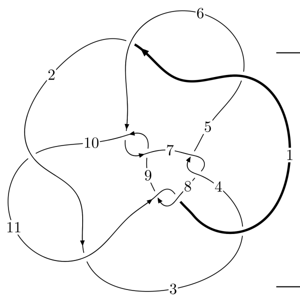
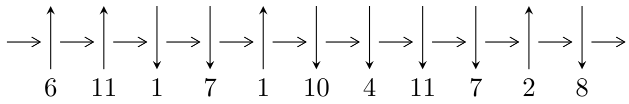
$11n_{179}$ ($K11n_{179}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -30442u^{14} + 342325u^{13} + \cdots + 44456b + 31712,\ -991u^{14} + 44316u^{13} + \cdots + 44456a - 908664,$$
$$u^{15} - 14u^{14} + \cdots + 464u - 32\rangle$$
$$I_2^u = \langle -203u^{17} - 446u^{16} + \cdots + 16b - 99,\ -99u^{17}a - 1285u^{17} + \cdots + 606a - 2283,$$
$$u^{18} + 3u^{17} + \cdots + 9u + 1\rangle$$
$$I_3^u = \langle -52u^6 - 135u^5 - 299u^4 - 528u^3 - 706u^2 + 109b - 172u - 1,$$
$$-u^6 - 55u^5 - 142u^4 - 312u^3 - 546u^2 + 109a - 716u - 174,$$
$$u^7 + 3u^6 + 7u^5 + 13u^4 + 18u^3 + 10u^2 + 2u - 1\rangle$$
$$I_4^u = \langle au + b + u - 1,\ u^2a + a^2 - 2au + u^2 + 2a - 3u + 3,\ u^3 - 2u^2 + u + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 64 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.

$$\boldsymbol{I_1^u = \langle -3.04\times 10^4 u^{14} + 3.42\times 10^5 u^{13} + \cdots + 4.45\times 10^4 b + 3.17\times 10^4,\ -991u^{14} + 44316u^{13} + \cdots + 44456a - 908664,\ u^{15} - 14u^{14} + \cdots + 464u - 32\rangle}$$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0222917u^{14} - 0.996851u^{13} + \cdots - 194.288u + 20.4396 \\ 0.684767u^{14} - 7.70031u^{13} + \cdots - 10.0963u - 0.713335 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.707059u^{14} - 8.69716u^{13} + \cdots - 204.384u + 19.7263 \\ 0.684767u^{14} - 7.70031u^{13} + \cdots - 10.0963u - 0.713335 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.120299u^{14} + 1.65732u^{13} + \cdots + 85.8621u - 8.43756 \\ -0.516758u^{14} + 6.69100u^{13} + \cdots + 180.708u - 12.6867 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.120299u^{14} + 1.65732u^{13} + \cdots + 85.8621u - 8.43756 \\ -0.692325u^{14} + 8.57538u^{13} + \cdots + 172.095u - 11.8272 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.396459u^{14} + 5.03367u^{13} + \cdots + 94.8459u - 3.24915 \\ 0.516758u^{14} - 6.69100u^{13} + \cdots - 179.708u + 12.6867 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -2.35699u^{14} + 29.2392u^{13} + \cdots + 550.379u - 31.2776 \\ 1.87224u^{14} - 24.4648u^{13} + \cdots - 743.922u + 53.5112 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.442392u^{14} - 5.28185u^{13} + \cdots - 76.6178u + 5.65350 \\ -0.736076u^{14} + 9.23090u^{13} + \cdots + 209.229u - 15.0160 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.04145u^{14} + 25.4828u^{13} + \cdots + 540.956u - 35.1522 \\ 1.84779u^{14} - 23.4858u^{13} + \cdots - 593.170u + 42.6315 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.04145u^{14} + 25.4828u^{13} + \cdots + 540.956u - 35.1522 \\ 1.84779u^{14} - 23.4858u^{13} + \cdots - 593.170u + 42.6315 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{6047}{11114}u^{14} + \frac{56269}{11114}u^{13} + \cdots - \frac{448754}{5557}u - \frac{32342}{5557}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$u^{15} - 5u^{13} + \cdots + 3u + 1$
c_3	$u^{15} - 14u^{14} + \cdots + 464u - 32$
c_4, c_7, c_8 c_{11}	$u^{15} - u^{14} + \cdots + 4u^2 + 1$
c_6, c_9	$u^{15} - 8u^{14} + \cdots - 56u + 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$y^{15} - 10y^{14} + \cdots + 29y - 1$
c_3	$y^{15} + 4y^{14} + \cdots + 67328y - 1024$
c_4, c_7, c_8 c_{11}	$y^{15} + 7y^{14} + \cdots - 8y - 1$
c_6, c_9	$y^{15} + 8y^{14} + \cdots + 224y - 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.441017 + 0.682615I$ $a = -0.626506 - 0.383690I$ $b = 0.014387 + 0.596876I$	$1.16432 + 1.11480I$	$3.42758 - 4.27035I$
$u = 0.441017 - 0.682615I$ $a = -0.626506 + 0.383690I$ $b = 0.014387 - 0.596876I$	$1.16432 - 1.11480I$	$3.42758 + 4.27035I$
$u = 1.360540 + 0.261249I$ $a = -0.645886 - 0.354688I$ $b = 0.786092 + 0.651305I$	$1.20190 + 2.43151I$	$-0.902369 - 0.814710I$
$u = 1.360540 - 0.261249I$ $a = -0.645886 + 0.354688I$ $b = 0.786092 - 0.651305I$	$1.20190 - 2.43151I$	$-0.902369 + 0.814710I$
$u = 0.231740 + 1.386460I$ $a = -0.727304 + 0.321329I$ $b = 0.614054 + 0.933909I$	$7.18561 - 1.74581I$	$4.31703 + 3.15532I$
$u = 0.231740 - 1.386460I$ $a = -0.727304 - 0.321329I$ $b = 0.614054 - 0.933909I$	$7.18561 + 1.74581I$	$4.31703 - 3.15532I$
$u = 1.38613 + 0.32674I$ $a = 0.553085 + 0.614738I$ $b = -0.565792 - 1.032820I$	$0.37742 - 3.22470I$	$1.69059 + 1.81692I$
$u = 1.38613 - 0.32674I$ $a = 0.553085 - 0.614738I$ $b = -0.565792 + 1.032820I$	$0.37742 + 3.22470I$	$1.69059 - 1.81692I$
$u = 1.03444 + 1.15733I$ $a = 0.878543 + 0.103476I$ $b = -0.789042 - 1.123810I$	$0.98276 - 7.96105I$	$1.19655 + 6.90467I$
$u = 1.03444 - 1.15733I$ $a = 0.878543 - 0.103476I$ $b = -0.789042 + 1.123810I$	$0.98276 + 7.96105I$	$1.19655 - 6.90467I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.122764$ $a = 5.00969$ $b = -0.615011$	-1.24987	-10.6530
$u = 1.41089 + 1.28897I$ $a = -0.730743 - 0.221034I$ $b = 0.74609 + 1.25376I$	$4.8601 - 14.7989I$	$2.41187 + 8.28326I$
$u = 1.41089 - 1.28897I$ $a = -0.730743 + 0.221034I$ $b = 0.74609 - 1.25376I$	$4.8601 + 14.7989I$	$2.41187 - 8.28326I$
$u = 1.07386 + 2.16285I$ $a = 0.293966 + 0.146746I$ $b = 0.001713 - 0.793388I$	$6.23698 + 3.49716I$	$6.18530 - 1.96585I$
$u = 1.07386 - 2.16285I$ $a = 0.293966 - 0.146746I$ $b = 0.001713 + 0.793388I$	$6.23698 - 3.49716I$	$6.18530 + 1.96585I$

II. $\boldsymbol{I_2^u = \langle -203u^{17} - 446u^{16} + \cdots + 16b - 99,\ -99u^{17}a - 1285u^{17} + \cdots + 606a - 2283,\ u^{18} + 3u^{17} + \cdots + 9u + 1\rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} a \\ 12.6875u^{17} + 27.8750u^{16} + \cdots + 93.5625u + 6.18750 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{203}{16}u^{17} + \frac{223}{8}u^{16} + \cdots + a + \frac{99}{16} \\ 12.6875u^{17} + 27.8750u^{16} + \cdots + 93.5625u + 6.18750 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -10.1875au^{17} - 49.5625u^{17} + \cdots - 12.6875a - 109.375 \\ -10.1875au^{17} - 10.8125u^{17} + \cdots - 12.6875a - 30.0625 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -10.1875au^{17} - 49.5625u^{17} + \cdots - 12.6875a - 109.375 \\ -6u^{17}a - u^{17} + \cdots - \frac{95}{16}a - 8 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -12.6875au^{17} - 38.7500u^{17} + \cdots - 6.18750a - 80.3125 \\ 17.6875u^{17} + 45.1875u^{16} + \cdots + 269.438u + 38.7500 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -10.8125au^{17} + 102.938u^{17} + \cdots - 29.0625a + 256.750 \\ -7.87500au^{17} + 12.6875u^{17} + \cdots - 17.6875a + 6.18750 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -29.6875au^{17} - 4.12500u^{17} + \cdots - 64.6250a + 32.9375 \\ -7u^{17}a - \frac{109}{8}u^{17} + \cdots - \frac{119}{8}a - \frac{611}{16} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -8.43750au^{17} + 100.625u^{17} + \cdots - 10.3750a + 254.688 \\ -3.50000au^{17} + 10.3750u^{17} + \cdots - 15.6875a + 4.12500 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -8.43750au^{17} + 100.625u^{17} + \cdots - 10.3750a + 254.688 \\ -3.50000au^{17} + 10.3750u^{17} + \cdots - 15.6875a + 4.12500 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{371}{4}u^{17} + 247u^{16} + \frac{41}{4}u^{15} - \frac{3345}{4}u^{14} - \frac{4809}{4}u^{13} - 1271u^{12} + \frac{1677}{4}u^{11} + \frac{23513}{4}u^{10} + 6462u^9 - \frac{13723}{2}u^8 - \frac{21065}{2}u^7 + \frac{13659}{2}u^6 + \frac{38345}{4}u^5 - \frac{6133}{2}u^4 - \frac{13047}{4}u^3 + \frac{7575}{4}u^2 + 1672u + \frac{585}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$u^{36} - 10u^{34} + \cdots + 503u + 161$
c_3	$(u^{18} + 3u^{17} + \cdots + 9u + 1)^2$
c_4, c_7, c_8 c_{11}	$u^{36} - 2u^{35} + \cdots - 151u + 47$
c_6, c_9	$(u^{18} + 3u^{17} + \cdots + 4u + 5)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$y^{36} - 20y^{35} + \cdots - 295835y + 25921$
c_3	$(y^{18} - 7y^{17} + \cdots - 31y + 1)^2$
c_4, c_7, c_8 c_{11}	$y^{36} + 16y^{35} + \cdots + 18277y + 2209$
c_6, c_9	$(y^{18} + 11y^{17} + \cdots + 174y + 25)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.894501 + 0.439989I$ $a = -1.068970 - 0.589062I$ $b = 1.172180 - 0.401841I$	$2.21070 - 8.01702I$	$0.26506 + 6.04046I$
$u = 0.894501 + 0.439989I$ $a = -0.877218 + 0.880723I$ $b = 0.697017 + 0.997253I$	$2.21070 - 8.01702I$	$0.26506 + 6.04046I$
$u = 0.894501 - 0.439989I$ $a = -1.068970 + 0.589062I$ $b = 1.172180 + 0.401841I$	$2.21070 + 8.01702I$	$0.26506 - 6.04046I$
$u = 0.894501 - 0.439989I$ $a = -0.877218 - 0.880723I$ $b = 0.697017 - 0.997253I$	$2.21070 + 8.01702I$	$0.26506 - 6.04046I$
$u = -0.950537 + 0.162221I$ $a = -0.971317 + 0.562568I$ $b = 0.732831 + 0.297516I$	$-1.79766 + 2.11512I$	$-3.46832 - 4.22083I$
$u = -0.950537 + 0.162221I$ $a = 0.697241 + 0.431990I$ $b = -0.832013 + 0.692310I$	$-1.79766 + 2.11512I$	$-3.46832 - 4.22083I$
$u = -0.950537 - 0.162221I$ $a = -0.971317 - 0.562568I$ $b = 0.732831 - 0.297516I$	$-1.79766 - 2.11512I$	$-3.46832 + 4.22083I$
$u = -0.950537 - 0.162221I$ $a = 0.697241 - 0.431990I$ $b = -0.832013 - 0.692310I$	$-1.79766 - 2.11512I$	$-3.46832 + 4.22083I$
$u = 0.550574 + 0.534542I$ $a = 1.151550 + 0.184083I$ $b = -1.137440 + 0.607496I$	$-0.695457 - 1.211150I$	$2.01684 + 5.97065I$
$u = 0.550574 + 0.534542I$ $a = 0.51202 - 1.60050I$ $b = -0.535612 - 0.716902I$	$-0.695457 - 1.211150I$	$2.01684 + 5.97065I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=\ 0.550574-0.534542I$ $a=\ 1.151550-0.184083I$ $b=-1.137440-0.607496I$	$-0.695457+1.211150I$	$2.01684-5.97065I$
$u=\ 0.550574-0.534542I$ $a=\ 0.51202+1.60050I$ $b=-0.535612+0.716902I$	$-0.695457+1.211150I$	$2.01684-5.97065I$
$u=-0.559442+0.038809I$ $a=-1.60100+1.20636I$ $b=\ 0.620068+1.024030I$	$0.388234-1.127970I$	$1.85464+1.58148I$
$u=-0.559442+0.038809I$ $a=\ 0.97669+1.89819I$ $b=-0.848848+0.737023I$	$0.388234-1.127970I$	$1.85464+1.58148I$
$u=-0.559442-0.038809I$ $a=-1.60100-1.20636I$ $b=\ 0.620068-1.024030I$	$0.388234+1.127970I$	$1.85464-1.58148I$
$u=-0.559442-0.038809I$ $a=\ 0.97669-1.89819I$ $b=-0.848848-0.737023I$	$0.388234+1.127970I$	$1.85464-1.58148I$
$u=-1.20149+0.95062I$ $a=-0.794303+0.267048I$ $b=\ 0.590660-0.737715I$	$-0.58133+3.63224I$	$-1.22357-0.72654I$
$u=-1.20149+0.95062I$ $a=\ 0.601110-0.138403I$ $b=-0.700489+1.075930I$	$-0.58133+3.63224I$	$-1.22357-0.72654I$
$u=-1.20149-0.95062I$ $a=-0.794303-0.267048I$ $b=\ 0.590660+0.737715I$	$-0.58133-3.63224I$	$-1.22357+0.72654I$
$u=-1.20149-0.95062I$ $a=\ 0.601110+0.138403I$ $b=-0.700489-1.075930I$	$-0.58133-3.63224I$	$-1.22357+0.72654I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.57847 + 0.07406I$ $a = -0.056442 - 0.945021I$ $b = 0.253884 + 0.746014I$	$8.78344 + 0.53962I$	$4.04425 + 2.43806I$
$u = 1.57847 + 0.07406I$ $a = -0.182614 - 0.464051I$ $b = 0.01910 + 1.49587I$	$8.78344 + 0.53962I$	$4.04425 + 2.43806I$
$u = 1.57847 - 0.07406I$ $a = -0.056442 + 0.945021I$ $b = 0.253884 - 0.746014I$	$8.78344 - 0.53962I$	$4.04425 - 2.43806I$
$u = 1.57847 - 0.07406I$ $a = -0.182614 + 0.464051I$ $b = 0.01910 - 1.49587I$	$8.78344 - 0.53962I$	$4.04425 - 2.43806I$
$u = -0.305821 + 0.029607I$ $a = 0.52691 + 2.98749I$ $b = 0.20657 - 1.64071I$	$9.40827 - 2.73362I$	$5.19032 + 6.28765I$
$u = -0.305821 + 0.029607I$ $a = 1.18377 - 5.25035I$ $b = 0.249590 + 0.898036I$	$9.40827 - 2.73362I$	$5.19032 + 6.28765I$
$u = -0.305821 - 0.029607I$ $a = 0.52691 - 2.98749I$ $b = 0.20657 + 1.64071I$	$9.40827 + 2.73362I$	$5.19032 - 6.28765I$
$u = -0.305821 - 0.029607I$ $a = 1.18377 + 5.25035I$ $b = 0.249590 - 0.898036I$	$9.40827 + 2.73362I$	$5.19032 - 6.28765I$
$u = 0.08820 + 1.71388I$ $a = 0.440400 + 0.416925I$ $b = 0.047819 + 0.888995I$	$6.66136 + 3.28569I$	$5.54170 - 2.88739I$
$u = 0.08820 + 1.71388I$ $a = -0.518764 + 0.001204I$ $b = 0.675718 - 0.791567I$	$6.66136 + 3.28569I$	$5.54170 - 2.88739I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.08820 - 1.71388I$ $a = 0.440400 - 0.416925I$ $b = 0.047819 - 0.888995I$	$6.66136 - 3.28569I$	$5.54170 + 2.88739I$
$u = 0.08820 - 1.71388I$ $a = -0.518764 - 0.001204I$ $b = 0.675718 + 0.791567I$	$6.66136 - 3.28569I$	$5.54170 + 2.88739I$
$u = -1.59445 + 1.02172I$ $a = 0.595268 - 0.396932I$ $b = -0.754617 + 0.978635I$	$1.11892 + 7.08645I$	$2.27907 - 7.07165I$
$u = -1.59445 + 1.02172I$ $a = -0.614327 + 0.220117I$ $b = 0.543574 - 1.241090I$	$1.11892 + 7.08645I$	$2.27907 - 7.07165I$
$u = -1.59445 - 1.02172I$ $a = 0.595268 + 0.396932I$ $b = -0.754617 - 0.978635I$	$1.11892 - 7.08645I$	$2.27907 + 7.07165I$
$u = -1.59445 - 1.02172I$ $a = -0.614327 - 0.220117I$ $b = 0.543574 + 1.241090I$	$1.11892 - 7.08645I$	$2.27907 + 7.07165I$

III. $\boldsymbol{I_3^u = \langle -52u^6 - 135u^5 + \cdots + 109b - 1,\ -u^6 - 55u^5 + \cdots + 109a - 174,\ u^7 + 3u^6 + 7u^5 + 13u^4 + 18u^3 + 10u^2 + 2u - 1 \rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00917431u^6 + 0.504587u^5 + \cdots + 6.56881u + 1.59633 \\ 0.477064u^6 + 1.23853u^5 + \cdots + 1.57798u + 0.00917431 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.486239u^6 + 1.74312u^5 + \cdots + 8.14679u + 1.60550 \\ 0.477064u^6 + 1.23853u^5 + \cdots + 1.57798u + 0.00917431 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.339450u^6 - 0.669725u^5 + \cdots + 2.95413u + 2.93578 \\ 0.100917u^6 + 0.550459u^5 + \cdots + 3.25688u - 0.440367 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.339450u^6 - 0.669725u^5 + \cdots + 2.95413u + 2.93578 \\ -0.0275229u^6 + 0.486239u^5 + \cdots + 4.29358u - 0.788991 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.440367u^6 - 1.22018u^5 + \cdots - 0.302752u + 2.37615 \\ 0.100917u^6 + 0.550459u^5 + \cdots + 4.25688u - 0.440367 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.899083u^6 + 2.44954u^5 + \cdots + 6.74312u + 2.44037 \\ -0.440367u^6 - 1.22018u^5 + \cdots - 0.302752u + 1.37615 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.33945u^6 + 3.66972u^5 + \cdots + 7.04587u + 0.0642202 \\ -0.220183u^6 - 1.11009u^5 + \cdots - 4.65138u + 1.68807 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.889908u^6 + 1.94495u^5 + \cdots + 0.174312u - 0.155963 \\ -0.788991u^6 - 2.39450u^5 + \cdots - 3.91743u + 1.71560 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.889908u^6 + 1.94495u^5 + \cdots + 0.174312u - 0.155963 \\ -0.788991u^6 - 2.39450u^5 + \cdots - 3.91743u + 1.71560 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{56}{109}u^6 - \frac{246}{109}u^5 - \frac{431}{109}u^4 - \frac{904}{109}u^3 - \frac{1146}{109}u^2 - \frac{856}{109}u + \frac{611}{109}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^7 - 2u^5 - 2u^4 + u^3 + 2u^2 + 2u + 1$
c_2, c_5	$u^7 - 2u^5 + 2u^4 + u^3 - 2u^2 + 2u - 1$
c_3	$u^7 + 3u^6 + 7u^5 + 13u^4 + 18u^3 + 10u^2 + 2u - 1$
c_4, c_8	$u^7 - u^6 + 3u^5 - 2u^4 + 3u^3 - u^2 + u - 1$
c_6	$u^7 - u^6 + 3u^5 - 2u^4 + u^3 - u^2 - u - 1$
c_7, c_{11}	$u^7 + u^6 + 3u^5 + 2u^4 + 3u^3 + u^2 + u + 1$
c_9	$u^7 + u^6 + 3u^5 + 2u^4 + u^3 + u^2 - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$y^7 - 4y^6 + 6y^5 - 4y^4 + y^3 + 4y^2 - 1$
c_3	$y^7 + 5y^6 + 7y^5 + 27y^4 + 98y^3 - 2y^2 + 24y - 1$
c_4, c_7, c_8 c_{11}	$y^7 + 5y^6 + 11y^5 + 14y^4 + 9y^3 + y^2 - y - 1$
c_6, c_9	$y^7 + 5y^6 + 7y^5 - 2y^4 - 11y^3 - 7y^2 - y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_3	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.508137 + 0.486029I$ $a = -1.22583 + 1.38607I$ $b = -0.050784 - 1.300110I$	$11.34660 + 1.05141I$	$8.13453 - 0.52743I$
$u = -0.508137 - 0.486029I$ $a = -1.22583 - 1.38607I$ $b = -0.050784 + 1.300110I$	$11.34660 - 1.05141I$	$8.13453 + 0.52743I$
$u = -1.35766 + 0.93784I$ $a = -0.676700 + 0.313046I$ $b = \ \ 0.625140 - 1.059640I$	$-0.00156 + 5.16496I$	$0.90846 - 5.47109I$
$u = -1.35766 - 0.93784I$ $a = -0.676700 - 0.313046I$ $b = \ \ 0.625140 + 1.059640I$	$-0.00156 - 5.16496I$	$0.90846 + 5.47109I$
$u = \ \ 0.203752$ $a = \ \ 3.16933$ $b = \ \ 0.645755$	-0.607992	3.49110
$u = \ \ 0.26392 + 1.89105I$ $a = \ \ 0.317866 + 0.254422I$ $b = -0.397234 + 0.668248I$	$5.40832 + 4.21557I$	$-0.78856 - 7.31442I$
$u = \ \ 0.26392 - 1.89105I$ $a = \ \ 0.317866 - 0.254422I$ $b = -0.397234 - 0.668248I$	$5.40832 - 4.21557I$	$-0.78856 + 7.31442I$

IV. $\boldsymbol{I_4^u = \langle au + b + u - 1,\ u^2a + a^2 - 2au + u^2 + 2a - 3u + 3,\ u^3 - 2u^2 + u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^2 + 6u + 1$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$y^6 - 7y^5 + 17y^4 - 15y^3 + 9y^2 - 3y + 1$
c_3	$(y^3 - 2y^2 + 5y - 1)^2$
c_4, c_7, c_8 c_{11}	$y^6 + 5y^5 + 9y^4 + 9y^3 + 9y^2 + 5y + 1$
c_6, c_9	$(y^3 + 2y^2 + y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.23279 + 0.79255I$ $a = -0.632657 - 0.782837I$ $b = -0.073295 + 0.673932I$	$8.79110 + 1.58317I$	$4.83023 - 3.06106I$
$u = 1.23279 + 0.79255I$ $a = 0.206606 + 0.413848I$ $b = -0.15949 - 1.46648I$	$8.79110 + 1.58317I$	$4.83023 - 3.06106I$
$u = 1.23279 - 0.79255I$ $a = -0.632657 + 0.782837I$ $b = -0.073295 - 0.673932I$	$8.79110 - 1.58317I$	$4.83023 + 3.06106I$
$u = 1.23279 - 0.79255I$ $a = 0.206606 - 0.413848I$ $b = -0.15949 + 1.46648I$	$8.79110 - 1.58317I$	$4.83023 + 3.06106I$
$u = -0.465571$ $a = -1.57395 + 1.46156I$ $b = 0.732786 + 0.680460I$	-1.13287	-2.66050
$u = -0.465571$ $a = -1.57395 - 1.46156I$ $b = 0.732786 - 0.680460I$	-1.13287	-2.66050

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^6+3u^5+u^4-3u^3-u^2+u+1)(u^7-2u^5-2u^4+u^3+2u^2+2u+1)$ $\cdot(u^{15}-5u^{13}+\cdots+3u+1)(u^{36}-10u^{34}+\cdots+503u+161)$
c_2, c_5	$(u^6-3u^5+u^4+3u^3-u^2-u+1)(u^7-2u^5+2u^4+u^3-2u^2+2u-1)$ $\cdot(u^{15}-5u^{13}+\cdots+3u+1)(u^{36}-10u^{34}+\cdots+503u+161)$
c_3	$(u^3-2u^2+u+1)^2(u^7+3u^6+7u^5+13u^4+18u^3+10u^2+2u-1)$ $\cdot(u^{15}-14u^{14}+\cdots+464u-32)(u^{18}+3u^{17}+\cdots+9u+1)^2$
c_4, c_8	$(u^6-u^5+3u^4-3u^3+3u^2-u+1)$ $\cdot(u^7-u^6+\cdots+u-1)(u^{15}-u^{14}+\cdots+4u^2+1)$ $\cdot(u^{36}-2u^{35}+\cdots-151u+47)$
c_6	$(u^3+u-1)^2(u^7-u^6+3u^5-2u^4+u^3-u^2-u-1)$ $\cdot(u^{15}-8u^{14}+\cdots-56u+8)(u^{18}+3u^{17}+\cdots+4u+5)^2$
c_7, c_{11}	$(u^6+u^5+3u^4+3u^3+3u^2+u+1)$ $\cdot(u^7+u^6+\cdots+u+1)(u^{15}-u^{14}+\cdots+4u^2+1)$ $\cdot(u^{36}-2u^{35}+\cdots-151u+47)$
c_9	$(u^3+u+1)^2(u^7+u^6+3u^5+2u^4+u^3+u^2-u+1)$ $\cdot(u^{15}-8u^{14}+\cdots-56u+8)(u^{18}+3u^{17}+\cdots+4u+5)^2$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_{10}	$(y^6 - 7y^5 + 17y^4 - 15y^3 + 9y^2 - 3y + 1)$ $\cdot (y^7 - 4y^6 + \cdots + 4y^2 - 1)(y^{15} - 10y^{14} + \cdots + 29y - 1)$ $\cdot (y^{36} - 20y^{35} + \cdots - 295835y + 25921)$
c_3	$((y^3 - 2y^2 + 5y - 1)^2)(y^7 + 5y^6 + \cdots + 24y - 1)$ $\cdot (y^{15} + 4y^{14} + \cdots + 67328y - 1024)(y^{18} - 7y^{17} + \cdots - 31y + 1)^2$
c_4, c_7, c_8 c_{11}	$(y^6 + 5y^5 + 9y^4 + 9y^3 + 9y^2 + 5y + 1)$ $\cdot (y^7 + 5y^6 + \cdots - y - 1)(y^{15} + 7y^{14} + \cdots - 8y - 1)$ $\cdot (y^{36} + 16y^{35} + \cdots + 18277y + 2209)$
c_6, c_9	$(y^3 + 2y^2 + y - 1)^2(y^7 + 5y^6 + 7y^5 - 2y^4 - 11y^3 - 7y^2 - y - 1)$ $\cdot (y^{15} + 8y^{14} + \cdots + 224y - 64)(y^{18} + 11y^{17} + \cdots + 174y + 25)^2$