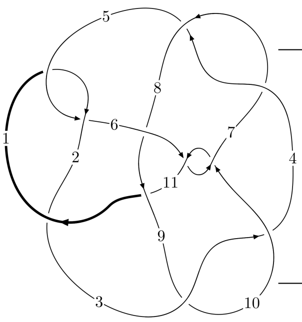
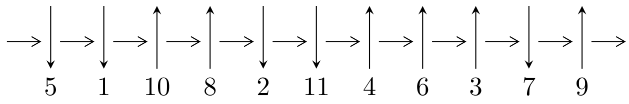
$11a_{158}$ ($K11a_{158}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 23u^{27} + 131u^{26} + \cdots + 4b + 148,\ 273u^{27} + 2147u^{26} + \cdots + 8a - 1460,\ u^{28} + 9u^{27} + \cdots - 52u - 8\rangle$$
$$I_2^u = \langle 5.27001 \times 10^{16}a^5u^7 - 2.11866 \times 10^{16}a^4u^7 + \cdots - 8.58870 \times 10^{16}a + 2.09109 \times 10^{17},$$
$$u^7a^5 - 7u^7a^4 + \cdots - 92a - 320,\ u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1\rangle$$
$$I_3^u = \langle -2u^{16} + 4u^{15} + \cdots + b + 3,\ -4u^{16} + 7u^{15} + \cdots + a + 11,\ u^{17} - 2u^{16} + \cdots - 4u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 93 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. $I_1^u = \langle 23u^{27} + 131u^{26} + \cdots + 4b + 148,\ 273u^{27} + 2147u^{26} + \cdots + 8a - 1460,\ u^{28} + 9u^{27} + \cdots - 52u - 8\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -34.1250u^{27} - 268.375u^{26} + \cdots + 1118.25u + 182.500 \\ -\frac{23}{4}u^{27} - \frac{131}{4}u^{26} + \cdots - 150u - 37 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -7.12500u^{27} - 50.3750u^{26} + \cdots + 178.250u + 30.5000 \\ \frac{21}{4}u^{27} + \frac{173}{4}u^{26} + \cdots - 236u - 43 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -28.3750u^{27} - 235.625u^{26} + \cdots + 1268.25u + 219.500 \\ -\frac{23}{4}u^{27} - \frac{131}{4}u^{26} + \cdots - 150u - 37 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{35}{8}u^{27} + \frac{305}{8}u^{26} + \cdots - \frac{923}{4}u - 40 \\ \frac{9}{4}u^{27} + \frac{55}{4}u^{26} + \cdots + \frac{75}{2}u + 9 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{127}{8}u^{27} - \frac{1007}{8}u^{26} + \cdots + \frac{1119}{2}u + 92 \\ 2u^{27} + \frac{31}{2}u^{26} + \cdots - \frac{161}{2}u - 15 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{77}{8}u^{27} - \frac{671}{8}u^{26} + \cdots + \frac{2185}{4}u + 95 \\ -\frac{37}{4}u^{27} - \frac{299}{4}u^{26} + \cdots + \frac{681}{2}u + 55 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{77}{8}u^{27} - \frac{671}{8}u^{26} + \cdots + \frac{2185}{4}u + 95 \\ -\frac{37}{4}u^{27} - \frac{299}{4}u^{26} + \cdots + \frac{681}{2}u + 55 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 72u^{27} + 580u^{26} + 1879u^{25} + 2101u^{24} - 4589u^{23} - 20304u^{22} - 26684u^{21} + 10295u^{20} + 87084u^{19} + 117201u^{18} + 4207u^{17} - 196492u^{16} - 261463u^{15} - 51078u^{14} + 257673u^{13} + 330937u^{12} + 85897u^{11} - 201772u^{10} - 247215u^9 - 76609u^8 + 80609u^7 + 98024u^6 + 35254u^5 - 10933u^4 - 17557u^3 - 8954u^2 - 2662u - 434$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{28} + 9u^{27} + \cdots - 52u - 8$
c_2	$u^{28} + 13u^{27} + \cdots - 304u + 64$
c_3, c_4, c_7 c_9	$u^{28} - u^{27} + \cdots - 3u + 1$
c_6, c_{10}	$u^{28} + 18u^{27} + \cdots - 3328u - 256$
c_8, c_{11}	$u^{28} + 2u^{27} + \cdots - 8u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{28} - 13y^{27} + \cdots + 304y + 64$
c_2	$y^{28} + 7y^{27} + \cdots - 204032y + 4096$
c_3, c_4, c_7 c_9	$y^{28} - 27y^{27} + \cdots - 3y + 1$
c_6, c_{10}	$y^{28} + 14y^{27} + \cdots - 303104y^2 + 65536$
c_8, c_{11}	$y^{28} - 12y^{27} + \cdots - 66y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.993549 + 0.292986I$ $a = -0.209833 - 0.434545I$ $b = 0.017296 + 1.007040I$	$-2.36961 - 3.39893I$	$-1.55352 + 8.34822I$
$u = 0.993549 - 0.292986I$ $a = -0.209833 + 0.434545I$ $b = 0.017296 - 1.007040I$	$-2.36961 + 3.39893I$	$-1.55352 - 8.34822I$
$u = -0.745676 + 0.599578I$ $a = -1.08882 + 1.35793I$ $b = -0.997965 + 0.424920I$	$1.93199 - 0.88418I$	$2.93120 + 0.94418I$
$u = -0.745676 - 0.599578I$ $a = -1.08882 - 1.35793I$ $b = -0.997965 - 0.424920I$	$1.93199 + 0.88418I$	$2.93120 - 0.94418I$
$u = -0.910751 + 0.513446I$ $a = 1.303570 - 0.508382I$ $b = 0.664049 + 0.374496I$	$-1.19975 + 1.98781I$	$-3.01378 - 1.84233I$
$u = -0.910751 - 0.513446I$ $a = 1.303570 + 0.508382I$ $b = 0.664049 - 0.374496I$	$-1.19975 - 1.98781I$	$-3.01378 + 1.84233I$
$u = -0.924272 + 0.615006I$ $a = -1.94919 + 0.56217I$ $b = -1.167050 - 0.765226I$	$1.38789 + 5.70099I$	$1.78458 - 5.41589I$
$u = -0.924272 - 0.615006I$ $a = -1.94919 - 0.56217I$ $b = -1.167050 + 0.765226I$	$1.38789 - 5.70099I$	$1.78458 + 5.41589I$
$u = -0.582336 + 0.951705I$ $a = 1.14682 - 0.86852I$ $b = 1.45377 - 0.81817I$	$13.5292 - 10.0747I$	$8.45933 + 4.17008I$
$u = -0.582336 - 0.951705I$ $a = 1.14682 + 0.86852I$ $b = 1.45377 + 0.81817I$	$13.5292 + 10.0747I$	$8.45933 - 4.17008I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.443366 + 1.056140I$ $a = 0.787450 + 0.068648I$ $b = 1.080890 - 0.000686I$	$12.38150 + 4.38665I$	$10.97973 - 3.34546I$
$u = -0.443366 - 1.056140I$ $a = 0.787450 - 0.068648I$ $b = 1.080890 + 0.000686I$	$12.38150 - 4.38665I$	$10.97973 + 3.34546I$
$u = 0.807574 + 0.208228I$ $a = 0.576875 + 0.559894I$ $b = -0.512192 - 1.107170I$	$-1.14045 + 1.47239I$	$6.24854 + 6.39498I$
$u = 0.807574 - 0.208228I$ $a = 0.576875 - 0.559894I$ $b = -0.512192 + 1.107170I$	$-1.14045 - 1.47239I$	$6.24854 - 6.39498I$
$u = -0.593204 + 1.035470I$ $a = -0.760509 + 0.545380I$ $b = -1.104210 + 0.569568I$	$7.89930 - 3.44261I$	$8.17074 + 2.94837I$
$u = -0.593204 - 1.035470I$ $a = -0.760509 - 0.545380I$ $b = -1.104210 - 0.569568I$	$7.89930 + 3.44261I$	$8.17074 - 2.94837I$
$u = -1.31909$ $a = 0.297585$ $b = -0.125254$	-3.01060	-14.4720
$u = -1.106870 + 0.732140I$ $a = 1.60551 - 0.89150I$ $b = 1.46289 + 1.05428I$	$11.9038 + 16.2350I$	$6.36027 - 8.32086I$
$u = -1.106870 - 0.732140I$ $a = 1.60551 + 0.89150I$ $b = 1.46289 - 1.05428I$	$11.9038 - 16.2350I$	$6.36027 + 8.32086I$
$u = 1.320980 + 0.142620I$ $a = -0.245968 + 0.237735I$ $b = 0.872613 - 0.596296I$	$5.89990 - 8.09391I$	$4.42894 + 6.82969I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.320980 - 0.142620I$ $a = -0.245968 - 0.237735I$ $b = 0.872613 + 0.596296I$	$5.89990 + 8.09391I$	$4.42894 - 6.82969I$
$u = -1.124600 + 0.770804I$ $a = -1.196350 + 0.572951I$ $b = -1.094850 - 0.891823I$	$6.23596 + 9.95004I$	$5.25531 - 7.03832I$
$u = -1.124600 - 0.770804I$ $a = -1.196350 - 0.572951I$ $b = -1.094850 + 0.891823I$	$6.23596 - 9.95004I$	$5.25531 + 7.03832I$
$u = -1.22157 + 0.75184I$ $a = 0.498779 - 0.680355I$ $b = 0.885139 + 0.340742I$	$10.00870 + 2.13523I$	$9.70507 + 0.I$
$u = -1.22157 - 0.75184I$ $a = 0.498779 + 0.680355I$ $b = 0.885139 - 0.340742I$	$10.00870 - 2.13523I$	$9.70507 + 0.I$
$u = 1.55763$ $a = 0.154610$ $b = -0.615944$	-0.410918	16.4090
$u = -0.088743 + 0.380871I$ $a = 0.555578 - 1.006500I$ $b = -0.189785 - 0.401445I$	$0.217297 + 1.036000I$	$3.27495 - 6.74585I$
$u = -0.088743 - 0.380871I$ $a = 0.555578 + 1.006500I$ $b = -0.189785 + 0.401445I$	$0.217297 - 1.036000I$	$3.27495 + 6.74585I$

II. $\boldsymbol{I^u_2 = \langle 5.27 \times 10^{16} a^5 u^7 - 2.12 \times 10^{16} a^4 u^7 + \cdots - 8.59 \times 10^{16} a + 2.09 \times 10^{17},\ u^7 a^5 - 7u^7 a^4 + \cdots - 92a - 320,\ u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1\rangle}$

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} a \\ -0.382668a^5u^7 + 0.153841a^4u^7 + \cdots + 0.623646a - 1.51839 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.638309a^5u^7 + 0.178480a^4u^7 + \cdots + 0.861026a + 0.0250433 \\ 0.274885a^5u^7 + 0.113800a^4u^7 + \cdots + 0.225598a - 1.44869 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.382668a^5u^7 - 0.153841a^4u^7 + \cdots + 0.376354a + 1.51839 \\ -0.382668a^5u^7 + 0.153841a^4u^7 + \cdots + 0.623646a - 1.51839 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.941009a^5u^7 - 0.361240a^4u^7 + \cdots + 0.0598849a + 1.73126 \\ 0.895289a^5u^7 + 0.368189a^4u^7 + \cdots + 0.398274a + 2.83473 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.830940a^5u^7 - 0.669583a^4u^7 + \cdots - 0.192170a + 8.12188 \\ 0.629283a^5u^7 + 0.240763a^4u^7 + \cdots - 0.268495a - 0.378118 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.517443a^5u^7 - 0.185517a^4u^7 + \cdots - 0.234948a + 3.55145 \\ 0.904169a^5u^7 + 0.354563a^4u^7 + \cdots - 0.0428966a - 0.826810 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.517443a^5u^7 - 0.185517a^4u^7 + \cdots - 0.234948a + 3.55145 \\ 0.904169a^5u^7 + 0.354563a^4u^7 + \cdots - 0.0428966a - 0.826810 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{151426107279833992}{137717486950419293}u^7a^5 + \frac{62688797470204452}{137717486950419293}u^7a^4 + \cdots + \frac{124275431271284696}{137717486950419293}a - \frac{1073475726019287126}{137717486950419293}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1)^6$
c_2	$(u^8 + 3u^7 + 7u^6 + 10u^5 + 11u^4 + 10u^3 + 6u^2 + 4u + 1)^6$
c_3, c_4, c_7 c_9	$u^{48} - u^{47} + \cdots + 348u - 701$
c_6, c_{10}	$(u^3 - u^2 + 2u - 1)^{16}$
c_8, c_{11}	$u^{48} + 9u^{47} + \cdots + 1494u + 1151$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1)^6$
c_2	$(y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1)^6$
c_3, c_4, c_7 c_9	$y^{48} - 45y^{47} + \cdots + 8666632y + 491401$
c_6, c_{10}	$(y^3 + 3y^2 + 2y - 1)^{16}$
c_8, c_{11}	$y^{48} - 17y^{47} + \cdots - 69505684y + 1324801$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.570868 + 0.730671I$ $a = 0.990670 - 0.401955I$ $b = 1.053470 + 0.110154I$	$6.91828 - 1.69689I$	$8.09453 + 2.46866I$
$u = 0.570868 + 0.730671I$ $a = -0.914373 - 0.642003I$ $b = -1.163590 - 0.530931I$	$2.78069 + 1.13123I$	$1.56526 - 0.51079I$
$u = 0.570868 + 0.730671I$ $a = 1.276700 + 0.398261I$ $b = 0.650677 + 0.052375I$	$2.78069 + 1.13123I$	$1.56526 - 0.51079I$
$u = 0.570868 + 0.730671I$ $a = -1.65233 + 0.32775I$ $b = -0.929486 + 0.952208I$	$6.91828 - 1.69689I$	$8.09453 + 2.46866I$
$u = 0.570868 + 0.730671I$ $a = -1.66990 - 0.72433I$ $b = -0.804262 - 0.625053I$	$6.91828 + 3.95936I$	$8.09453 - 3.49024I$
$u = 0.570868 + 0.730671I$ $a = 1.48925 + 1.36516I$ $b = 1.87266 + 0.67520I$	$6.91828 + 3.95936I$	$8.09453 - 3.49024I$
$u = 0.570868 - 0.730671I$ $a = 0.990670 + 0.401955I$ $b = 1.053470 - 0.110154I$	$6.91828 + 1.69689I$	$8.09453 - 2.46866I$
$u = 0.570868 - 0.730671I$ $a = -0.914373 + 0.642003I$ $b = -1.163590 + 0.530931I$	$2.78069 - 1.13123I$	$1.56526 + 0.51079I$
$u = 0.570868 - 0.730671I$ $a = 1.276700 - 0.398261I$ $b = 0.650677 - 0.052375I$	$2.78069 - 1.13123I$	$1.56526 + 0.51079I$
$u = 0.570868 - 0.730671I$ $a = -1.65233 - 0.32775I$ $b = -0.929486 - 0.952208I$	$6.91828 + 1.69689I$	$8.09453 - 2.46866I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.570868 - 0.730671I$ $a = -1.66990 + 0.72433I$ $b = -0.804262 + 0.625053I$	$6.91828 - 3.95936I$	$8.09453 + 3.49024I$
$u = 0.570868 - 0.730671I$ $a = 1.48925 - 1.36516I$ $b = 1.87266 - 0.67520I$	$6.91828 - 3.95936I$	$8.09453 + 3.49024I$
$u = -0.855237 + 0.665892I$ $a = -0.600223 + 0.587228I$ $b = -1.14799 + 0.96444I$	$5.98076 + 2.57849I$	$4.70341 - 3.56796I$
$u = -0.855237 + 0.665892I$ $a = 1.53059 + 0.50816I$ $b = 0.916060 - 0.214976I$	$10.11830 - 0.24963I$	$11.23268 - 0.58851I$
$u = -0.855237 + 0.665892I$ $a = -1.50463 + 0.95331I$ $b = -0.774749 - 1.086430I$	$5.98076 + 2.57849I$	$4.70341 - 3.56796I$
$u = -0.855237 + 0.665892I$ $a = -0.12321 - 1.87124I$ $b = 1.73522 - 2.00771I$	$10.11830 + 5.40662I$	$11.23268 - 6.54740I$
$u = -0.855237 + 0.665892I$ $a = 1.04971 - 1.99633I$ $b = 0.620056 + 0.252279I$	$10.11830 + 5.40662I$	$11.23268 - 6.54740I$
$u = -0.855237 + 0.665892I$ $a = 2.43610 - 0.22189I$ $b = 1.19848 + 2.25399I$	$10.11830 - 0.24963I$	$11.23268 - 0.58851I$
$u = -0.855237 - 0.665892I$ $a = -0.600223 - 0.587228I$ $b = -1.14799 - 0.96444I$	$5.98076 - 2.57849I$	$4.70341 + 3.56796I$
$u = -0.855237 - 0.665892I$ $a = 1.53059 - 0.50816I$ $b = 0.916060 + 0.214976I$	$10.11830 + 0.24963I$	$11.23268 + 0.58851I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.855237-0.665892I$ $a=-1.50463-0.95331I$ $b=-0.774749+1.086430I$	$5.98076-2.57849I$	$4.70341+3.56796I$
$u=-0.855237-0.665892I$ $a=-0.12321+1.87124I$ $b=\ \ 1.73522+2.00771I$	$10.11830-5.40662I$	$11.23268+6.54740I$
$u=-0.855237-0.665892I$ $a=\ \ 1.04971+1.99633I$ $b=\ \ 0.620056-0.252279I$	$10.11830-5.40662I$	$11.23268+6.54740I$
$u=-0.855237-0.665892I$ $a=\ \ 2.43610+0.22189I$ $b=\ \ 1.19848-2.25399I$	$10.11830+0.24963I$	$11.23268+0.58851I$
$u=-1.09818$ $a=-0.841554+0.067108I$ $b=\ \ 0.863475+0.758464I$	$1.45620+2.82812I$	$1.64572-2.97945I$
$u=-1.09818$ $a=-0.841554-0.067108I$ $b=\ \ 0.863475-0.758464I$	$1.45620-2.82812I$	$1.64572+2.97945I$
$u=-1.09818$ $a=-0.137898+0.764353I$ $b=-0.757872-0.848111I$	$1.45620+2.82812I$	$1.64572-2.97945I$
$u=-1.09818$ $a=-0.137898-0.764353I$ $b=-0.757872+0.848111I$	$1.45620-2.82812I$	$1.64572+2.97945I$
$u=-1.09818$ $a=\ \ 0.421321+0.253638I$ $b=-0.045426-0.584427I$	-2.68138	$-4.88355+0.I$
$u=-1.09818$ $a=\ \ 0.421321-0.253638I$ $b=-0.045426+0.584427I$	-2.68138	$-4.88355+0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.031810 + 0.655470I$ $a = -0.196743 - 1.047410I$ $b = -1.107250 - 0.667224I$	$5.57925 - 3.61542I$	$6.08131 + 2.31472I$
$u = 1.031810 + 0.655470I$ $a = 0.573708 + 1.184710I$ $b = 0.754638 - 0.318605I$	$5.57925 - 3.61542I$	$6.08131 + 2.31472I$
$u = 1.031810 + 0.655470I$ $a = 1.220390 + 0.580900I$ $b = 0.873736 - 0.299034I$	$1.44167 - 6.44354I$	$-0.44796 + 5.29417I$
$u = 1.031810 + 0.655470I$ $a = -1.35060 - 0.80955I$ $b = -1.11587 + 0.94162I$	$1.44167 - 6.44354I$	$-0.44796 + 5.29417I$
$u = 1.031810 + 0.655470I$ $a = -1.93940 - 0.78420I$ $b = -0.981258 + 0.682787I$	$5.57925 - 9.27166I$	$6.08131 + 8.27362I$
$u = 1.031810 + 0.655470I$ $a = 1.86513 + 1.17845I$ $b = 1.89676 - 1.19078I$	$5.57925 - 9.27166I$	$6.08131 + 8.27362I$
$u = 1.031810 - 0.655470I$ $a = -0.196743 + 1.047410I$ $b = -1.107250 + 0.667224I$	$5.57925 + 3.61542I$	$6.08131 - 2.31472I$
$u = 1.031810 - 0.655470I$ $a = 0.573708 - 1.184710I$ $b = 0.754638 + 0.318605I$	$5.57925 + 3.61542I$	$6.08131 - 2.31472I$
$u = 1.031810 - 0.655470I$ $a = 1.220390 - 0.580900I$ $b = 0.873736 + 0.299034I$	$1.44167 + 6.44354I$	$-0.44796 - 5.29417I$
$u = 1.031810 - 0.655470I$ $a = -1.35060 + 0.80955I$ $b = -1.11587 - 0.94162I$	$1.44167 + 6.44354I$	$-0.44796 - 5.29417I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.031810 - 0.655470I$ $a = -1.93940 + 0.78420I$ $b = -0.981258 - 0.682787I$	$5.57925 + 9.27166I$	$6.08131 - 8.27362I$
$u = 1.031810 - 0.655470I$ $a = 1.86513 - 1.17845I$ $b = 1.89676 + 1.19078I$	$5.57925 + 9.27166I$	$6.08131 - 8.27362I$
$u = 0.603304$ $a = -1.46576$ $b = -1.19124$	2.97631	-2.91400
$u = 0.603304$ $a = 1.78561 + 1.58163I$ $b = 1.40424 - 0.45076I$	$7.11390 + 2.82812I$	$3.61529 - 2.97945I$
$u = 0.603304$ $a = 1.78561 - 1.58163I$ $b = 1.40424 + 0.45076I$	$7.11390 - 2.82812I$	$3.61529 + 2.97945I$
$u = 0.603304$ $a = 2.85883$ $b = -0.156244$	2.97631	-2.91400
$u = 0.603304$ $a = -3.40485 + 0.20705I$ $b = 0.162019 + 0.878843I$	$7.11390 - 2.82812I$	$3.61529 + 2.97945I$
$u = 0.603304$ $a = -3.40485 - 0.20705I$ $b = 0.162019 - 0.878843I$	$7.11390 + 2.82812I$	$3.61529 - 2.97945I$

III. $\boldsymbol{I_3^u =}$
$\boldsymbol{\langle -2u^{16}+4u^{15}+\cdots+b+3,\ -4u^{16}+7u^{15}+\cdots+a+11,\ u^{17}-2u^{16}+\cdots-4u+1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 4u^{16} - 7u^{15} + \cdots + 18u - 11 \\ 2u^{16} - 4u^{15} + \cdots + 5u - 3 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 3u^{16} - 6u^{15} + \cdots + 14u - 10 \\ 2u^{16} - 3u^{15} + \cdots + 4u - 2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 2u^{16} - 3u^{15} + \cdots + 13u - 8 \\ 2u^{16} - 4u^{15} + \cdots + 5u - 3 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -3u^{16} + 3u^{15} + \cdots - 4u + 6 \\ u^{16} - 2u^{15} + \cdots + 6u - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 3u^{15} - 4u^{14} + \cdots + u + 4 \\ u^{14} - 2u^{13} + \cdots - 5u + 2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -3u^{16} + 4u^{15} + \cdots - 8u - 1 \\ -u^{16} + 6u^{14} + \cdots - 7u + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -3u^{16} + 4u^{15} + \cdots - 8u - 1 \\ -u^{16} + 6u^{14} + \cdots - 7u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^{16} - 5u^{15} + 5u^{14} + 10u^{13} - 22u^{12} - 5u^{11} + 41u^{10} - 8u^9 - 60u^8 + 43u^7 + 36u^6 - 40u^5 - 19u^4 + 38u^3 - 3u^2 - 13u + 15$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{17} + 2u^{16} + \cdots - 4u - 1$
c_2	$u^{17} + 10u^{16} + \cdots + 16u + 1$
c_3, c_7	$u^{17} + u^{16} + \cdots - u - 1$
c_4, c_9	$u^{17} - u^{16} + \cdots - u + 1$
c_5	$u^{17} - 2u^{16} + \cdots - 4u + 1$
c_6	$u^{17} + u^{16} + \cdots - 3u^2 - 1$
c_8, c_{11}	$u^{17} - 2u^{16} + \cdots + 6u - 1$
c_{10}	$u^{17} - u^{16} + \cdots + 3u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{17} - 10y^{16} + \cdots + 16y - 1$
c_2	$y^{17} + 2y^{16} + \cdots + 84y - 1$
c_3, c_4, c_7 c_9	$y^{17} - 19y^{16} + \cdots - 15y - 1$
c_6, c_{10}	$y^{17} + 11y^{16} + \cdots - 6y - 1$
c_8, c_{11}	$y^{17} - 4y^{16} + \cdots + 20y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.629702 + 0.775693I$ $a = -1.25479 - 0.72695I$ $b = -1.193870 - 0.354429I$	$4.15597 + 1.39250I$	$9.19957 - 1.48197I$
$u = 0.629702 - 0.775693I$ $a = -1.25479 + 0.72695I$ $b = -1.193870 + 0.354429I$	$4.15597 - 1.39250I$	$9.19957 + 1.48197I$
$u = -0.767528 + 0.633722I$ $a = -0.701511 + 0.032570I$ $b = 0.617635 - 1.158100I$	$8.95462 + 4.19752I$	$7.32669 - 3.30513I$
$u = -0.767528 - 0.633722I$ $a = -0.701511 - 0.032570I$ $b = 0.617635 + 1.158100I$	$8.95462 - 4.19752I$	$7.32669 + 3.30513I$
$u = -0.878628 + 0.059193I$ $a = 0.358916 - 0.547631I$ $b = -0.501796 + 0.960589I$	$-1.39291 - 1.89045I$	$-2.83864 + 7.38305I$
$u = -0.878628 - 0.059193I$ $a = 0.358916 + 0.547631I$ $b = -0.501796 - 0.960589I$	$-1.39291 + 1.89045I$	$-2.83864 - 7.38305I$
$u = 0.696362 + 0.452869I$ $a = 2.86004 - 0.26335I$ $b = 1.144470 - 0.618358I$	$8.03048 + 1.78919I$	$8.52582 + 1.37229I$
$u = 0.696362 - 0.452869I$ $a = 2.86004 + 0.26335I$ $b = 1.144470 + 0.618358I$	$8.03048 - 1.78919I$	$8.52582 - 1.37229I$
$u = -0.957492 + 0.679960I$ $a = 0.301934 - 0.283727I$ $b = 0.136055 + 0.999061I$	$8.34209 + 0.91407I$	$6.60931 - 1.66194I$
$u = -0.957492 - 0.679960I$ $a = 0.301934 + 0.283727I$ $b = 0.136055 - 0.999061I$	$8.34209 - 0.91407I$	$6.60931 + 1.66194I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.076890 + 0.501752I$ $a = 0.10184 + 1.47628I$ $b = 0.871848 + 0.190457I$	$6.67124 - 5.72894I$	$6.82775 + 5.57933I$
$u = 1.076890 - 0.501752I$ $a = 0.10184 - 1.47628I$ $b = 0.871848 - 0.190457I$	$6.67124 + 5.72894I$	$6.82775 - 5.57933I$
$u = 1.011850 + 0.683838I$ $a = -1.52981 - 0.82939I$ $b = -1.27766 + 0.69304I$	$3.02844 - 6.91224I$	$6.62356 + 6.67706I$
$u = 1.011850 - 0.683838I$ $a = -1.52981 + 0.82939I$ $b = -1.27766 - 0.69304I$	$3.02844 + 6.91224I$	$6.62356 - 6.67706I$
$u = -1.38732$ $a = 0.141915$ $b = -0.470019$	-2.77503	19.9250
$u = 1.43895$ $a = 0.437990$ $b = -0.276644$	-0.814223	-3.92340
$u = 0.326049$ $a = -3.85316$ $b = -0.846698$	3.67637	11.4500

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^8 - u^7 + \cdots + 2u - 1)^6)(u^{17} + 2u^{16} + \cdots - 4u - 1)$ $\cdot\,(u^{28} + 9u^{27} + \cdots - 52u - 8)$
c_2	$(u^8 + 3u^7 + 7u^6 + 10u^5 + 11u^4 + 10u^3 + 6u^2 + 4u + 1)^6$ $\cdot\,(u^{17} + 10u^{16} + \cdots + 16u + 1)(u^{28} + 13u^{27} + \cdots - 304u + 64)$
c_3, c_7	$(u^{17} + u^{16} + \cdots - u - 1)(u^{28} - u^{27} + \cdots - 3u + 1)$ $\cdot\,(u^{48} - u^{47} + \cdots + 348u - 701)$
c_4, c_9	$(u^{17} - u^{16} + \cdots - u + 1)(u^{28} - u^{27} + \cdots - 3u + 1)$ $\cdot\,(u^{48} - u^{47} + \cdots + 348u - 701)$
c_5	$((u^8 - u^7 + \cdots + 2u - 1)^6)(u^{17} - 2u^{16} + \cdots - 4u + 1)$ $\cdot\,(u^{28} + 9u^{27} + \cdots - 52u - 8)$
c_6	$((u^3 - u^2 + 2u - 1)^{16})(u^{17} + u^{16} + \cdots - 3u^2 - 1)$ $\cdot\,(u^{28} + 18u^{27} + \cdots - 3328u - 256)$
c_8, c_{11}	$(u^{17} - 2u^{16} + \cdots + 6u - 1)(u^{28} + 2u^{27} + \cdots - 8u + 1)$ $\cdot\,(u^{48} + 9u^{47} + \cdots + 1494u + 1151)$
c_{10}	$((u^3 - u^2 + 2u - 1)^{16})(u^{17} - u^{16} + \cdots + 3u^2 + 1)$ $\cdot\,(u^{28} + 18u^{27} + \cdots - 3328u - 256)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1)^6$ $\cdot (y^{17} - 10y^{16} + \cdots + 16y - 1)(y^{28} - 13y^{27} + \cdots + 304y + 64)$
c_2	$(y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1)^6$ $\cdot (y^{17} + 2y^{16} + \cdots + 84y - 1)(y^{28} + 7y^{27} + \cdots - 204032y + 4096)$
c_3, c_4, c_7 c_9	$(y^{17} - 19y^{16} + \cdots - 15y - 1)(y^{28} - 27y^{27} + \cdots - 3y + 1)$ $\cdot (y^{48} - 45y^{47} + \cdots + 8666632y + 491401)$
c_6, c_{10}	$((y^3 + 3y^2 + 2y - 1)^{16})(y^{17} + 11y^{16} + \cdots - 6y - 1)$ $\cdot (y^{28} + 14y^{27} + \cdots - 303104y^2 + 65536)$
c_8, c_{11}	$(y^{17} - 4y^{16} + \cdots + 20y - 1)(y^{28} - 12y^{27} + \cdots - 66y + 1)$ $\cdot (y^{48} - 17y^{47} + \cdots - 69505684y + 1324801)$