1.25894 - 1.09149I$	$0.62485 - 6.58801I$	$0.25324 + 5.23459I$
$u = 0.529049 + 1.245360I$ $a = -0.242083 + 0.132540I$ $b = 0.223576 - 0.582679I$	$0.62485 - 2.52824I$	$0.25324 - 1.69361I$
$u = 0.529049 - 1.245360I$ $a = 0.882539 - 0.059263I$ $b = -0.550794 - 0.261194I$	$0.62485 + 2.52824I$	$0.25324 + 1.69361I$
$u = 0.529049 - 1.245360I$ $a = 1.195580 - 0.202913I$ $b = -0.816916 - 0.968854I$	$0.62485 + 6.58801I$	$0.25324 - 5.23459I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.529049 - 1.245360I$ $a = -1.68191 - 0.25584I$ $b = 1.25894 + 1.09149I$	$0.62485 + 6.58801I$	$0.25324 - 5.23459I$
$u = 0.529049 - 1.245360I$ $a = -0.242083 - 0.132540I$ $b = 0.223576 + 0.582679I$	$0.62485 + 2.52824I$	$0.25324 + 1.69361I$
$u = -0.251512 + 0.449740I$ $a = 0.586879 + 0.230300I$ $b = 0.619548 - 0.991194I$	$0.62485 - 2.52824I$	$0.25324 - 1.69361I$
$u = -0.251512 + 0.449740I$ $a = 0.96589 + 1.86894I$ $b = -0.253152 + 0.971646I$	$0.62485 - 6.58801I$	$0.25324 + 5.23459I$
$u = -0.251512 + 0.449740I$ $a = 2.30449 + 0.84444I$ $b = -0.038774 - 0.733952I$	$0.62485 - 2.52824I$	$0.25324 - 1.69361I$
$u = -0.251512 + 0.449740I$ $a = -3.34233 + 0.09769I$ $b = 1.45679 + 0.39389I$	$0.62485 - 6.58801I$	$0.25324 + 5.23459I$
$u = -0.251512 - 0.449740I$ $a = 0.586879 - 0.230300I$ $b = 0.619548 + 0.991194I$	$0.62485 + 2.52824I$	$0.25324 + 1.69361I$
$u = -0.251512 - 0.449740I$ $a = 0.96589 - 1.86894I$ $b = -0.253152 - 0.971646I$	$0.62485 + 6.58801I$	$0.25324 - 5.23459I$
$u = -0.251512 - 0.449740I$ $a = 2.30449 - 0.84444I$ $b = -0.038774 + 0.733952I$	$0.62485 + 2.52824I$	$0.25324 + 1.69361I$
$u = -0.251512 - 0.449740I$ $a = -3.34233 - 0.09769I$ $b = 1.45679 - 0.39389I$	$0.62485 + 6.58801I$	$0.25324 - 5.23459I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.55241 + 1.40748I$ $a = -1.117820 + 0.247439I$ $b = 0.85749 - 1.22119I$	$2.07792 - 8.99540I$	$4.0283 + 14.0385I$
$u = 0.55241 + 1.40748I$ $a = -0.816501 - 0.179135I$ $b = 0.437562 - 0.344284I$	$2.07792 - 4.93563I$	$4.02829 + 7.11030I$
$u = 0.55241 + 1.40748I$ $a = 0.633601 - 0.469916I$ $b = -0.527372 + 0.822492I$	$2.07792 - 4.93563I$	$4.02829 + 7.11030I$
$u = 0.55241 + 1.40748I$ $a = 1.77136 - 0.08131I$ $b = -1.22673 + 0.90431I$	$2.07792 - 8.99540I$	$4.0283 + 14.0385I$
$u = 0.55241 - 1.40748I$ $a = -1.117820 - 0.247439I$ $b = 0.85749 + 1.22119I$	$2.07792 + 8.99540I$	$4.0283 - 14.0385I$
$u = 0.55241 - 1.40748I$ $a = -0.816501 + 0.179135I$ $b = 0.437562 + 0.344284I$	$2.07792 + 4.93563I$	$4.02829 - 7.11030I$
$u = 0.55241 - 1.40748I$ $a = 0.633601 + 0.469916I$ $b = -0.527372 - 0.822492I$	$2.07792 + 4.93563I$	$4.02829 - 7.11030I$
$u = 0.55241 - 1.40748I$ $a = 1.77136 + 0.08131I$ $b = -1.22673 - 0.90431I$	$2.07792 + 8.99540I$	$4.0283 - 14.0385I$

IV. $\boldsymbol{I^u_4 = \langle -44u^{15} + 195u^{14} + \cdots + 31b - 7,\ 139u^{15} - 752u^{14} + \cdots + 93a - 538,\ u^{16} - 5u^{15} + \cdots - 13u + 3\rangle}$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} -1.49462u^{15} + 8.08602u^{14} + \cdots - 19.9355u + 5.78495 \\ 1.41935u^{15} - 6.29032u^{14} + \cdots + 5.03226u + 0.225806 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -0.688172u^{15} + 2.98925u^{14} + \cdots - 1.25806u + 1.52688 \\ 0.612903u^{15} - 1.19355u^{14} + \cdots - 13.6452u + 4.48387 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1.04301u^{15} + 5.31183u^{14} + \cdots - 12.5161u + 3.72043 \\ 0.580645u^{15} - 2.70968u^{14} + \cdots - 3.03226u + 1.77419 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.698925u^{15} - 2.81720u^{14} + \cdots + 4.38710u + 3.04301 \\ 0.516129u^{15} - 2.74194u^{14} + \cdots + 14.1935u - 3.64516 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.559140u^{15} + 1.05376u^{14} + \cdots + 32.2903u - 12.6344 \\ -0.870968u^{15} + 5.06452u^{14} + \cdots - 27.4516u + 5.83871 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.344086u^{15} + 1.49462u^{14} + \cdots - 2.12903u - 1.23656 \\ -0.193548u^{15} + 0.903226u^{14} + \cdots - 4.32258u + 0.741935 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.967742u^{15} - 4.51613u^{14} + \cdots + 18.6129u + 0.290323 \\ 0.258065u^{15} - 0.870968u^{14} + \cdots + 7.09677u - 2.32258 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.967742u^{15} - 4.51613u^{14} + \cdots + 18.6129u + 0.290323 \\ 0.258065u^{15} - 0.870968u^{14} + \cdots + 7.09677u - 2.32258 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{73}{31}u^{15} + \frac{320}{31}u^{14} + \cdots - \frac{3387}{31}u + \frac{936}{31}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{16} + u^{14} + 8u^{12} - 4u^{10} + 9u^8 - 11u^6 + 18u^4 - 2u^2 + 7$
c_2, c_5	$u^{16} - u^{15} + \cdots - u + 1$
c_3, c_9	$u^{16} + 5u^{15} + \cdots + 13u + 3$
c_4, c_7	$u^{16} + u^{15} + \cdots + u + 1$
c_6, c_{11}	$u^{16} - 5u^{15} + \cdots - 13u + 3$
c_{10}	$u^{16} + 7u^{14} + 23u^{12} + 47u^{10} + 66u^8 + 62u^6 + 46u^4 + 20u^2 + 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$(y^8 + y^7 + 8y^6 - 4y^5 + 9y^4 - 11y^3 + 18y^2 - 2y + 7)^2$
c_2, c_4, c_5 c_7	$y^{16} + 5y^{15} + \cdots + 11y + 1$
c_3, c_6, c_9 c_{11}	$y^{16} + 15y^{15} + \cdots + 137y + 9$
c_{10}	$(y^8 + 7y^7 + 23y^6 + 47y^5 + 66y^4 + 62y^3 + 46y^2 + 20y + 7)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.156162+0.941024I$ $a=-2.01687+0.31543I$ $b=\ \ 0.833985-1.005380I$	$2.04808+7.98268I$	$4.81427-4.30375I$
$u=-0.156162-0.941024I$ $a=-2.01687-0.31543I$ $b=\ \ 0.833985+1.005380I$	$2.04808-7.98268I$	$4.81427+4.30375I$
$u=\ \ 1.147790+0.077838I$ $a=\ \ 0.110982-0.089673I$ $b=-0.448678+0.874321I$	$-2.40315-2.04689I$	$-0.09415+3.67599I$
$u=\ \ 1.147790-0.077838I$ $a=\ \ 0.110982+0.089673I$ $b=-0.448678-0.874321I$	$-2.40315+2.04689I$	$-0.09415-3.67599I$
$u=-0.011362+0.809876I$ $a=\ \ 2.02963-0.17201I$ $b=-0.723898+1.047530I$	$-2.40315+2.04689I$	$-0.09415-3.67599I$
$u=-0.011362-0.809876I$ $a=\ \ 2.02963+0.17201I$ $b=-0.723898-1.047530I$	$-2.40315-2.04689I$	$-0.09415+3.67599I$
$u=\ \ 0.369082+1.156850I$ $a=-1.77547-0.00971I$ $b=\ \ 1.13680-1.17673I$	$3.58132-5.91907I$	$-0.02049+8.16668I$
$u=\ \ 0.369082-1.156850I$ $a=-1.77547+0.00971I$ $b=\ \ 1.13680+1.17673I$	$3.58132+5.91907I$	$-0.02049-8.16668I$
$u=\ \ 0.55090+1.37318I$ $a=\ \ 1.41055-0.15096I$ $b=-1.00775+1.04644I$	$2.04808-7.98268I$	$4.81427+4.30375I$
$u=\ \ 0.55090-1.37318I$ $a=\ \ 1.41055+0.15096I$ $b=-1.00775-1.04644I$	$2.04808+7.98268I$	$4.81427-4.30375I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.58869 + 1.45312I$ $a = -0.564595 - 0.008590I$ $b = 0.468248 - 0.352677I$	$0.88608 - 3.10886I$	$7.3004 + 13.1054I$
$u = 0.58869 - 1.45312I$ $a = -0.564595 + 0.008590I$ $b = 0.468248 + 0.352677I$	$0.88608 + 3.10886I$	$7.3004 - 13.1054I$
$u = 0.144483 + 0.400393I$ $a = 2.09451 - 1.01208I$ $b = 0.368009 + 0.981568I$	$0.88608 + 3.10886I$	$7.3004 - 13.1054I$
$u = 0.144483 - 0.400393I$ $a = 2.09451 + 1.01208I$ $b = 0.368009 - 0.981568I$	$0.88608 - 3.10886I$	$7.3004 + 13.1054I$
$u = -0.13341 + 1.61975I$ $a = 0.377922 - 0.341658I$ $b = -0.126722 + 0.399203I$	$3.58132 - 5.91907I$	$-0.02049 + 8.16668I$
$u = -0.13341 - 1.61975I$ $a = 0.377922 + 0.341658I$ $b = -0.126722 - 0.399203I$	$3.58132 + 5.91907I$	$-0.02049 - 8.16668I$

V. $I^u_5 = \langle 17a^3u^2-24a^2u^2+\cdots+68a-46,\ -2a^3u^2+3a^2u^2+\cdots-5a+1,\ u^3-u^2+2u-1\rangle$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} a \\ -0.680000a^3u^2 + 0.960000a^2u^2 + \cdots - 2.72000a + 1.84000 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -0.280000a^3u^2 + 0.160000a^2u^2 + \cdots + 0.880000a + 0.640000 \\ -\frac{2}{5}a^3u^2 + \frac{4}{5}a^2u^2 + \cdots - \frac{13}{5}a + \frac{6}{5} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.680000a^3u^2 - 0.960000a^2u^2 + \cdots + 3.72000a - 1.84000 \\ -\frac{2}{5}a^3u^2 + \frac{4}{5}a^2u^2 + \cdots - \frac{8}{5}a + \frac{6}{5} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.440000a^3u^2 + 1.28000a^2u^2 + \cdots - 2.76000a + 3.12000 \\ -0.240000a^3u^2 - 0.320000a^2u^2 + \cdots - 0.960000a + 0.720000 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.880000a^3u^2 + 1.36000a^2u^2 + \cdots - 4.52000a + 3.44000 \\ \frac{1}{5}a^3u^2 - \frac{2}{5}a^2u^2 + \cdots + \frac{4}{5}a - \frac{8}{5} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{3}{5}a^3u^2 - \frac{2}{5}a^2u^2 + \cdots + \frac{7}{5}a - \frac{8}{5} \\ -0.160000a^3u^2 - 1.08000a^2u^2 + \cdots + 1.36000a - 0.320000 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{4}{5}a^3u^2 + \frac{3}{5}a^2u^2 + \cdots - \frac{6}{5}a + \frac{7}{5} \\ \frac{1}{5}a^3u^2 + \frac{3}{5}a^2u^2 + \cdots - \frac{6}{5}a + \frac{7}{5} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{4}{5}a^3u^2 + \frac{3}{5}a^2u^2 + \cdots - \frac{6}{5}a + \frac{7}{5} \\ \frac{1}{5}a^3u^2 + \frac{3}{5}a^2u^2 + \cdots - \frac{6}{5}a + \frac{7}{5} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$$= \frac{52}{25}a^3u^2 - \frac{24}{25}a^3u - \frac{44}{25}a^2u^2 + \frac{68}{25}a^3 + \frac{28}{25}a^2u + \frac{112}{25}u^2a - \frac{96}{25}a^2 - \frac{44}{25}au - \frac{264}{25}u^2 + \frac{208}{25}a + \frac{168}{25}u - \frac{226}{25}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{12} + 5u^{11} + \cdots + 50u + 25$
c_2, c_4, c_5 c_7	$u^{12} - u^{11} - 5u^9 + 12u^8 - 5u^7 - 5u^6 + 9u^5 - 8u^3 + 4u^2 + 4u + 1$
c_3, c_6, c_9 c_{11}	$(u^3 + u^2 + 2u + 1)^4$
c_{10}	$(u^2 + u + 1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{12} - 13y^{11} + \cdots - 1400y + 625$
c_2, c_4, c_5 c_7	$y^{12} - y^{11} + \cdots - 8y + 1$
c_3, c_6, c_9 c_{11}	$(y^3 + 3y^2 + 2y - 1)^4$
c_{10}	$(y^2 + y + 1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = 0.557957 + 0.898602I$ $b = -0.291045 + 0.197103I$	$6.04826 - 3.62636I$	$11.01951 + 2.49479I$
$u = 0.215080 + 1.307140I$ $a = -1.48598 + 0.34361I$ $b = 1.37483 - 0.58456I$	$6.04826 - 3.62636I$	$11.01951 + 2.49479I$
$u = 0.215080 + 1.307140I$ $a = 1.42930 - 0.86373I$ $b = -1.16740 + 1.64205I$	$6.04826 - 7.68613I$	$11.0195 + 9.4230I$
$u = 0.215080 + 1.307140I$ $a = -2.04108 - 0.56107I$ $b = 0.961053 - 0.509737I$	$6.04826 - 7.68613I$	$11.0195 + 9.4230I$
$u = 0.215080 - 1.307140I$ $a = 0.557957 - 0.898602I$ $b = -0.291045 - 0.197103I$	$6.04826 + 3.62636I$	$11.01951 - 2.49479I$
$u = 0.215080 - 1.307140I$ $a = -1.48598 - 0.34361I$ $b = 1.37483 + 0.58456I$	$6.04826 + 3.62636I$	$11.01951 - 2.49479I$
$u = 0.215080 - 1.307140I$ $a = 1.42930 + 0.86373I$ $b = -1.16740 - 1.64205I$	$6.04826 + 7.68613I$	$11.0195 - 9.4230I$
$u = 0.215080 - 1.307140I$ $a = -2.04108 + 0.56107I$ $b = 0.961053 + 0.509737I$	$6.04826 + 7.68613I$	$11.0195 - 9.4230I$
$u = 0.569840$ $a = 0.938451 + 0.394948I$ $b = 0.365745 - 0.996574I$	$-2.22691 - 2.02988I$	$-2.03902 + 3.46410I$
$u = 0.569840$ $a = 0.938451 - 0.394948I$ $b = 0.365745 + 0.996574I$	$-2.22691 + 2.02988I$	$-2.03902 - 3.46410I$

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.569840$ $a = 0.101346 + 1.406030I$ $b = -0.743183 + 0.342830I$	$-2.22691 - 2.02988I$	$-2.03902 + 3.46410I$
$u = 0.569840$ $a = 0.101346 - 1.406030I$ $b = -0.743183 - 0.342830I$	$-2.22691 + 2.02988I$	$-2.03902 - 3.46410I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = 0.500000 + 0.866025I$ $b = -0.500000 + 0.866025I$	$-6.08965I$	$0. + 10.39230I$
$u = 0.500000 - 0.866025I$ $a = 0.500000 - 0.866025I$ $b = -0.500000 - 0.866025I$	$6.08965I$	$0. - 10.39230I$

VII. $I^u_7 = \langle b+u-2,\ a+2,\ u^2-u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_7^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.500000 + 0.866025I$ $a = -2.00000$ $b = \quad 1.50000 - 0.86603I$	$-\ 6.08965I$	$0. + 10.39230I$
$u = \quad 0.500000 - 0.866025I$ $a = -2.00000$ $b = \quad 1.50000 + 0.86603I$	$6.08965I$	$0. - 10.39230I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8u - 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_8^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.500000 + 0.866025I$ $a = -1.00000$ $b = \quad 0.500000 - 0.866025I$	$-4.05977I$	$0. + 6.92820I$
$u = \quad 0.500000 - 0.866025I$ $a = -1.00000$ $b = \quad 0.500000 + 0.866025I$	$4.05977I$	$0. - 6.92820I$

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

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u \\ -u+1 \end{pmatrix}$$

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

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

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

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_9^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.500000 + 0.866025I$		
$a =$	1.00000	$-2.02988I$	$0. + 3.46410I$
$b =$	0		
$u =$	$0.500000 - 0.866025I$		
$a =$	1.00000	$2.02988I$	$0. - 3.46410I$
$b =$	0		

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

(i) Arc colorings

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

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

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

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

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

$$a_3 = \begin{pmatrix} u \\ -u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -u+2 \\ u-1 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} 1 \\ u-1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2 \\ u-2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2 \\ u-2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(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. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^2(u^2-u+1)^4(u^{11}-u^9+u^8+2u^7-2u^6-5u^5-3u^4-u^2-2u-1)^2$ $\cdot(u^{12}+5u^{11}+\cdots+50u+25)(u^{15}+5u^{13}+\cdots+4u-4)$ $\cdot(u^{16}+u^{14}+8u^{12}-4u^{10}+9u^8-11u^6+18u^4-2u^2+7)$ $\cdot(u^{24}+5u^{22}+\cdots-10u+1)^2$
c_2, c_5	$u^2(u^2-3u+3)(u^2-u+1)(u^2+u+1)^2$ $\cdot(u^{12}-u^{11}-5u^9+12u^8-5u^7-5u^6+9u^5-8u^3+4u^2+4u+1)$ $\cdot(u^{15}-3u^{13}+\cdots+u-1)(u^{16}-u^{15}+\cdots-u+1)$ $\cdot(u^{22}-2u^{21}+\cdots+u+1)(u^{48}-3u^{47}+\cdots+14u+7)$
c_3, c_9	$((u^2+u+1)^5)(u^3+u^2+2u+1)^4(u^{12}+3u^{11}+\cdots+4u^2+1)^4$ $\cdot(u^{15}-5u^{14}+\cdots+18u-4)(u^{16}+5u^{15}+\cdots+13u+3)$ $\cdot(u^{22}-10u^{21}+\cdots-121u+13)$
c_4, c_7	$u^2(u^2-3u+3)(u^2+u+1)^3$ $\cdot(u^{12}-u^{11}-5u^9+12u^8-5u^7-5u^6+9u^5-8u^3+4u^2+4u+1)$ $\cdot(u^{15}-3u^{13}+\cdots+u-1)(u^{16}+u^{15}+\cdots+u+1)$ $\cdot(u^{22}-2u^{21}+\cdots+u+1)(u^{48}-3u^{47}+\cdots+14u+7)$
c_6, c_{11}	$(u^2-u+1)(u^2+u+1)^4(u^3+u^2+2u+1)^4$ $\cdot((u^{12}+3u^{11}+\cdots+4u^2+1)^4)(u^{15}-5u^{14}+\cdots+18u-4)$ $\cdot(u^{16}-5u^{15}+\cdots-13u+3)(u^{22}-10u^{21}+\cdots-121u+13)$
c_{10}	$u^2(u^2+u+1)^{34}(u^{11}-9u^{10}+\cdots+288u-64)^2$ $\cdot(u^{15}-11u^{14}+\cdots+176u-32)$ $\cdot(u^{16}+7u^{14}+23u^{12}+47u^{10}+66u^8+62u^6+46u^4+20u^2+7)$

XII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^2(y^2+y+1)^4(y^8+y^7+8y^6-4y^5+9y^4-11y^3+18y^2-2y+7)^2$ $\cdot\,((y^{11}-2y^{10}+\cdots+2y-1)^2)(y^{12}-13y^{11}+\cdots-1400y+625)$ $\cdot\,(y^{15}+10y^{14}+\cdots-96y-16)(y^{24}+10y^{23}+\cdots+20y+1)^2$
c_2, c_4, c_5 c_7	$y^2(y^2-3y+9)(y^2+y+1)^3(y^{12}-y^{11}+\cdots-8y+1)$ $\cdot\,(y^{15}-6y^{14}+\cdots+y-1)(y^{16}+5y^{15}+\cdots+11y+1)$ $\cdot\,(y^{22}-8y^{21}+\cdots-27y+1)(y^{48}+17y^{47}+\cdots+1428y+49)$
c_3, c_6, c_9 c_{11}	$((y^2+y+1)^5)(y^3+3y^2+2y-1)^4(y^{12}+7y^{11}+\cdots+8y+1)^4$ $\cdot\,(y^{15}+9y^{14}+\cdots+12y-16)(y^{16}+15y^{15}+\cdots+137y+9)$ $\cdot\,(y^{22}+18y^{21}+\cdots+335y+169)$
c_{10}	$y^2(y^2+y+1)^{34}$ $\cdot\,(y^8+7y^7+23y^6+47y^5+66y^4+62y^3+46y^2+20y+7)^2$ $\cdot\,((y^{11}+7y^{10}+\cdots-3072y-4096)^2)(y^{15}+y^{14}+\cdots+768y-1024)$