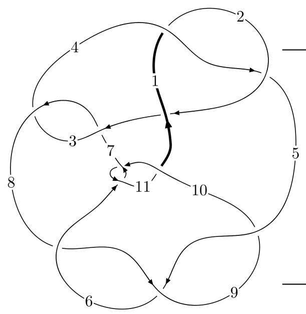
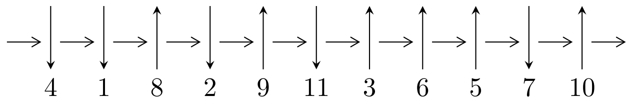
$11a_{38}$ ($K11a_{38}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I^u_1 = \langle 1.39701\times 10^{52} u^{49} - 1.56890\times 10^{52} u^{48} + \cdots + 9.78680\times 10^{53} b - 2.06404\times 10^{53},$$
$$2.86648\times 10^{52} u^{49} - 4.68399\times 10^{52} u^{48} + \cdots + 9.78680\times 10^{53} a - 2.53995\times 10^{54},\ u^{50} - 2u^{49} + \cdots - 80u +$$
$$I^u_2 = \langle -36u^5a^2 - 80u^4a^2 + 64u^3a^2 + 36u^5 - 7a^2u^2 + 80u^4 - 40a^2u - 64u^3 - 22a^2 - 276u^2 + 283b + 40u + 22,$$
$$2u^5a^2 + u^5a + \cdots - a - 5,\ u^6 + u^5 - u^4 - 2u^3 + u + 1\rangle$$
$$I^u_3 = \langle -u^5 + 2u^3 + b - u,\ u^4 + 2u^3 - 3u^2 + a - 3u + 2,\ u^6 - 3u^4 + 2u^2 + 1\rangle$$

$$I^v_1 = \langle a,\ -2v^3 + 3v^2 + 4b - 8v + 3,\ 2v^4 - v^3 + 5v^2 + v + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 78 representations.

[1] The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

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

I. $\boldsymbol{I_1^u =}$
$\boldsymbol{\langle 1.40\times10^{52}u^{49}-1.57\times10^{52}u^{48}+\cdots+9.79\times10^{53}b-2.06\times10^{53},\ 2.87\times10^{52}u^{49}-4.68\times10^{52}u^{48}+\cdots+9.79\times10^{53}a-2.54\times10^{54},\ u^{50}-2u^{49}+\cdots-80u+64\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.0292893u^{49}+0.0478602u^{48}+\cdots+0.349631u+2.59529 \\ -0.0142744u^{49}+0.0160307u^{48}+\cdots-0.546290u+0.210900 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.0506276u^{49}-0.0564076u^{48}+\cdots+1.79590u-3.09324 \\ -0.0101755u^{49}+0.0132424u^{48}+\cdots+0.365267u+1.43307 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.0251404u^{49}-0.0341614u^{48}+\cdots-0.178601u-0.734921 \\ 0.0178177u^{49}-0.0204546u^{48}+\cdots-0.655163u+0.0702679 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.0359682u^{49}-0.0375079u^{48}+\cdots+0.971454u-2.70728 \\ -0.0171934u^{49}+0.0404449u^{48}+\cdots+1.08010u+1.42517 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.0435637u^{49}+0.0638909u^{48}+\cdots-0.196658u+2.80619 \\ -0.0142744u^{49}+0.0160307u^{48}+\cdots-0.546290u+0.210900 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.0341694u^{49}+0.0511276u^{48}+\cdots+0.560955u+1.92903 \\ 0.00179875u^{49}+0.0136197u^{48}+\cdots+1.53241u-0.778251 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.0608849u^{49}+0.0808601u^{48}+\cdots-0.638959u+4.29539 \\ -0.0126196u^{49}+0.0224728u^{48}+\cdots+0.518576u+0.0714096 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.0608849u^{49}+0.0808601u^{48}+\cdots-0.638959u+4.29539 \\ -0.0126196u^{49}+0.0224728u^{48}+\cdots+0.518576u+0.0714096 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0626913u^{49}+0.0376218u^{48}+\cdots-2.19058u+7.82840$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{50} - 4u^{49} + \cdots + 3u + 4$
c_2	$u^{50} + 24u^{49} + \cdots - 255u + 16$
c_3, c_7	$u^{50} - 2u^{49} + \cdots - 80u + 64$
c_5, c_8, c_9	$u^{50} + 2u^{49} + \cdots + 76u + 17$
c_6, c_{10}	$u^{50} + 2u^{49} + \cdots + 72u + 17$
c_{11}	$u^{50} - 20u^{49} + \cdots - 4370u + 289$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{50} - 24y^{49} + \cdots + 255y + 16$
c_2	$y^{50} + 8y^{49} + \cdots + 29791y + 256$
c_3, c_7	$y^{50} - 24y^{49} + \cdots - 19712y + 4096$
c_5, c_8, c_9	$y^{50} + 52y^{49} + \cdots - 846y + 289$
c_6, c_{10}	$y^{50} + 20y^{49} + \cdots + 4370y + 289$
c_{11}	$y^{50} + 28y^{49} + \cdots - 180694y + 83521$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.907272 + 0.392918I$ $a = -0.420194 + 0.002697I$ $b = -0.699224 - 0.714437I$	$-0.744870 + 0.584560I$	$0.202019 - 0.958990I$
$u = 0.907272 - 0.392918I$ $a = -0.420194 - 0.002697I$ $b = -0.699224 + 0.714437I$	$-0.744870 - 0.584560I$	$0.202019 + 0.958990I$
$u = -0.936602 + 0.118293I$ $a = -0.318743 - 0.218959I$ $b = -0.620116 - 0.388367I$	$-0.08204 - 3.21276I$	$0.42949 + 6.66311I$
$u = -0.936602 - 0.118293I$ $a = -0.318743 + 0.218959I$ $b = -0.620116 + 0.388367I$	$-0.08204 + 3.21276I$	$0.42949 - 6.66311I$
$u = -0.473630 + 0.961275I$ $a = 0.323168 - 0.723326I$ $b = 0.711410 + 0.630048I$	$-5.28661 - 1.41187I$	$-2.51524 + 3.36613I$
$u = -0.473630 - 0.961275I$ $a = 0.323168 + 0.723326I$ $b = 0.711410 - 0.630048I$	$-5.28661 + 1.41187I$	$-2.51524 - 3.36613I$
$u = 0.449533 + 0.975399I$ $a = -0.509462 + 0.216523I$ $b = -0.517652 - 1.021650I$	$-0.28876 - 5.04770I$	$1.29595 + 6.45390I$
$u = 0.449533 - 0.975399I$ $a = -0.509462 - 0.216523I$ $b = -0.517652 + 1.021650I$	$-0.28876 + 5.04770I$	$1.29595 - 6.45390I$
$u = 0.815974 + 0.347535I$ $a = 1.49469 + 2.72833I$ $b = 0.468151 - 0.953658I$	$-1.11120 + 2.63706I$	$2.56560 - 6.52941I$
$u = 0.815974 - 0.347535I$ $a = 1.49469 - 2.72833I$ $b = 0.468151 + 0.953658I$	$-1.11120 - 2.63706I$	$2.56560 + 6.52941I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.697235 + 0.535365I$ $a = 0.315606 + 0.602693I$ $b = 0.954432 - 0.777792I$	$-9.12170 + 4.13349I$	$-4.37982 - 7.84583I$
$u = 0.697235 - 0.535365I$ $a = 0.315606 - 0.602693I$ $b = 0.954432 + 0.777792I$	$-9.12170 - 4.13349I$	$-4.37982 + 7.84583I$
$u = 0.953458 + 0.598229I$ $a = 0.949740 - 0.081078I$ $b = -0.813160 - 0.543764I$	$-8.29977 + 0.42603I$	$-4.99238 - 0.29759I$
$u = 0.953458 - 0.598229I$ $a = 0.949740 + 0.081078I$ $b = -0.813160 + 0.543764I$	$-8.29977 - 0.42603I$	$-4.99238 + 0.29759I$
$u = -0.024298 + 0.854586I$ $a = -0.679350 - 0.293209I$ $b = -0.329331 + 0.976215I$	$0.969303 + 1.022450I$	$4.86262 - 1.22345I$
$u = -0.024298 - 0.854586I$ $a = -0.679350 + 0.293209I$ $b = -0.329331 - 0.976215I$	$0.969303 - 1.022450I$	$4.86262 + 1.22345I$
$u = 0.232434 + 1.128490I$ $a = 0.171601 - 0.671528I$ $b = 0.613539 + 0.992173I$	$-4.19193 - 3.67253I$	$-1.22751 + 2.31471I$
$u = 0.232434 - 1.128490I$ $a = 0.171601 + 0.671528I$ $b = 0.613539 - 0.992173I$	$-4.19193 + 3.67253I$	$-1.22751 - 2.31471I$
$u = -1.083130 + 0.424102I$ $a = -0.51370 + 2.44482I$ $b = -0.653200 - 1.057010I$	$-6.75514 - 5.91277I$	$-2.21392 + 5.18403I$
$u = -1.083130 - 0.424102I$ $a = -0.51370 - 2.44482I$ $b = -0.653200 + 1.057010I$	$-6.75514 + 5.91277I$	$-2.21392 - 5.18403I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.643203 + 1.007070I$ $a = 0.426141 + 0.701622I$ $b = 0.850297 - 0.462719I$	$-7.77183 - 3.25304I$	$-5.27621 + 1.64998I$
$u = 0.643203 - 1.007070I$ $a = 0.426141 - 0.701622I$ $b = 0.850297 + 0.462719I$	$-7.77183 + 3.25304I$	$-5.27621 - 1.64998I$
$u = -1.089060 + 0.646090I$ $a = 0.400714 + 0.040363I$ $b = -0.874960 + 0.339779I$	$-3.37785 - 4.34752I$	$-0.97473 + 2.40737I$
$u = -1.089060 - 0.646090I$ $a = 0.400714 - 0.040363I$ $b = -0.874960 - 0.339779I$	$-3.37785 + 4.34752I$	$-0.97473 - 2.40737I$
$u = -0.538092 + 1.149580I$ $a = 0.144817 + 0.630742I$ $b = 0.646329 - 1.107890I$	$-5.83333 + 8.80963I$	$-2.37769 - 6.43347I$
$u = -0.538092 - 1.149580I$ $a = 0.144817 - 0.630742I$ $b = 0.646329 + 1.107890I$	$-5.83333 - 8.80963I$	$-2.37769 + 6.43347I$
$u = -1.174390 + 0.484424I$ $a = 0.96122 - 1.70050I$ $b = 0.536868 + 1.111540I$	$4.31618 - 5.59634I$	$6.06047 + 4.87396I$
$u = -1.174390 - 0.484424I$ $a = 0.96122 + 1.70050I$ $b = 0.536868 - 1.111540I$	$4.31618 + 5.59634I$	$6.06047 - 4.87396I$
$u = -1.266720 + 0.096929I$ $a = -0.02752 + 1.80946I$ $b = 0.280639 - 1.152600I$	$6.04456 + 2.16278I$	$8.79757 - 2.89733I$
$u = -1.266720 - 0.096929I$ $a = -0.02752 - 1.80946I$ $b = 0.280639 + 1.152600I$	$6.04456 - 2.16278I$	$8.79757 + 2.89733I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.595443 + 0.355867I$ $a = 0.228768 + 0.590040I$ $b = 0.871755 - 0.998829I$	$-8.47083 + 2.48602I$	$-1.45090 + 5.51453I$
$u = -0.595443 - 0.355867I$ $a = 0.228768 - 0.590040I$ $b = 0.871755 + 0.998829I$	$-8.47083 - 2.48602I$	$-1.45090 - 5.51453I$
$u = 1.264420 + 0.377230I$ $a = -0.33373 - 1.58630I$ $b = 0.170537 + 1.148410I$	$5.10728 + 3.38490I$	$7.93360 - 3.33034I$
$u = 1.264420 - 0.377230I$ $a = -0.33373 + 1.58630I$ $b = 0.170537 - 1.148410I$	$5.10728 - 3.38490I$	$7.93360 + 3.33034I$
$u = 1.117610 + 0.748018I$ $a = 0.293611 - 0.238740I$ $b = -1.007530 - 0.362892I$	$-6.21564 + 9.65095I$	$0. - 5.84415I$
$u = 1.117610 - 0.748018I$ $a = 0.293611 + 0.238740I$ $b = -1.007530 + 0.362892I$	$-6.21564 - 9.65095I$	$0. + 5.84415I$
$u = 1.175850 + 0.667191I$ $a = 1.12100 + 1.42946I$ $b = 0.621576 - 1.109980I$	$1.99477 + 11.04250I$	$0. - 8.76647I$
$u = 1.175850 - 0.667191I$ $a = 1.12100 - 1.42946I$ $b = 0.621576 + 1.109980I$	$1.99477 - 11.04250I$	$0. + 8.76647I$
$u = -0.399787 + 0.467256I$ $a = -1.67834 - 1.67643I$ $b = 0.114999 - 0.542444I$	$-1.97039 + 0.78230I$	$-5.45253 + 2.09256I$
$u = -0.399787 - 0.467256I$ $a = -1.67834 + 1.67643I$ $b = 0.114999 + 0.542444I$	$-1.97039 - 0.78230I$	$-5.45253 - 2.09256I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.27251 + 0.63129I$ $a = -0.67000 - 1.80811I$ $b = -0.616422 + 1.164310I$	$-0.91239 + 9.84583I$	0
$u = 1.27251 - 0.63129I$ $a = -0.67000 + 1.80811I$ $b = -0.616422 - 1.164310I$	$-0.91239 - 9.84583I$	0
$u = -1.22350 + 0.76980I$ $a = -0.88939 + 1.67143I$ $b = -0.662987 - 1.206930I$	$-3.6196 - 15.6826I$	0
$u = -1.22350 - 0.76980I$ $a = -0.88939 - 1.67143I$ $b = -0.662987 + 1.206930I$	$-3.6196 + 15.6826I$	0
$u = 0.257076 + 0.420882I$ $a = -0.990050 - 0.003127I$ $b = -0.223361 + 0.753004I$	$0.426067 + 1.178950I$	$4.63590 - 6.06198I$
$u = 0.257076 - 0.420882I$ $a = -0.990050 + 0.003127I$ $b = -0.223361 - 0.753004I$	$0.426067 - 1.178950I$	$4.63590 + 6.06198I$
$u = 1.51280 + 0.01490I$ $a = 0.22721 - 1.58372I$ $b = -0.435520 + 0.951672I$	$2.35249 + 4.91231I$	0
$u = 1.51280 - 0.01490I$ $a = 0.22721 + 1.58372I$ $b = -0.435520 - 0.951672I$	$2.35249 - 4.91231I$	0
$u = -1.49474 + 0.29701I$ $a = 0.409690 - 1.327970I$ $b = -0.387075 + 0.830148I$	$1.85024 - 1.51739I$	0
$u = -1.49474 - 0.29701I$ $a = 0.409690 + 1.327970I$ $b = -0.387075 - 0.830148I$	$1.85024 + 1.51739I$	0

II. $\boldsymbol{I_2^u = \langle -36u^5a^2 + 36u^5 + \cdots - 22a^2 + 22,\ 2u^5a^2 + u^5a + \cdots - a - 5,\ u^6 + u^5 - u^4 - 2u^3 + u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ 0.127208a^2u^5 - 0.127208u^5 + \cdots + 0.0777385a^2 - 0.0777385 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.127208a^2u^5 + 0.127208u^5 + \cdots + a + 2.07774 \\ -0.127208a^2u^5 + 0.127208u^5 + \cdots - 0.0777385a^2 + 0.0777385 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -a \\ -0.127208a^2u^5 + 0.127208u^5 + \cdots - 0.0777385a^2 + 0.0777385 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.127208a^2u^5 - 0.127208u^5 + \cdots + a - 0.0777385 \\ 0.127208a^2u^5 - 0.127208u^5 + \cdots + 0.0777385a^2 - 0.0777385 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^2 - 1 \\ u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^5 - 2u^3 + u \\ u^5 - u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^6 - u^5 - u^4 + 2u^3 - u + 1)^3$
c_2	$(u^6 + 3u^5 + 5u^4 + 4u^3 + 2u^2 + u + 1)^3$
c_3, c_7	$(u^6 + u^5 - u^4 - 2u^3 + u + 1)^3$
c_5, c_6, c_8 c_9, c_{10}	$u^{18} + 6u^{16} + \cdots - u + 1$
c_{11}	$u^{18} - 12u^{17} + \cdots - 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_7	$(y^6 - 3y^5 + 5y^4 - 4y^3 + 2y^2 - y + 1)^3$
c_2	$(y^6 + y^5 + 5y^4 + 6y^2 + 3y + 1)^3$
c_5, c_6, c_8 c_9, c_{10}	$y^{18} + 12y^{17} + \cdots + 3y + 1$
c_{11}	$y^{18} - 12y^{17} + \cdots + 15y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.002190 + 0.295542I$ $a = -0.158981 + 0.210049I$ $b = 0.700352 + 0.245687I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 1.002190 + 0.295542I$ $a = -1.28821 - 1.33402I$ $b = -0.461864 + 1.032610I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 1.002190 + 0.295542I$ $a = -0.09163 + 2.11799I$ $b = -0.238488 - 1.278300I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 1.002190 - 0.295542I$ $a = -0.158981 - 0.210049I$ $b = 0.700352 - 0.245687I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$
$u = 1.002190 - 0.295542I$ $a = -1.28821 + 1.33402I$ $b = -0.461864 - 1.032610I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$
$u = 1.002190 - 0.295542I$ $a = -0.09163 - 2.11799I$ $b = -0.238488 + 1.278300I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$
$u = -0.428243 + 0.664531I$ $a = -1.404780 + 0.070635I$ $b = -0.414097 - 0.427367I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -0.428243 + 0.664531I$ $a = 0.19096 - 1.40605I$ $b = 0.339178 - 0.790848I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -0.428243 + 0.664531I$ $a = 2.53589 - 1.57875I$ $b = 0.074919 + 1.218220I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -0.428243 - 0.664531I$ $a = -1.404780 - 0.070635I$ $b = -0.414097 + 0.427367I$	$-1.89061 - 0.92430I$	$-3.71672 + 0.79423I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.428243-0.664531I$ $a=\ 0.19096+1.40605I$ $b=\ 0.339178+0.790848I$	$-1.89061-0.92430I$	$-3.71672+0.79423I$
$u=-0.428243-0.664531I$ $a=\ 2.53589+1.57875I$ $b=\ 0.074919-1.218220I$	$-1.89061-0.92430I$	$-3.71672+0.79423I$
$u=-1.073950+0.558752I$ $a=-1.16030+0.89772I$ $b=-0.624190-0.955200I$	$-5.69302I$	$0.+5.51057I$
$u=-1.073950+0.558752I$ $a=\ 0.008039-0.301999I$ $b=\ 0.798654-0.441445I$	$-5.69302I$	$0.+5.51057I$
$u=-1.073950+0.558752I$ $a=\ 0.36901-1.71323I$ $b=-0.174464+1.396650I$	$-5.69302I$	$0.+5.51057I$
$u=-1.073950-0.558752I$ $a=-1.16030-0.89772I$ $b=-0.624190+0.955200I$	$5.69302I$	$0.-5.51057I$
$u=-1.073950-0.558752I$ $a=\ 0.008039+0.301999I$ $b=\ 0.798654+0.441445I$	$5.69302I$	$0.-5.51057I$
$u=-1.073950-0.558752I$ $a=\ 0.36901+1.71323I$ $b=-0.174464-1.396650I$	$5.69302I$	$0.-5.51057I$

III. $\boldsymbol{I_3^u = \langle -u^5 + 2u^3 + b - u,\ u^4 + 2u^3 - 3u^2 + a - 3u + 2,\ u^6 - 3u^4 + 2u^2 + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

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

$$a_{11} = \begin{pmatrix} -u^4 - 2u^3 + 3u^2 + 3u - 2 \\ u^5 - 2u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^5 + u^4 - 4u^3 - 3u^2 + 4u + 2 \\ 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^5 - u^4 - 4u^3 + 3u^2 + 4u - 1 \\ u^5 - 2u^3 - u^2 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^5 - 2u^3 + u \\ -u^5 + u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^5 - u^4 - 4u^3 + 3u^2 + 4u - 2 \\ u^5 - 2u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^5 + 2u^3 - u \\ 0 \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^4 + 8u^2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.307140 + 0.215080I$ $a = 0.35722 - 1.72238I$ $b = 1.000000I$	$3.02413 + 2.82812I$	$3.50976 - 2.97945I$
$u = 1.307140 - 0.215080I$ $a = 0.35722 + 1.72238I$ $b = -1.000000I$	$3.02413 - 2.82812I$	$3.50976 + 2.97945I$
$u = -1.307140 + 0.215080I$ $a = 0.72238 - 1.35722I$ $b = 1.000000I$	$3.02413 - 2.82812I$	$3.50976 + 2.97945I$
$u = -1.307140 - 0.215080I$ $a = 0.72238 + 1.35722I$ $b = -1.000000I$	$3.02413 + 2.82812I$	$3.50976 - 2.97945I$
$u = 0.569840I$ $a = -3.07960 + 2.07960I$ $b = 1.000000I$	-1.11345	-3.01950
$u = -0.569840I$ $a = -3.07960 - 2.07960I$ $b = -1.000000I$	-1.11345	-3.01950

IV. $\boldsymbol{I_1^v = \langle a,\ -2v^3 + 3v^2 + 4b - 8v + 3,\ 2v^4 - v^3 + 5v^2 + v + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6v^3 + 4v^2 - 12v - 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^4$
c_3, c_7	y^4
c_5, c_8, c_9 c_{11}	$y^4+5y^3+7y^2+2y+1$
c_6, c_{10}	$y^4+y^3+3y^2+2y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -0.130534 + 0.427872I$ $a = 0$ $b = -0.851808 + 0.911292I$	$-8.43568 + 3.16396I$	$-1.51454 - 5.24252I$
$v = -0.130534 - 0.427872I$ $a = 0$ $b = -0.851808 - 0.911292I$	$-8.43568 - 3.16396I$	$-1.51454 + 5.24252I$
$v = 0.38053 + 1.53420I$ $a = 0$ $b = 0.351808 + 0.720342I$	$-1.43393 - 1.41510I$	$0.38954 + 3.92814I$
$v = 0.38053 - 1.53420I$ $a = 0$ $b = 0.351808 - 0.720342I$	$-1.43393 + 1.41510I$	$0.38954 - 3.92814I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^4(u^3+u^2-1)^2(u^6-u^5-u^4+2u^3-u+1)^3$ $\cdot(u^{50}-4u^{49}+\cdots+3u+4)$
c_2	$(u+1)^4(u^3+u^2+2u+1)^2(u^6+3u^5+5u^4+4u^3+2u^2+u+1)^3$ $\cdot(u^{50}+24u^{49}+\cdots-255u+16)$
c_3, c_7	$u^4(u^6-3u^4+2u^2+1)(u^6+u^5-u^4-2u^3+u+1)^3$ $\cdot(u^{50}-2u^{49}+\cdots-80u+64)$
c_4	$(u+1)^4(u^3-u^2+1)^2(u^6-u^5-u^4+2u^3-u+1)^3$ $\cdot(u^{50}-4u^{49}+\cdots+3u+4)$
c_5	$((u^2+1)^3)(u^4+u^3+3u^2+2u+1)(u^{18}+6u^{16}+\cdots-u+1)$ $\cdot(u^{50}+2u^{49}+\cdots+76u+17)$
c_6	$((u^2+1)^3)(u^4+u^3+u^2+1)(u^{18}+6u^{16}+\cdots-u+1)$ $\cdot(u^{50}+2u^{49}+\cdots+72u+17)$
c_8, c_9	$((u^2+1)^3)(u^4-u^3+3u^2-2u+1)(u^{18}+6u^{16}+\cdots-u+1)$ $\cdot(u^{50}+2u^{49}+\cdots+76u+17)$
c_{10}	$((u^2+1)^3)(u^4-u^3+u^2+1)(u^{18}+6u^{16}+\cdots-u+1)$ $\cdot(u^{50}+2u^{49}+\cdots+72u+17)$
c_{11}	$((u-1)^6)(u^4-u^3+3u^2-2u+1)(u^{18}-12u^{17}+\cdots-3u+1)$ $\cdot(u^{50}-20u^{49}+\cdots-4370u+289)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y-1)^4(y^3-y^2+2y-1)^2(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^3$ $\cdot(y^{50}-24y^{49}+\cdots+255y+16)$
c_2	$(y-1)^4(y^3+3y^2+2y-1)^2(y^6+y^5+5y^4+6y^2+3y+1)^3$ $\cdot(y^{50}+8y^{49}+\cdots+29791y+256)$
c_3, c_7	$y^4(y^3-3y^2+2y+1)^2(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^3$ $\cdot(y^{50}-24y^{49}+\cdots-19712y+4096)$
c_5, c_8, c_9	$((y+1)^6)(y^4+5y^3+\cdots+2y+1)(y^{18}+12y^{17}+\cdots+3y+1)$ $\cdot(y^{50}+52y^{49}+\cdots-846y+289)$
c_6, c_{10}	$((y+1)^6)(y^4+y^3+3y^2+2y+1)(y^{18}+12y^{17}+\cdots+3y+1)$ $\cdot(y^{50}+20y^{49}+\cdots+4370y+289)$
c_{11}	$((y-1)^6)(y^4+5y^3+\cdots+2y+1)(y^{18}-12y^{17}+\cdots+15y+1)$ $\cdot(y^{50}+28y^{49}+\cdots-180694y+83521)$