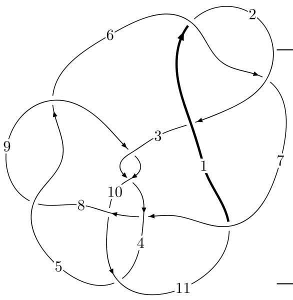
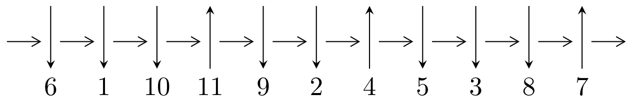
$11a_{215}$ $(K11a_{215})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -29u^{26} + 175u^{25} + \cdots + 4b + 156,\ -41u^{26} + 209u^{25} + \cdots + 8a + 92,\ u^{27} - 7u^{26} + \cdots - 48u + 8\rangle$$

$$\begin{aligned} I_2^u = \langle &-4.28042 \times 10^{21} a^5 u^8 + 3.83114 \times 10^{22} a^4 u^8 + \cdots - 6.06064 \times 10^{22} a + 4.42208 \times 10^{22}, \\ &3u^8 a^3 + 9u^8 a^2 + \cdots - 18a - 43,\ u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1\rangle \end{aligned}$$

$$\begin{aligned} I_3^u = \langle &-u^{14} + 3u^{12} - 5u^{10} + 3u^8 + u^7 - u^6 - 2u^5 - u^4 + 2u^3 + b - u - 1, \\ &u^{14} - 3u^{13} - 3u^{12} + 10u^{11} + 4u^{10} - 17u^9 - u^8 + 11u^7 + u^6 - u^5 - 6u^4 - 3u^3 + 8u^2 + a - u - 4, \\ &u^{15} - 4u^{13} + 8u^{11} - 8u^9 - u^8 + 4u^7 + 3u^6 - 4u^4 + 3u^2 - 1\rangle \end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 96 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. $I^u_1 = \langle -29u^{26} + 175u^{25} + \cdots + 4b + 156,\ -41u^{26} + 209u^{25} + \cdots + 8a + 92,\ u^{27} - 7u^{26} + \cdots - 48u + 8\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 5.12500u^{26} - 26.1250u^{25} + \cdots + 76.5000u - 11.5000 \\ \frac{29}{4}u^{26} - \frac{175}{4}u^{25} + \cdots + \frac{447}{2}u - 39 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 4.12500u^{26} - 26.1250u^{25} + \cdots + 212.500u - 43.5000 \\ -\frac{3}{4}u^{26} + \frac{5}{4}u^{25} + \cdots + \frac{101}{2}u - 13 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 6u^{26} - \frac{67}{2}u^{25} + \cdots + 128u - \frac{39}{2} \\ \frac{5}{2}u^{26} - 17u^{25} + \cdots + \frac{345}{2}u - 36 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{19}{4}u^{26} - \frac{53}{2}u^{25} + \cdots + \frac{321}{4}u - 11 \\ \frac{17}{4}u^{26} - \frac{101}{4}u^{25} + \cdots + 106u - 16 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -4u^{26} + \frac{45}{2}u^{25} + \cdots - 76u + \frac{25}{2} \\ \frac{3}{2}u^{25} - \frac{13}{2}u^{24} + \cdots - \frac{71}{2}u + 8 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -4u^{26} + \frac{45}{2}u^{25} + \cdots - 76u + \frac{25}{2} \\ \frac{3}{2}u^{25} - \frac{13}{2}u^{24} + \cdots - \frac{71}{2}u + 8 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 7u^{26} - 42u^{25} + 85u^{24} + 32u^{23} - 464u^{22} + 782u^{21} + 58u^{20} - 2162u^{19} + 3200u^{18} - 304u^{17} - 5341u^{16} + 7635u^{15} - 2013u^{14} - 7580u^{13} + 11422u^{12} - 4923u^{11} - 5645u^{10} + 10277u^9 - 6041u^8 - 1288u^7 + 4988u^6 - 3826u^5 + 1037u^4 + 557u^3 - 655u^2 + 276u - 46$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{27} - 7u^{26} + \cdots - 48u + 8$
c_2	$u^{27} + 13u^{26} + \cdots + 224u + 64$
c_3, c_5, c_8 c_9	$u^{27} + u^{26} + \cdots + 2u + 1$
c_4, c_7	$u^{27} + 3u^{25} + \cdots + 3u + 1$
c_{10}	$u^{27} - 27u^{26} + \cdots - 7424u + 512$
c_{11}	$u^{27} - 21u^{26} + \cdots - 19888u + 2664$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{27} - 13y^{26} + \cdots + 224y - 64$
c_2	$y^{27} - y^{26} + \cdots + 2560y - 4096$
c_3, c_5, c_8 c_9	$y^{27} - 25y^{26} + \cdots - 10y - 1$
c_4, c_7	$y^{27} + 6y^{26} + \cdots + 3y - 1$
c_{10}	$y^{27} - 5y^{26} + \cdots + 2424832y - 262144$
c_{11}	$y^{27} + 15y^{26} + \cdots + 24224224y - 7096896$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.250449 + 1.038140I$ $a = -0.444857 - 0.280509I$ $b = -1.222090 + 0.179844I$	$-5.84917 + 1.93910I$	$-18.8822 - 3.3310I$
$u = 0.250449 - 1.038140I$ $a = -0.444857 + 0.280509I$ $b = -1.222090 - 0.179844I$	$-5.84917 - 1.93910I$	$-18.8822 + 3.3310I$
$u = 0.942577 + 0.503851I$ $a = -0.932522 + 0.762632I$ $b = -0.482241 - 0.629621I$	$1.12638 - 3.49850I$	$-2.08740 + 6.42119I$
$u = 0.942577 - 0.503851I$ $a = -0.932522 - 0.762632I$ $b = -0.482241 + 0.629621I$	$1.12638 + 3.49850I$	$-2.08740 - 6.42119I$
$u = 0.206067 + 0.899919I$ $a = 0.523648 + 0.537105I$ $b = 1.48683 - 0.50104I$	$-8.00804 + 11.41820I$	$-8.36312 - 5.92536I$
$u = 0.206067 - 0.899919I$ $a = 0.523648 - 0.537105I$ $b = 1.48683 + 0.50104I$	$-8.00804 - 11.41820I$	$-8.36312 + 5.92536I$
$u = -1.061350 + 0.298652I$ $a = -0.099401 + 0.688573I$ $b = -0.008660 + 0.493664I$	$-2.59299 + 0.52735I$	$-7.52998 - 1.76243I$
$u = -1.061350 - 0.298652I$ $a = -0.099401 - 0.688573I$ $b = -0.008660 - 0.493664I$	$-2.59299 - 0.52735I$	$-7.52998 + 1.76243I$
$u = 0.707332 + 0.846348I$ $a = -0.001548 + 0.443664I$ $b = -1.207210 + 0.175822I$	$-2.83672 + 3.13233I$	$-8.60430 - 4.73932I$
$u = 0.707332 - 0.846348I$ $a = -0.001548 - 0.443664I$ $b = -1.207210 - 0.175822I$	$-2.83672 - 3.13233I$	$-8.60430 + 4.73932I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.921192 + 0.733170I$ $a = 0.488034 - 0.960402I$ $b = 1.243300 + 0.306554I$	$-3.51361 - 8.92967I$	$-8.84256 + 8.65936I$
$u = 0.921192 - 0.733170I$ $a = 0.488034 + 0.960402I$ $b = 1.243300 - 0.306554I$	$-3.51361 + 8.92967I$	$-8.84256 - 8.65936I$
$u = 0.583614 + 0.540343I$ $a = -0.431550 + 0.437769I$ $b = 0.286435 - 0.643143I$	$2.16469 - 0.74717I$	$1.19667 + 1.31837I$
$u = 0.583614 - 0.540343I$ $a = -0.431550 - 0.437769I$ $b = 0.286435 + 0.643143I$	$2.16469 + 0.74717I$	$1.19667 - 1.31837I$
$u = 1.095640 + 0.533268I$ $a = 0.918975 + 0.305045I$ $b = 0.038720 + 0.614836I$	$-0.99910 - 6.61566I$	$-2.67665 + 5.91111I$
$u = 1.095640 - 0.533268I$ $a = 0.918975 - 0.305045I$ $b = 0.038720 - 0.614836I$	$-0.99910 + 6.61566I$	$-2.67665 - 5.91111I$
$u = 0.323531 + 0.655078I$ $a = -0.318838 - 0.202977I$ $b = 0.049362 + 0.615471I$	$1.20723 + 1.99852I$	$0.24096 - 2.02450I$
$u = 0.323531 - 0.655078I$ $a = -0.318838 + 0.202977I$ $b = 0.049362 - 0.615471I$	$1.20723 - 1.99852I$	$0.24096 + 2.02450I$
$u = -1.280650 + 0.313658I$ $a = -1.96356 - 0.72558I$ $b = -1.54139 - 0.41238I$	$-12.8060 - 7.3523I$	$-13.07121 + 3.51912I$
$u = -1.280650 - 0.313658I$ $a = -1.96356 + 0.72558I$ $b = -1.54139 + 0.41238I$	$-12.8060 + 7.3523I$	$-13.07121 - 3.51912I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.212520 + 0.560901I$ $a = -2.08232 + 1.39711I$ $b = -1.52806 - 0.55410I$	$-11.0486 - 16.7322I$	$-11.0194 + 9.0355I$
$u = 1.212520 - 0.560901I$ $a = -2.08232 - 1.39711I$ $b = -1.52806 + 0.55410I$	$-11.0486 + 16.7322I$	$-11.0194 - 9.0355I$
$u = -1.346150 + 0.244793I$ $a = 1.76713 + 0.21440I$ $b = 1.366950 + 0.073827I$	$-11.47790 + 2.36837I$	$-17.5105 - 3.3278I$
$u = -1.346150 - 0.244793I$ $a = 1.76713 - 0.21440I$ $b = 1.366950 - 0.073827I$	$-11.47790 - 2.36837I$	$-17.5105 + 3.3278I$
$u = -0.624607$ $a = -0.939222$ $b = -0.473047$	-0.948941	-10.2360
$u = 1.257530 + 0.592160I$ $a = 1.54642 - 1.10756I$ $b = 1.254580 + 0.299552I$	$-9.04410 - 7.78302I$	$-15.7321 + 8.2671I$
$u = 1.257530 - 0.592160I$ $a = 1.54642 + 1.10756I$ $b = 1.254580 - 0.299552I$	$-9.04410 + 7.78302I$	$-15.7321 - 8.2671I$

II. $\boldsymbol{I_2^u = \langle -4.28 \times 10^{21} a^5 u^8 + 3.83 \times 10^{22} a^4 u^8 + \cdots - 6.06 \times 10^{22} a + 4.42 \times 10^{22},\ 3u^8 a^3 + 9u^8 a^2 + \cdots - 18a - 43,\ u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1 \rangle}$

(i) Arc colorings

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

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

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

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

$$a_3 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} a \\ 0.135799a^5u^8 - 1.21545a^4u^8 + \cdots + 1.92277a - 1.40293 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.216342a^5u^8 - 0.570413a^4u^8 + \cdots + 2.96433a - 0.595647 \\ -0.150805a^5u^8 - 1.50492a^4u^8 + \cdots + 3.12982a - 1.29739 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.159195a^5u^8 + 0.143153a^4u^8 + \cdots - 0.569358a + 0.0173501 \\ -0.0275012a^5u^8 - 1.94896a^4u^8 + \cdots + 1.64651a - 1.62293 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.554759a^5u^8 - 0.883326a^4u^8 + \cdots + 3.07806a + 0.120655 \\ 0.185431a^5u^8 + 0.876552a^4u^8 + \cdots + 2.54167a + 0.420697 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.143558a^5u^8 - 0.394845a^4u^8 + \cdots + 0.834495a - 0.484708 \\ 0.0732090a^5u^8 - 1.50089a^4u^8 + \cdots + 1.91001a - 1.77924 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.143558a^5u^8 - 0.394845a^4u^8 + \cdots + 0.834495a - 0.484708 \\ 0.0732090a^5u^8 - 1.50089a^4u^8 + \cdots + 1.91001a - 1.77924 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{21953992516327455551288}{4502908240731220953089}u^8a^5 - \frac{16583620580570932860 68}{4502908240731220953089}u^8a^4 + \cdots - \frac{34140440455621394168 12}{4502908240731220953089}a - \frac{24919211764634738825954}{4502908240731220953089}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1)^6$
c_2	$(u^9 + 5u^8 + 12u^7 + 15u^6 + 9u^5 - u^4 - 4u^3 - 2u^2 + u + 1)^6$
c_3, c_5, c_8 c_9	$u^{54} - u^{53} + \cdots - 2672u - 1393$
c_4, c_7	$u^{54} - 3u^{53} + \cdots + 946u - 229$
c_{10}	$(u^3 + u^2 - 1)^{18}$
c_{11}	$(u^9 + 3u^8 + 8u^7 + 13u^6 + 17u^5 + 17u^4 + 12u^3 + 6u^2 + u - 1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1)^6$
c_2	$(y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1)^6$
c_3, c_5, c_8 c_9	$y^{54} - 45y^{53} + \cdots + 8846484y + 1940449$
c_4, c_7	$y^{54} + 15y^{53} + \cdots + 1004868y + 52441$
c_{10}	$(y^3 - y^2 + 2y - 1)^{18}$
c_{11}	$(y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.772920 + 0.510351I$ $a = \quad 0.421767 - 0.926709I$ $b = -1.202420 + 0.401684I$	$-4.26482 + 2.09337I$	$-10.50452 - 4.16283I$
$u = -0.772920 + 0.510351I$ $a = \quad 0.358651 - 0.337314I$ $b = \quad 0.168504 + 0.856224I$	$-0.12724 + 4.92150I$	$-3.97525 - 7.14228I$
$u = -0.772920 + 0.510351I$ $a = -1.58358 - 0.28481I$ $b = -0.365320 + 0.500469I$	$-0.127239 - 0.734748I$	$-3.97525 - 1.18338I$
$u = -0.772920 + 0.510351I$ $a = -0.213181 - 0.257169I$ $b = -0.928682 - 0.475966I$	$-0.127239 - 0.734748I$	$-3.97525 - 1.18338I$
$u = -0.772920 + 0.510351I$ $a = -0.77730 + 1.65150I$ $b = \quad 1.122440 + 0.149270I$	$-4.26482 + 2.09337I$	$-10.50452 - 4.16283I$
$u = -0.772920 + 0.510351I$ $a = \quad 1.16973 + 1.42641I$ $b = \quad 1.065130 - 0.464824I$	$-0.12724 + 4.92150I$	$-3.97525 - 7.14228I$
$u = -0.772920 - 0.510351I$ $a = \quad 0.421767 + 0.926709I$ $b = -1.202420 - 0.401684I$	$-4.26482 - 2.09337I$	$-10.50452 + 4.16283I$
$u = -0.772920 - 0.510351I$ $a = \quad 0.358651 + 0.337314I$ $b = \quad 0.168504 - 0.856224I$	$-0.12724 - 4.92150I$	$-3.97525 + 7.14228I$
$u = -0.772920 - 0.510351I$ $a = -1.58358 + 0.28481I$ $b = -0.365320 - 0.500469I$	$-0.127239 + 0.734748I$	$-3.97525 + 1.18338I$
$u = -0.772920 - 0.510351I$ $a = -0.213181 + 0.257169I$ $b = -0.928682 + 0.475966I$	$-0.127239 + 0.734748I$	$-3.97525 + 1.18338I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.772920 - 0.510351I$ $a = -0.77730 - 1.65150I$ $b = 1.122440 - 0.149270I$	$-4.26482 - 2.09337I$	$-10.50452 + 4.16283I$
$u = -0.772920 - 0.510351I$ $a = 1.16973 - 1.42641I$ $b = 1.065130 + 0.464824I$	$-0.12724 - 4.92150I$	$-3.97525 + 7.14228I$
$u = 0.825933$ $a = -0.99489 + 1.36802I$ $b = -0.850633 - 0.711452I$	$-3.10912 - 2.82812I$	$-13.14259 + 2.97945I$
$u = 0.825933$ $a = -0.99489 - 1.36802I$ $b = -0.850633 + 0.711452I$	$-3.10912 + 2.82812I$	$-13.14259 - 2.97945I$
$u = 0.825933$ $a = -1.81663$ $b = -1.76108$	-7.24670	-19.6720
$u = 0.825933$ $a = 1.65119 + 2.62062I$ $b = 0.740435 + 0.041728I$	$-3.10912 - 2.82812I$	$-13.14259 + 2.97945I$
$u = 0.825933$ $a = 1.65119 - 2.62062I$ $b = 0.740435 - 0.041728I$	$-3.10912 + 2.82812I$	$-13.14259 - 2.97945I$
$u = 0.825933$ $a = 3.55546$ $b = 1.46912$	-7.24670	-19.6720
$u = 1.173910 + 0.391555I$ $a = -0.569282 - 1.077620I$ $b = 0.474901 - 1.323300I$	$-6.28202 + 1.49195I$	$-11.77434 - 2.27770I$
$u = 1.173910 + 0.391555I$ $a = 0.516921 - 0.313844I$ $b = -0.185503 + 0.512258I$	$-6.28202 - 4.16429I$	$-11.77434 + 3.68120I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.173910 + 0.391555I$ $a = -2.17850 + 0.12813I$ $b = -1.380310 + 0.183722I$	$-10.41960 - 1.33617I$	$-18.3036 + 0.7017I$
$u = 1.173910 + 0.391555I$ $a = 1.92979 - 1.47306I$ $b = 1.83390 - 0.60150I$	$-10.41960 - 1.33617I$	$-18.3036 + 0.7017I$
$u = 1.173910 + 0.391555I$ $a = 2.47431 - 0.76430I$ $b = 1.315040 + 0.370548I$	$-6.28202 - 4.16429I$	$-11.77434 + 3.68120I$
$u = 1.173910 + 0.391555I$ $a = -2.60969 + 1.14050I$ $b = -1.262020 + 0.125124I$	$-6.28202 + 1.49195I$	$-11.77434 - 2.27770I$
$u = 1.173910 - 0.391555I$ $a = -0.569282 + 1.077620I$ $b = 0.474901 + 1.323300I$	$-6.28202 - 1.49195I$	$-11.77434 + 2.27770I$
$u = 1.173910 - 0.391555I$ $a = 0.516921 + 0.313844I$ $b = -0.185503 - 0.512258I$	$-6.28202 + 4.16429I$	$-11.77434 - 3.68120I$
$u = 1.173910 - 0.391555I$ $a = -2.17850 - 0.12813I$ $b = -1.380310 - 0.183722I$	$-10.41960 + 1.33617I$	$-18.3036 - 0.7017I$
$u = 1.173910 - 0.391555I$ $a = 1.92979 + 1.47306I$ $b = 1.83390 + 0.60150I$	$-10.41960 + 1.33617I$	$-18.3036 - 0.7017I$
$u = 1.173910 - 0.391555I$ $a = 2.47431 + 0.76430I$ $b = 1.315040 - 0.370548I$	$-6.28202 + 4.16429I$	$-11.77434 - 3.68120I$
$u = 1.173910 - 0.391555I$ $a = -2.60969 - 1.14050I$ $b = -1.262020 - 0.125124I$	$-6.28202 - 1.49195I$	$-11.77434 + 2.27770I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.141484+0.739668I$ $a=-0.557068-0.760680I$ $b=-0.100409+0.439662I$	$-2.52761+0.37370I$	$-6.81817-0.06647I$
$u=-0.141484+0.739668I$ $a=-0.824663+0.004372I$ $b=-1.178650+0.193591I$	$-2.52761+0.37370I$	$-6.81817-0.06647I$
$u=-0.141484+0.739668I$ $a=-0.305670+0.700140I$ $b=-1.62567-0.66037I$	$-6.66520-2.45442I$	$-13.34743+2.91298I$
$u=-0.141484+0.739668I$ $a=\quad 0.153194+0.618598I$ $b=-0.243877-1.275290I$	$-2.52761-5.28254I$	$-6.81817+5.89242I$
$u=-0.141484+0.739668I$ $a=\quad 1.39802-0.34488I$ $b=\quad 1.252610+0.265598I$	$-2.52761-5.28254I$	$-6.81817+5.89242I$
$u=-0.141484+0.739668I$ $a=\quad 0.53019-1.33944I$ $b=\quad 1.267560+0.161698I$	$-6.66520-2.45442I$	$-13.34743+2.91298I$
$u=-0.141484-0.739668I$ $a=-0.557068+0.760680I$ $b=-0.100409-0.439662I$	$-2.52761-0.37370I$	$-6.81817+0.06647I$
$u=-0.141484-0.739668I$ $a=-0.824663-0.004372I$ $b=-1.178650-0.193591I$	$-2.52761-0.37370I$	$-6.81817+0.06647I$
$u=-0.141484-0.739668I$ $a=-0.305670-0.700140I$ $b=-1.62567+0.66037I$	$-6.66520+2.45442I$	$-13.34743-2.91298I$
$u=-0.141484-0.739668I$ $a=\quad 0.153194-0.618598I$ $b=-0.243877+1.275290I$	$-2.52761+5.28254I$	$-6.81817-5.89242I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.141484 - 0.739668I$ $a = 1.39802 + 0.34488I$ $b = 1.252610 - 0.265598I$	$-2.52761 + 5.28254I$	$-6.81817 - 5.89242I$
$u = -0.141484 - 0.739668I$ $a = 0.53019 + 1.33944I$ $b = 1.267560 - 0.161698I$	$-6.66520 + 2.45442I$	$-13.34743 - 2.91298I$
$u = -1.172470 + 0.500383I$ $a = 1.35974 - 0.47536I$ $b = 0.21600 - 1.43941I$	$-5.50880 + 9.91305I$	$-10.06705 - 8.89280I$
$u = -1.172470 + 0.500383I$ $a = -0.1039610 - 0.0108303I$ $b = 0.121537 + 0.653105I$	$-5.50880 + 4.25680I$	$-10.06705 - 2.93390I$
$u = -1.172470 + 0.500383I$ $a = 1.80768 + 1.26186I$ $b = 1.324480 + 0.087624I$	$-5.50880 + 4.25680I$	$-10.06705 - 2.93390I$
$u = -1.172470 + 0.500383I$ $a = -1.76757 - 1.99982I$ $b = -1.252120 + 0.251479I$	$-9.64638 + 7.08493I$	$-16.5963 - 5.9133I$
$u = -1.172470 + 0.500383I$ $a = 2.41757 + 1.36405I$ $b = 1.66751 - 0.81351I$	$-9.64638 + 7.08493I$	$-16.5963 - 5.9133I$
$u = -1.172470 + 0.500383I$ $a = -2.57279 - 1.25561I$ $b = -1.348440 + 0.274419I$	$-5.50880 + 9.91305I$	$-10.06705 - 8.89280I$
$u = -1.172470 - 0.500383I$ $a = 1.35974 + 0.47536I$ $b = 0.21600 + 1.43941I$	$-5.50880 - 9.91305I$	$-10.06705 + 8.89280I$
$u = -1.172470 - 0.500383I$ $a = -0.1039610 + 0.0108303I$ $b = 0.121537 - 0.653105I$	$-5.50880 - 4.25680I$	$-10.06705 + 2.93390I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.172470-0.500383I$ $a=\ \ 1.80768-1.26186I$ $b=\ \ 1.324480-0.087624I$	$-5.50880-4.25680I$	$-10.06705+2.93390I$
$u=-1.172470-0.500383I$ $a=-1.76757+1.99982I$ $b=-1.252120-0.251479I$	$-9.64638-7.08493I$	$-16.5963+5.9133I$
$u=-1.172470-0.500383I$ $a=\ \ 2.41757-1.36405I$ $b=\ \ 1.66751+0.81351I$	$-9.64638-7.08493I$	$-16.5963+5.9133I$
$u=-1.172470-0.500383I$ $a=-2.57279+1.25561I$ $b=-1.348440-0.274419I$	$-5.50880-9.91305I$	$-10.06705+8.89280I$

III.

$$\boldsymbol{I^u_3 = \langle -u^{14}+3u^{12}+\cdots+b-1,\ u^{14}-3u^{13}+\cdots+a-4,\ u^{15}-4u^{13}+\cdots+3u^2-1\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 \\ -u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^{14}+3u^{13}+\cdots+u+4 \\ u^{14}-3u^{12}+5u^{10}-3u^8-u^7+u^6+2u^5+u^4-2u^3+u+1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^{14}+2u^{13}+\cdots+u+3 \\ u^{14}-3u^{12}+5u^{10}-3u^8-u^7+u^6+3u^5+u^4-3u^3+2u+1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{14}-2u^{13}+\cdots-2u-4 \\ -2u^{14}+7u^{12}-12u^{10}+9u^8+2u^7-2u^6-5u^5-2u^4+5u^3-3u-1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -2u^{14}+7u^{12}+\cdots-2u-1 \\ -u^{14}-u^{13}+\cdots-3u-1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^3 \\ u^5-u^3+u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{14}-2u^{13}+\cdots-2u-4 \\ -2u^{14}-u^{13}+\cdots-3u-2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{14}-2u^{13}+\cdots-2u-4 \\ -2u^{14}-u^{13}+\cdots-3u-2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 11u^{14}-5u^{13}-37u^{12}+19u^{11}+64u^{10}-33u^9-47u^8+13u^7+19u^6+24u^5-4u^4-32u^3+17u^2+13u-12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{15} - 8y^{14} + \cdots + 6y - 1$
c_2	$y^{15} + 16y^{13} + \cdots + 2y - 1$
c_3, c_5, c_8 c_9	$y^{15} - 15y^{14} + \cdots + 11y - 1$
c_4, c_7	$y^{15} + 4y^{14} + \cdots - 8y^2 - 1$
c_{10}	$y^{15} - 4y^{14} + \cdots + 4y - 1$
c_{11}	$y^{15} + 8y^{14} + \cdots + 12y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.997247 + 0.392970I$ $a = 0.90416 - 1.35022I$ $b = -0.590150 - 0.441101I$	$-3.33424 - 0.63342I$	$-10.18580 + 1.00493I$
$u = -0.997247 - 0.392970I$ $a = 0.90416 + 1.35022I$ $b = -0.590150 + 0.441101I$	$-3.33424 + 0.63342I$	$-10.18580 - 1.00493I$
$u = -0.221545 + 0.858385I$ $a = 0.287931 - 0.531907I$ $b = 1.251610 + 0.253271I$	$-5.11182 - 1.76571I$	$-6.58449 + 0.22254I$
$u = -0.221545 - 0.858385I$ $a = 0.287931 + 0.531907I$ $b = 1.251610 - 0.253271I$	$-5.11182 + 1.76571I$	$-6.58449 - 0.22254I$
$u = 0.589578 + 0.609250I$ $a = 0.697295 - 0.761609I$ $b = 0.678123 - 0.259013I$	$-0.80356 + 2.07411I$	$-6.98577 - 3.75045I$
$u = 0.589578 - 0.609250I$ $a = 0.697295 + 0.761609I$ $b = 0.678123 + 0.259013I$	$-0.80356 - 2.07411I$	$-6.98577 + 3.75045I$
$u = 1.030730 + 0.548115I$ $a = -0.835539 - 0.204114I$ $b = -0.583449 - 0.282497I$	$-2.19303 - 6.66891I$	$-10.29248 + 6.91128I$
$u = 1.030730 - 0.548115I$ $a = -0.835539 + 0.204114I$ $b = -0.583449 + 0.282497I$	$-2.19303 + 6.66891I$	$-10.29248 - 6.91128I$
$u = -0.734119 + 0.278311I$ $a = -0.73074 + 1.98729I$ $b = 0.716956 - 0.485550I$	$-2.27700 + 3.62441I$	$-5.96892 - 8.49008I$
$u = -0.734119 - 0.278311I$ $a = -0.73074 - 1.98729I$ $b = 0.716956 + 0.485550I$	$-2.27700 - 3.62441I$	$-5.96892 + 8.49008I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.162560 + 0.361615I$ $a = -1.97304 + 0.61805I$ $b = -1.51291 + 0.27185I$	$-9.32095 - 1.76748I$	$-10.54757 + 3.86534I$
$u = 1.162560 - 0.361615I$ $a = -1.97304 - 0.61805I$ $b = -1.51291 - 0.27185I$	$-9.32095 + 1.76748I$	$-10.54757 - 3.86534I$
$u = 0.729970$ $a = 2.88100$ $b = 1.60781$	-6.71059	-0.932190
$u = -1.194930 + 0.516966I$ $a = -1.79056 - 1.34493I$ $b = -1.264080 + 0.439528I$	$-8.14772 + 6.78722I$	$-9.96888 - 3.95233I$
$u = -1.194930 - 0.516966I$ $a = -1.79056 + 1.34493I$ $b = -1.264080 - 0.439528I$	$-8.14772 - 6.78722I$	$-9.96888 + 3.95233I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1)^6$ $\cdot(u^{15}-4u^{13}+8u^{11}-8u^9+u^8+4u^7-3u^6+4u^4-3u^2+1)$ $\cdot(u^{27}-7u^{26}+\cdots-48u+8)$
c_2	$(u^9+5u^8+12u^7+15u^6+9u^5-u^4-4u^3-2u^2+u+1)^6$ $\cdot(u^{15}+8u^{14}+\cdots+6u+1)(u^{27}+13u^{26}+\cdots+224u+64)$
c_3, c_8	$(u^{15}-u^{14}+\cdots-u+1)(u^{27}+u^{26}+\cdots+2u+1)$ $\cdot(u^{54}-u^{53}+\cdots-2672u-1393)$
c_4, c_7	$(u^{15}+2u^{13}-u^{12}+3u^{11}-u^{10}+2u^9+u^7+2u^6-3u^5+4u^4+1)$ $\cdot(u^{27}+3u^{25}+\cdots+3u+1)(u^{54}-3u^{53}+\cdots+946u-229)$
c_5, c_9	$(u^{15}+u^{14}+\cdots-u-1)(u^{27}+u^{26}+\cdots+2u+1)$ $\cdot(u^{54}-u^{53}+\cdots-2672u-1393)$
c_6	$(u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1)^6$ $\cdot(u^{15}-4u^{13}+8u^{11}-8u^9-u^8+4u^7+3u^6-4u^4+3u^2-1)$ $\cdot(u^{27}-7u^{26}+\cdots-48u+8)$
c_{10}	$((u^3+u^2-1)^{18})(u^{15}+4u^{14}+\cdots+2u^2-1)$ $\cdot(u^{27}-27u^{26}+\cdots-7424u+512)$
c_{11}	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)^6$ $\cdot(u^{15}+4u^{13}+\cdots-6u^2+1)(u^{27}-21u^{26}+\cdots-19888u+2664)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1)^6$ $\cdot (y^{15} - 8y^{14} + \cdots + 6y - 1)(y^{27} - 13y^{26} + \cdots + 224y - 64)$
c_2	$(y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1)^6$ $\cdot (y^{15} + 16y^{13} + \cdots + 2y - 1)(y^{27} - y^{26} + \cdots + 2560y - 4096)$
c_3, c_5, c_8 c_9	$(y^{15} - 15y^{14} + \cdots + 11y - 1)(y^{27} - 25y^{26} + \cdots - 10y - 1)$ $\cdot (y^{54} - 45y^{53} + \cdots + 8846484y + 1940449)$
c_4, c_7	$(y^{15} + 4y^{14} + \cdots - 8y^2 - 1)(y^{27} + 6y^{26} + \cdots + 3y - 1)$ $\cdot (y^{54} + 15y^{53} + \cdots + 1004868y + 52441)$
c_{10}	$((y^3 - y^2 + 2y - 1)^{18})(y^{15} - 4y^{14} + \cdots + 4y - 1)$ $\cdot (y^{27} - 5y^{26} + \cdots + 2424832y - 262144)$
c_{11}	$(y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1)^6$ $\cdot (y^{15} + 8y^{14} + \cdots + 12y - 1)$ $\cdot (y^{27} + 15y^{26} + \cdots + 24224224y - 7096896)$