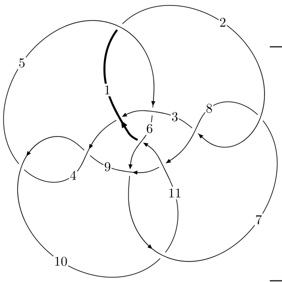
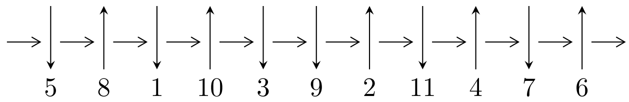
$11a_{332}$ ($K11a_{332}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

[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`).

$$I^u_1 = \langle -11u^{14} - 4u^{13} + \cdots + 18b + 5,\ 10u^{14} + 9u^{12} + \cdots + 18a - 18,$$
$$u^{15} + 2u^{13} + 2u^{12} + 8u^{11} + 4u^{10} + 16u^9 + 13u^8 + 21u^7 + 12u^6 + 18u^5 + 6u^4 + 6u^3 - 1\rangle$$
$$I^u_2 = \langle -1.37804 \times 10^{45}u^{35} - 1.80053 \times 10^{44}u^{34} + \cdots + 3.99041 \times 10^{45}b - 1.10674 \times 10^{46},$$
$$3.65397 \times 10^{45}u^{35} - 4.93039 \times 10^{45}u^{34} + \cdots + 3.99041 \times 10^{45}a + 1.27280 \times 10^{45},\ u^{36} - u^{35} + \cdots - 2u + 1\rangle$$
$$I^u_3 = \langle 1.73314 \times 10^{71}u^{35} - 1.61154 \times 10^{72}u^{34} + \cdots + 1.23451 \times 10^{71}b + 2.96287 \times 10^{71},$$
$$-2.28749 \times 10^{71}u^{35} + 1.95052 \times 10^{72}u^{34} + \cdots + 1.23451 \times 10^{71}a - 2.50099 \times 10^{72},$$
$$u^{36} - 10u^{35} + \cdots - 6u - 1\rangle$$
$$I^u_4 = \langle -61u^9 + 5u^8 - 23u^7 - 223u^6 - 204u^5 + 3u^4 - 340u^3 - 294u^2 + 53b + 46u - 34,$$
$$24u^9 - 15u^8 + 16u^7 + 86u^6 + 29u^5 - 9u^4 + 172u^3 + 34u^2 + 53a - 32u + 102,$$
$$u^{10} + 4u^7 + 4u^6 - u^5 + 5u^4 + 7u^3 - u^2 - u + 1\rangle$$
$$I^u_5 = \langle u^5 - u^3 + u^2 + b + u - 1,\ -u^5 + u^4 + u^3 - 2u^2 + a + 2,\ u^6 - u^5 + 2u^3 - u + 1\rangle$$
$$I^u_6 = \langle -u^5 + 2u^4 + u^2 + 2b - 3u + 1,\ -u^5 + 3u^4 - 2u^3 + 2u^2 + 2a - 8u + 7,\ u^6 - 2u^5 - 2u^3 + 5u^2 - 2u - 1\rangle$$
$$I^u_7 = \langle -17597088363u^{11} + 49269694805u^{10} + \cdots + 102937123333b - 11160459778,$$
$$231997276705u^{11} - 468551566961u^{10} + \cdots + 102937123333a - 3200274870268,$$
$$u^{12} - 2u^{11} - 22u^{10} - 36u^9 - 6u^8 + 58u^7 + 35u^6 - 80u^5 - 142u^4 - 120u^3 - 58u^2 - 12u + 1\rangle$$
$$I^u_8 = \langle -3839279u^{11} + 8525704u^{10} + \cdots + 9619063b - 14981729,$$
$$21714338u^{11} - 64033521u^{10} + \cdots + 28857189a + 1783311,$$
$$u^{12} - 3u^{11} - 4u^{10} + 8u^9 + 10u^8 - 12u^7 - 33u^6 + 50u^5 + 2u^4 - 44u^3 + 25u^2 - 3\rangle$$
$$I^u_9 = \langle b - 1,\ a,\ u + 1\rangle$$
$$I^u_{10} = \langle b - 1,\ a + u - 3,\ u^2 - 2u - 1\rangle$$

$$I^u_{11} = \langle b,\ a - 1,\ u - 1\rangle$$
$$I^u_{12} = \langle b - 1,\ a - 1,\ u - 1\rangle$$
$$I^u_{13} = \langle b + 1,\ a - 1,\ u + 1\rangle$$

$$I^v_1 = \langle a,\ b + 1,\ v - 1\rangle$$

* 14 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 140 representations.

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

I. $\boldsymbol{I_1^u = \langle -11u^{14} - 4u^{13} + \cdots + 18b + 5,\ 10u^{14} + 9u^{12} + \cdots + 18a - 18,\ u^{15} + 2u^{13} + \cdots + 6u^3 - 1\rangle}$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{5}{9}u^{14} - \frac{1}{2}u^{12} + \cdots + \frac{23}{18}u + 1 \\ \frac{11}{18}u^{14} + \frac{2}{9}u^{13} + \cdots - \frac{11}{9}u - \frac{5}{18} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{5}{18}u^{14} - \frac{1}{3}u^{12} + \cdots - \frac{7}{9}u - \frac{2}{3} \\ \frac{5}{18}u^{14} + \frac{1}{3}u^{12} + \cdots + \frac{7}{9}u - \frac{1}{3} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ \frac{5}{18}u^{14} + \frac{1}{3}u^{12} + \cdots + \frac{7}{9}u - \frac{1}{3} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.222222u^{14} - 0.277778u^{13} + \cdots - 0.722222u + 1.55556 \\ \frac{5}{18}u^{14} - \frac{1}{9}u^{13} + \cdots - \frac{2}{9}u - \frac{5}{18} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{5}{18}u^{14} - \frac{1}{3}u^{12} + \cdots - \frac{7}{9}u - \frac{2}{3} \\ \frac{1}{2}u^{14} - \frac{1}{3}u^{13} + \cdots + \frac{1}{2}u - \frac{1}{3} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.555556u^{14} + 0.222222u^{13} + \cdots + 0.611111u + 0.722222 \\ \frac{5}{18}u^{14} - \frac{5}{18}u^{13} + \cdots - \frac{14}{9}u + \frac{2}{9} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0555556u^{14} - 0.222222u^{13} + \cdots - 0.0555556u - 0.722222 \\ \frac{11}{18}u^{13} + u^{11} + \cdots + u - \frac{5}{9} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ -\frac{2}{9}u^{13} + \frac{1}{3}u^{12} + \cdots + \frac{2}{3}u + \frac{5}{18} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ -\frac{2}{9}u^{13} + \frac{1}{3}u^{12} + \cdots + \frac{2}{3}u + \frac{5}{18} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{55}{9}u^{14} - \frac{8}{9}u^{13} + \frac{29}{3}u^{12} + \frac{89}{9}u^{11} + \frac{385}{9}u^{10} + \frac{116}{9}u^9 + \frac{223}{3}u^8 + \frac{484}{9}u^7 + \frac{748}{9}u^6 + \frac{241}{9}u^5 + \frac{511}{9}u^4 + \frac{25}{9}u^3 + \frac{112}{9}u^2 - \frac{47}{9}u + \frac{25}{9}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{15} + 9u^{14} + \cdots - 32u - 16$
c_2, c_4, c_7 c_9	$u^{15} - 4u^{13} + 9u^{11} - 2u^{10} - 8u^9 + 7u^8 + 2u^7 - 12u^6 + 4u^5 + 9u^4 - 2u - 2$
c_3, c_5, c_6 c_8	$u^{15} + 2u^{13} + \cdots + 6u^3 - 1$
c_{11}	$u^{15} + 13u^{14} + \cdots - 416u - 64$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{15} - 5y^{14} + \cdots + 384y - 256$
c_2, c_4, c_7 c_9	$y^{15} - 8y^{14} + \cdots + 4y - 4$
c_3, c_5, c_6 c_8	$y^{15} + 4y^{14} + \cdots + 12y^2 - 1$
c_{11}	$y^{15} - 7y^{14} + \cdots + 11264y - 4096$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.375965 + 0.932481I$ $a = -0.022789 - 1.214510I$ $b = 0.76086 + 2.35797I$	$5.04027 - 9.43708I$	$7.9635 + 11.7594I$
$u = 0.375965 - 0.932481I$ $a = -0.022789 + 1.214510I$ $b = 0.76086 - 2.35797I$	$5.04027 + 9.43708I$	$7.9635 - 11.7594I$
$u = -0.770687 + 0.717882I$ $a = 0.585197 + 0.439087I$ $b = -0.78233 - 1.39703I$	$0.48581 + 3.45966I$	$2.92722 - 6.50047I$
$u = -0.770687 - 0.717882I$ $a = 0.585197 - 0.439087I$ $b = -0.78233 + 1.39703I$	$0.48581 - 3.45966I$	$2.92722 + 6.50047I$
$u = -0.017197 + 0.777026I$ $a = -0.70943 + 1.35975I$ $b = -0.32717 - 1.53341I$	$4.09690 + 5.67488I$	$5.06867 - 6.10846I$
$u = -0.017197 - 0.777026I$ $a = -0.70943 - 1.35975I$ $b = -0.32717 + 1.53341I$	$4.09690 - 5.67488I$	$5.06867 + 6.10846I$
$u = 0.483358 + 1.164780I$ $a = 0.793953 - 0.756191I$ $b = 0.527888 + 1.092680I$	$5.64308 + 1.61043I$	$6.76634 + 1.00019I$
$u = 0.483358 - 1.164780I$ $a = 0.793953 + 0.756191I$ $b = 0.527888 - 1.092680I$	$5.64308 - 1.61043I$	$6.76634 - 1.00019I$
$u = -0.442558 + 0.472159I$ $a = 0.761967 - 0.578478I$ $b = -0.096613 - 0.396023I$	$-0.61502 + 1.62852I$	$-1.81112 - 4.54842I$
$u = -0.442558 - 0.472159I$ $a = 0.761967 + 0.578478I$ $b = -0.096613 + 0.396023I$	$-0.61502 - 1.62852I$	$-1.81112 + 4.54842I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.031270 + 0.943313I$ $a = -0.670358 + 0.362743I$ $b = -0.175859 - 0.100257I$	$-3.28483 + 7.08124I$	$-3.75198 - 5.71793I$
$u = -1.031270 - 0.943313I$ $a = -0.670358 - 0.362743I$ $b = -0.175859 + 0.100257I$	$-3.28483 - 7.08124I$	$-3.75198 + 5.71793I$
$u = 0.419879$ $a = 2.09302$ $b = -0.477344$	1.70444	5.76330
$u = 1.19245 + 1.13162I$ $a = -0.285046 + 0.850536I$ $b = -0.66810 - 2.22561I$	$2.5860 - 19.7120I$	$0.95572 + 10.39733I$
$u = 1.19245 - 1.13162I$ $a = -0.285046 - 0.850536I$ $b = -0.66810 + 2.22561I$	$2.5860 + 19.7120I$	$0.95572 - 10.39733I$

II.
$\boldsymbol{I_2^u = \langle -1.38\times10^{45}u^{35} - 1.80\times10^{44}u^{34} + \cdots + 3.99\times10^{45}b - 1.11\times10^{46},\ 3.65\times10^{45}u^{35} - 4.93\times10^{45}u^{34} + \cdots + 3.99\times10^{45}a + 1.27\times10^{45},\ u^{36} - u^{35} + \cdots - 2u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.915688u^{35} + 1.23556u^{34} + \cdots - 5.91984u - 0.318965 \\ 0.345337u^{35} + 0.0451214u^{34} + \cdots - 6.72198u + 2.77349 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -3.55283u^{35} + 4.15978u^{34} + \cdots - 10.7211u - 1.59357 \\ 0.343747u^{35} - 0.453576u^{34} + \cdots - 3.02752u + 0.528741 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -3.20909u^{35} + 3.70621u^{34} + \cdots - 13.7486u - 1.06483 \\ 0.343747u^{35} - 0.453576u^{34} + \cdots - 3.02752u + 0.528741 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.262533u^{35} + 0.323253u^{34} + \cdots - 10.4090u + 6.48551 \\ -0.282683u^{35} + 0.688828u^{34} + \cdots - 7.63695u + 1.19971 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -3.09336u^{35} + 3.63567u^{34} + \cdots - 6.51773u - 2.09069 \\ 0.468774u^{35} - 0.540153u^{34} + \cdots - 3.05287u + 0.483555 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.373382u^{35} + 1.27775u^{34} + \cdots - 14.1973u + 2.77440 \\ 0.273958u^{35} - 0.0694172u^{34} + \cdots - 5.30088u + 2.30472 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -2.31277u^{35} + 2.47738u^{34} + \cdots - 18.4300u - 0.137385 \\ 0.0179996u^{35} - 0.268681u^{34} + \cdots + 5.18656u - 1.68120 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1.78549u^{35} - 1.68467u^{34} + \cdots - 7.57950u + 4.97500 \\ 1.01596u^{35} - 1.06117u^{34} + \cdots + 5.42208u + 0.378941 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1.78549u^{35} - 1.68467u^{34} + \cdots - 7.57950u + 4.97500 \\ 1.01596u^{35} - 1.06117u^{34} + \cdots + 5.42208u + 0.378941 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -5.15842u^{35} + 3.75096u^{34} + \cdots + 33.9670u - 14.9765$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^{18} - 4u^{17} + \cdots + 4u^2 + 1)^2$
c_2, c_4, c_7 c_9	$u^{36} + 3u^{35} + \cdots + 34u + 13$
c_3, c_5, c_6 c_8	$u^{36} - u^{35} + \cdots - 2u + 1$
c_{11}	$(u^{18} - 5u^{17} + \cdots - 8u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^{18} + 10y^{17} + \cdots + 8y + 1)^2$
c_2, c_4, c_7 c_9	$y^{36} - 15y^{35} + \cdots + 40y + 169$
c_3, c_5, c_6 c_8	$y^{36} - y^{35} + \cdots + 28y + 1$
c_{11}	$(y^{18} + 3y^{17} + \cdots - 8y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.363120 + 1.008320I$ $a = 0.026422 + 1.101700I$ $b = 0.70580 - 1.91504I$	$2.57204 + 5.31192I$	$3.36040 - 8.00060I$
$u = -0.363120 - 1.008320I$ $a = 0.026422 - 1.101700I$ $b = 0.70580 + 1.91504I$	$2.57204 - 5.31192I$	$3.36040 + 8.00060I$
$u = 0.649836 + 0.632824I$ $a = 0.608719 + 0.180629I$ $b = -0.783167 + 0.542527I$	$2.57204 - 5.31192I$	$3.36040 + 8.00060I$
$u = 0.649836 - 0.632824I$ $a = 0.608719 - 0.180629I$ $b = -0.783167 - 0.542527I$	$2.57204 + 5.31192I$	$3.36040 - 8.00060I$
$u = 0.893795 + 0.123771I$ $a = -0.806277 - 0.142896I$ $b = -0.470358 - 1.315610I$	$3.30139 + 5.60580I$	$4.21097 - 5.33069I$
$u = 0.893795 - 0.123771I$ $a = -0.806277 + 0.142896I$ $b = -0.470358 + 1.315610I$	$3.30139 - 5.60580I$	$4.21097 + 5.33069I$
$u = -0.440875 + 1.024740I$ $a = 0.025375 + 1.272790I$ $b = 0.33726 - 1.60649I$	$3.30139 + 5.60580I$	$4.21097 - 5.33069I$
$u = -0.440875 - 1.024740I$ $a = 0.025375 - 1.272790I$ $b = 0.33726 + 1.60649I$	$3.30139 - 5.60580I$	$4.21097 + 5.33069I$
$u = 0.517386 + 0.999523I$ $a = 0.149927 - 1.060780I$ $b = 0.04630 + 2.23105I$	$5.05604 - 1.80030I$	$7.45000 + 3.46748I$
$u = 0.517386 - 0.999523I$ $a = 0.149927 + 1.060780I$ $b = 0.04630 - 2.23105I$	$5.05604 + 1.80030I$	$7.45000 - 3.46748I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.850004 + 0.786233I$ $a = -0.268215 - 0.726745I$ $b = -0.028148 + 0.754872I$	$2.75241 - 3.93541I$	$2.90741 + 5.36629I$
$u = 0.850004 - 0.786233I$ $a = -0.268215 + 0.726745I$ $b = -0.028148 - 0.754872I$	$2.75241 + 3.93541I$	$2.90741 - 5.36629I$
$u = 0.298814 + 0.783563I$ $a = 0.584126 + 0.283863I$ $b = -0.179299 - 0.216656I$	$1.88210 + 1.75570I$	$3.07518 - 1.06674I$
$u = 0.298814 - 0.783563I$ $a = 0.584126 - 0.283863I$ $b = -0.179299 + 0.216656I$	$1.88210 - 1.75570I$	$3.07518 + 1.06674I$
$u = -0.095278 + 0.825512I$ $a = 1.87436 + 0.04602I$ $b = -0.009002 - 0.144399I$	$-1.19542 - 1.15621I$	$10.86918 - 2.44420I$
$u = -0.095278 - 0.825512I$ $a = 1.87436 - 0.04602I$ $b = -0.009002 + 0.144399I$	$-1.19542 + 1.15621I$	$10.86918 + 2.44420I$
$u = 0.437518 + 1.136460I$ $a = 0.512918 - 1.258620I$ $b = 0.45023 + 1.44725I$	$7.02166 - 7.49599I$	$6.57969 + 7.14836I$
$u = 0.437518 - 1.136460I$ $a = 0.512918 + 1.258620I$ $b = 0.45023 - 1.44725I$	$7.02166 + 7.49599I$	$6.57969 - 7.14836I$
$u = -0.371712 + 1.181350I$ $a = 0.390182 + 0.870496I$ $b = 0.67521 - 1.35698I$	$2.75241 + 3.93541I$	$2.90741 - 5.36629I$
$u = -0.371712 - 1.181350I$ $a = 0.390182 - 0.870496I$ $b = 0.67521 + 1.35698I$	$2.75241 - 3.93541I$	$2.90741 + 5.36629I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.972609 + 0.975530I$ $a = -0.804652 - 0.466962I$ $b = 0.0875024 + 0.0540753I$	$-0.55505 - 12.95420I$	$-1.0000 + 8.63684I$
$u = 0.972609 - 0.975530I$ $a = -0.804652 + 0.466962I$ $b = 0.0875024 - 0.0540753I$	$-0.55505 + 12.95420I$	$-1.0000 - 8.63684I$
$u = -1.375460 + 0.143710I$ $a = 0.532601 + 0.386317I$ $b = 0.755723 - 0.967094I$	$-2.74089 + 1.92073I$	$-7.73857 - 5.49648I$
$u = -1.375460 - 0.143710I$ $a = 0.532601 - 0.386317I$ $b = 0.755723 + 0.967094I$	$-2.74089 - 1.92073I$	$-7.73857 + 5.49648I$
$u = 0.338423 + 0.447370I$ $a = 0.36194 - 1.95892I$ $b = -0.396182 + 1.120630I$	$1.88210 - 1.75570I$	$3.07518 + 1.06674I$
$u = 0.338423 - 0.447370I$ $a = 0.36194 + 1.95892I$ $b = -0.396182 - 1.120630I$	$1.88210 + 1.75570I$	$3.07518 - 1.06674I$
$u = -0.092953 + 0.387873I$ $a = 2.70253 - 0.69095I$ $b = 0.598829 - 0.213056I$	$-2.74089 + 1.92073I$	$-7.73857 - 5.49648I$
$u = -0.092953 - 0.387873I$ $a = 2.70253 + 0.69095I$ $b = 0.598829 + 0.213056I$	$-2.74089 - 1.92073I$	$-7.73857 + 5.49648I$
$u = -0.164240 + 0.304020I$ $a = 0.30937 + 3.57193I$ $b = -0.77904 - 1.26752I$	$5.05604 - 1.80030I$	$7.45000 + 3.46748I$
$u = -0.164240 - 0.304020I$ $a = 0.30937 - 3.57193I$ $b = -0.77904 + 1.26752I$	$5.05604 + 1.80030I$	$7.45000 - 3.46748I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.40474 + 0.96008I$ $a = -0.456383 + 0.579963I$ $b = -0.73214 - 2.09422I$	$7.02166 - 7.49599I$	0
$u = 1.40474 - 0.96008I$ $a = -0.456383 - 0.579963I$ $b = -0.73214 + 2.09422I$	$7.02166 + 7.49599I$	0
$u = -1.26242 + 1.17225I$ $a = -0.270237 - 0.743976I$ $b = -0.67214 + 2.21899I$	$-0.55505 + 12.95420I$	0
$u = -1.26242 - 1.17225I$ $a = -0.270237 + 0.743976I$ $b = -0.67214 - 2.21899I$	$-0.55505 - 12.95420I$	0
$u = -1.69707 + 0.32713I$ $a = -0.472709 - 0.238795I$ $b = -1.10737 + 1.60482I$	$-1.19542 + 1.15621I$	0
$u = -1.69707 - 0.32713I$ $a = -0.472709 + 0.238795I$ $b = -1.10737 - 1.60482I$	$-1.19542 - 1.15621I$	0

III. $I^u_3 = \langle 1.73 \times 10^{71} u^{35} - 1.61 \times 10^{72} u^{34} + \cdots + 1.23 \times 10^{71} b + 2.96 \times 10^{71},\ -2.29 \times 10^{71} u^{35} + 1.95 \times 10^{72} u^{34} + \cdots + 1.23 \times 10^{71} a - 2.50 \times 10^{72},\ u^{36} - 10u^{35} + \cdots - 6u - 1\rangle$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.85295u^{35} - 15.7999u^{34} + \cdots + 13.9344u + 20.2589 \\ -1.40390u^{35} + 13.0541u^{34} + \cdots - 19.0944u - 2.40003 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.02308u^{35} + 12.5666u^{34} + \cdots - 17.7060u + 40.2995 \\ -1.98793u^{35} + 18.5611u^{34} + \cdots - 21.0095u - 2.60561 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -3.01101u^{35} + 31.1278u^{34} + \cdots - 38.7154u + 37.6939 \\ -1.98793u^{35} + 18.5611u^{34} + \cdots - 21.0095u - 2.60561 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 12.7714u^{35} - 126.136u^{34} + \cdots + 173.374u - 58.1830 \\ 0.117701u^{35} - 1.17964u^{34} + \cdots + 0.298887u - 0.237165 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.01828u^{35} + 12.4254u^{34} + \cdots - 14.6110u + 41.3172 \\ -1.24273u^{35} + 11.5677u^{34} + \cdots - 11.6668u - 1.38062 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 9.38240u^{35} - 94.2192u^{34} + \cdots + 135.032u - 61.6432 \\ 0.456694u^{35} - 4.47246u^{34} + \cdots + 6.95760u + 0.699328 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -26.5737u^{35} + 270.228u^{34} + \cdots - 395.140u + 223.633 \\ -0.323427u^{35} + 3.24528u^{34} + \cdots - 7.68584u - 0.142044 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -23.0908u^{35} + 234.477u^{34} + \cdots - 344.610u + 187.947 \\ 0.952036u^{35} - 8.90987u^{34} + \cdots + 13.6977u + 2.55897 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -23.0908u^{35} + 234.477u^{34} + \cdots - 344.610u + 187.947 \\ 0.952036u^{35} - 8.90987u^{34} + \cdots + 13.6977u + 2.55897 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 31.0394u^{35} - 320.627u^{34} + \cdots + 444.568u - 347.305$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^{18} - u^{17} + \cdots + 8u - 1)^2$
c_2, c_4, c_7 c_9	$(u^{18} - 8u^{16} + \cdots + 2u - 1)^2$
c_3, c_5, c_6 c_8	$u^{36} - 10u^{35} + \cdots - 6u - 1$
c_{11}	$(u^9 - u^8 + 3u^7 + u^6 + u^5 - u^4 + 2u^3 + u + 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^{18} - 7y^{17} + \cdots - 32y + 1)^2$
c_2, c_4, c_7 c_9	$(y^{18} - 16y^{17} + \cdots - 18y + 1)^2$
c_3, c_5, c_6 c_8	$y^{36} - 42y^{35} + \cdots - 66y + 1$
c_{11}	$(y^9 + 5y^8 + 13y^7 + 7y^6 + 17y^5 + 11y^4 + 4y^3 + 6y^2 + y - 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.03358$ $a=-0.814532$ $b=\ \ 2.17328$	-0.410667	-404.090
$u=-0.974908+0.644375I$ $a=\ \ 0.649195-0.319150I$ $b=\ \ 0.464754-0.305283I$	$-2.62213+1.09146I$	$0.-5.89503I$
$u=-0.974908-0.644375I$ $a=\ \ 0.649195+0.319150I$ $b=\ \ 0.464754+0.305283I$	$-2.62213-1.09146I$	$0.+5.89503I$
$u=-1.210830+0.190950I$ $a=\ \ 0.379075+0.256363I$ $b=\ \ 0.329763-0.186088I$	$-2.62213+1.09146I$	$0.-5.89503I$
$u=-1.210830-0.190950I$ $a=\ \ 0.379075-0.256363I$ $b=\ \ 0.329763+0.186088I$	$-2.62213-1.09146I$	$0.+5.89503I$
$u=\ \ 0.972906+0.767071I$ $a=-0.541205+0.879014I$ $b=-0.93294-2.13800I$	$2.94139-10.34380I$	$0.+12.71172I$
$u=\ \ 0.972906-0.767071I$ $a=-0.541205-0.879014I$ $b=-0.93294+2.13800I$	$2.94139+10.34380I$	$0.-12.71172I$
$u=\ \ 1.202800+0.351550I$ $a=\ \ 0.934184+0.310379I$ $b=-0.368803-0.573213I$	$1.62967-1.42694I$	0
$u=\ \ 1.202800-0.351550I$ $a=\ \ 0.934184-0.310379I$ $b=-0.368803+0.573213I$	$1.62967+1.42694I$	0
$u=\ \ 0.687915+0.243994I$ $a=-1.08739+1.22141I$ $b=\ \ 0.64121-1.29222I$	$-0.92113-6.20293I$	$-12.02897+1.29054I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.687915 - 0.243994I$ $a = -1.08739 - 1.22141I$ $b = 0.64121 + 1.29222I$	$-0.92113 + 6.20293I$	$-12.02897 - 1.29054I$
$u = -0.556413 + 0.468109I$ $a = -0.71488 - 2.04959I$ $b = -0.429966 + 0.930334I$	$2.94139 + 10.34380I$	$0.42699 - 12.71172I$
$u = -0.556413 - 0.468109I$ $a = -0.71488 + 2.04959I$ $b = -0.429966 - 0.930334I$	$2.94139 - 10.34380I$	$0.42699 + 12.71172I$
$u = 0.653523 + 0.259178I$ $a = 0.97344 - 1.45983I$ $b = 0.555400 + 0.282300I$	$1.62967 + 1.42694I$	$-3.03389 + 0.96634I$
$u = 0.653523 - 0.259178I$ $a = 0.97344 + 1.45983I$ $b = 0.555400 - 0.282300I$	$1.62967 - 1.42694I$	$-3.03389 - 0.96634I$
$u = -0.457113 + 0.422721I$ $a = -0.99106 - 1.58772I$ $b = -0.98611 + 1.70538I$	$1.62967 + 1.42694I$	$-3.03389 + 0.96634I$
$u = -0.457113 - 0.422721I$ $a = -0.99106 + 1.58772I$ $b = -0.98611 - 1.70538I$	$1.62967 - 1.42694I$	$-3.03389 - 0.96634I$
$u = -0.528987 + 0.241881I$ $a = 0.964352 - 0.009017I$ $b = 1.10558 + 1.36508I$	$-2.62213 - 1.09146I$	$-4.31933 + 5.89503I$
$u = -0.528987 - 0.241881I$ $a = 0.964352 + 0.009017I$ $b = 1.10558 - 1.36508I$	$-2.62213 + 1.09146I$	$-4.31933 - 5.89503I$
$u = 1.27165 + 0.63193I$ $a = 0.294180 - 0.085640I$ $b = 0.399780 + 0.320910I$	$-0.92113 - 6.20293I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.27165 - 0.63193I$ $a = 0.294180 + 0.085640I$ $b = 0.399780 - 0.320910I$	$-0.92113 + 6.20293I$	0
$u = 0.553048 + 0.027251I$ $a = -0.83551 - 1.27783I$ $b = 0.541322 + 0.585100I$	$-2.62213 - 1.09146I$	$-4.31933 + 5.89503I$
$u = 0.553048 - 0.027251I$ $a = -0.83551 + 1.27783I$ $b = 0.541322 - 0.585100I$	$-2.62213 + 1.09146I$	$-4.31933 - 5.89503I$
$u = -0.96035 + 1.23478I$ $a = 0.120430 + 0.753486I$ $b = 0.84582 - 2.08861I$	$-0.92113 + 6.20293I$	0
$u = -0.96035 - 1.23478I$ $a = 0.120430 - 0.753486I$ $b = 0.84582 + 2.08861I$	$-0.92113 - 6.20293I$	0
$u = -0.020107 + 0.337379I$ $a = -0.302784 - 1.251190I$ $b = -0.97510 - 2.83519I$	$-0.92113 + 6.20293I$	$-12.02897 - 1.29054I$
$u = -0.020107 - 0.337379I$ $a = -0.302784 + 1.251190I$ $b = -0.97510 + 2.83519I$	$-0.92113 - 6.20293I$	$-12.02897 + 1.29054I$
$u = 1.24101 + 1.12995I$ $a = 0.274705 - 0.899412I$ $b = 0.45396 + 2.12603I$	$2.94139 - 10.34380I$	0
$u = 1.24101 - 1.12995I$ $a = 0.274705 + 0.899412I$ $b = 0.45396 - 2.12603I$	$2.94139 + 10.34380I$	0
$u = 0.70138 + 1.63277I$ $a = 0.091048 - 0.649406I$ $b = 0.21926 + 1.83471I$	$1.62967 - 1.42694I$	0

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.70138 - 1.63277I$ $a = 0.091048 + 0.649406I$ $b = 0.21926 - 1.83471I$	$1.62967 + 1.42694I$	0
$u = -0.127258$ $a = 18.2781$ $b = 0.120902$	-0.410667	-404.090
$u = 1.41519 + 1.57427I$ $a = -0.533829 + 0.282886I$ $b = -1.01282 - 1.31300I$	$2.94139 + 10.34380I$	0
$u = 1.41519 - 1.57427I$ $a = -0.533829 - 0.282886I$ $b = -1.01282 + 1.31300I$	$2.94139 - 10.34380I$	0
$u = -2.25061$ $a = 1.03351$ $b = -0.263377$	-0.410667	0
$u = 5.43001$ $a = 0.155043$ $b = 6.26696$	-0.410667	0

IV. $\boldsymbol{I^u_4 = \langle -61u^9 + 5u^8 + \cdots + 53b - 34,\ 24u^9 - 15u^8 + \cdots + 53a + 102,\ u^{10} + 4u^7 + 4u^6 - u^5 + 5u^4 + 7u^3 - u^2 - u + 1\rangle}$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.452830u^9 + 0.283019u^8 + \cdots + 0.603774u - 1.92453 \\ 1.15094u^9 - 0.0943396u^8 + \cdots - 0.867925u + 0.641509 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.679245u^9 - 0.924528u^8 + \cdots - 3.90566u + 0.886792 \\ -0.679245u^9 + 0.924528u^8 + \cdots + 3.90566u - 1.88679 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ -0.679245u^9 + 0.924528u^8 + \cdots + 3.90566u - 1.88679 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1.09434u^9 - 0.433962u^8 + \cdots - 1.79245u - 0.849057 \\ -0.679245u^9 + 0.924528u^8 + \cdots + 3.90566u - 0.886792 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.679245u^9 - 0.924528u^8 + \cdots - 3.90566u + 0.886792 \\ -0.226415u^9 + 0.641509u^8 + \cdots + 2.30189u - 0.962264 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^9 + 4u^6 + 4u^5 - u^4 + 5u^3 + 7u^2 - u - 1 \\ 0.433962u^9 - 0.396226u^8 + \cdots - 0.245283u + 1.09434 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.698113u^9 - 0.188679u^8 + \cdots + 0.264151u + 1.28302 \\ 0.283019u^9 - 0.301887u^8 + \cdots - 2.37736u + 0.452830 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ 0.924528u^9 - 0.452830u^8 + \cdots - 1.56604u + 0.679245 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u \\ 0.924528u^9 - 0.452830u^8 + \cdots - 1.56604u + 0.679245 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -\frac{199}{53}u^9 + \frac{237}{53}u^8 - \frac{274}{53}u^7 - \frac{691}{53}u^6 - \frac{13}{53}u^5 + \frac{280}{53}u^4 - \frac{1859}{53}u^3 + \frac{14}{53}u^2 + \frac{548}{53}u - \frac{647}{53}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{10} + 10u^9 + \cdots + 131u + 29$
c_2, c_4, c_7 c_9	$(u^5 - 2u^3 + u + 1)^2$
c_3, c_5, c_6 c_8	$u^{10} + 4u^7 + 4u^6 - u^5 + 5u^4 + 7u^3 - u^2 - u + 1$
c_{11}	$(u^5 + 5u^4 + 13u^3 + 18u^2 + 16u + 8)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{10} - 4y^9 + \cdots + 877y + 841$
c_2, c_4, c_7 c_9	$(y^5 - 4y^4 + 6y^3 - 4y^2 + y - 1)^2$
c_3, c_5, c_6 c_8	$y^{10} + 8y^8 - 6y^7 + 22y^6 - 15y^5 + 39y^4 - 53y^3 + 25y^2 - 3y + 1$
c_{11}	$(y^5 + y^4 + 21y^3 + 12y^2 - 32y - 64)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.820200 + 0.152463I$ $a = -1.25990 - 0.71322I$ $b = 1.44173 + 0.78416I$	$1.73183 + 9.10410I$	$-2.74192 - 10.20249I$
$u = -0.820200 - 0.152463I$ $a = -1.25990 + 0.71322I$ $b = 1.44173 - 0.78416I$	$1.73183 - 9.10410I$	$-2.74192 + 10.20249I$
$u = 0.583652 + 1.118000I$ $a = -0.500000 + 0.957760I$ $b = -0.66223 - 1.77825I$	9.67856	$7.93446 + 0.I$
$u = 0.583652 - 1.118000I$ $a = -0.500000 - 0.957760I$ $b = -0.66223 + 1.77825I$	9.67856	$7.93446 + 0.I$
$u = -1.103430 + 0.668374I$ $a = 0.522065 - 0.172431I$ $b = 0.289027 - 0.328931I$	$-2.45878 + 1.56515I$	$-6.72531 - 0.79694I$
$u = -1.103430 - 0.668374I$ $a = 0.522065 + 0.172431I$ $b = 0.289027 + 0.328931I$	$-2.45878 - 1.56515I$	$-6.72531 + 0.79694I$
$u = 0.338542 + 0.315903I$ $a = -1.52207 - 0.17243I$ $b = -0.042586 + 1.317710I$	$-2.45878 - 1.56515I$	$-6.72531 + 0.79694I$
$u = 0.338542 - 0.315903I$ $a = -1.52207 + 0.17243I$ $b = -0.042586 - 1.317710I$	$-2.45878 + 1.56515I$	$-6.72531 - 0.79694I$
$u = 1.00143 + 1.23642I$ $a = 0.259902 - 0.713220I$ $b = 0.97405 + 2.22028I$	$1.73183 - 9.10410I$	$-2.74192 + 10.20249I$
$u = 1.00143 - 1.23642I$ $a = 0.259902 + 0.713220I$ $b = 0.97405 - 2.22028I$	$1.73183 + 9.10410I$	$-2.74192 - 10.20249I$

V.

$\boldsymbol{I_5^u = \langle u^5-u^3+u^2+b+u-1,\ -u^5+u^4+u^3-2u^2+a+2,\ u^6-u^5+2u^3-u+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -9u^5+5u^4+4u^3-14u^2-3u+5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^6 - 3y^5 + 9y^4 - 27y^3 + 37y^2 - 20y + 4$
c_2, c_4, c_7 c_9, c_{11}	$(y^3 - 2y^2 + 2y + 1)^2$
c_3, c_5, c_6 c_8	$y^6 - y^5 + 4y^4 - 4y^3 + 4y^2 - y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_5	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.915589 + 0.402116I$ $a = 0.238984 - 0.544148I$ $b = 0.437621 + 0.402116I$	-3.04743	$-7.74305 + 0.I$
$u = -0.915589 - 0.402116I$ $a = 0.238984 + 0.544148I$ $b = 0.437621 - 0.402116I$	-3.04743	$-7.74305 + 0.I$
$u = 0.510869 + 0.551075I$ $a = -1.57262 + 0.71181I$ $b = 0.334264 - 0.651746I$	$3.16865 + 8.83066I$	$2.37152 - 6.93552I$
$u = 0.510869 - 0.551075I$ $a = -1.57262 - 0.71181I$ $b = 0.334264 + 0.651746I$	$3.16865 - 8.83066I$	$2.37152 + 6.93552I$
$u = 0.904720 + 0.975923I$ $a = 0.333639 - 0.915863I$ $b = 0.72812 + 2.17874I$	$3.16865 - 8.83066I$	$2.37152 + 6.93552I$
$u = 0.904720 - 0.975923I$ $a = 0.333639 + 0.915863I$ $b = 0.72812 - 2.17874I$	$3.16865 + 8.83066I$	$2.37152 - 6.93552I$

VI. $I_6^u = \langle -u^5+2u^4+u^2+2b-3u+1,\ -u^5+3u^4-2u^3+2u^2+2a-8u+7,\ u^6-2u^5-2u^3+5u^2-2u-1\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{1}{2}u^5 - \frac{3}{2}u^4 + u^3 - u^2 + 4u - \frac{7}{2} \\ \frac{1}{2}u^5 - u^4 - \frac{1}{2}u^2 + \frac{3}{2}u - \frac{1}{2} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{3}{2}u^5 + 3u^4 - \frac{1}{2}u^3 + \frac{7}{2}u^2 - 7u + 4 \\ 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -\frac{3}{2}u^5 + 3u^4 - \frac{1}{2}u^3 + \frac{7}{2}u^2 - 7u + 5 \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^5 + 2u^4 + 2u^2 - 5u + 2 \\ u^2 - u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -2u^5 + \frac{7}{2}u^4 + \frac{11}{2}u^2 - \frac{17}{2}u + 4 \\ -\frac{1}{2}u^5 + u^4 + \frac{1}{2}u^2 - \frac{3}{2}u + \frac{1}{2} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^5 + 3u^4 - 2u^3 + 2u^2 - 7u + 7 \\ 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -3u^5 + \frac{11}{2}u^4 + \frac{15}{2}u^2 - \frac{27}{2}u + 6 \\ -\frac{1}{2}u^5 + u^4 + \frac{3}{2}u^2 - \frac{5}{2}u + \frac{1}{2} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^5 + \frac{11}{2}u^4 + \cdots - 14u + \frac{21}{2} \\ \frac{1}{2}u^4 - \frac{1}{2}u^3 - \frac{1}{2}u^2 - u + \frac{3}{2} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^5 + \frac{11}{2}u^4 + \cdots - 14u + \frac{21}{2} \\ \frac{1}{2}u^4 - \frac{1}{2}u^3 - \frac{1}{2}u^2 - u + \frac{3}{2} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -8u^5 + 14u^4 + 2u^3 + 26u^2 - 36u + 8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y-1)^6$
c_2, c_4, c_7 c_9	$(y^3-2y^2+y-1)^2$
c_3, c_5, c_6 c_8	$y^6-4y^5+2y^4-14y^3+17y^2-14y+1$
c_{11}	$(y^3+2y^2+5y-1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.881088 + 0.396954I$ $a = -0.385910 + 0.812028I$ $b = 0.400014 - 0.259730I$	$-1.71668 - 6.59895I$	$-5.08799 + 11.97592I$
$u = 0.881088 - 0.396954I$ $a = -0.385910 - 0.812028I$ $b = 0.400014 + 0.259730I$	$-1.71668 + 6.59895I$	$-5.08799 - 11.97592I$
$u = -0.758527 + 1.141820I$ $a = -0.074292 + 0.629446I$ $b = 0.69250 - 2.31173I$	$-1.71668 + 6.59895I$	$-5.08799 - 11.97592I$
$u = -0.758527 - 1.141820I$ $a = -0.074292 - 0.629446I$ $b = 0.69250 + 2.31173I$	$-1.71668 - 6.59895I$	$-5.08799 + 11.97592I$
$u = -0.280032$ $a = -4.73059$ $b = -0.966268$	1.78843	20.1760
$u = 2.03491$ $a = 0.650996$ $b = 0.781230$	1.78843	20.1760

VII. $\boldsymbol{I_7^u = \langle -1.76 \times 10^{10} u^{11} + 4.93 \times 10^{10} u^{10} + \cdots + 1.03 \times 10^{11} b - 1.12 \times 10^{10},\ 2.32 \times 10^{11} u^{11} - 4.69 \times 10^{11} u^{10} + \cdots + 1.03 \times 10^{11} a - 3.20 \times 10^{12},\ u^{12} - 2u^{11} + \cdots - 12u + 1 \rangle}$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2.25378u^{11} + 4.55182u^{10} + \cdots + 134.798u + 31.0896 \\ 0.170950u^{11} - 0.478639u^{10} + \cdots - 1.76707u + 0.108420 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 5.33449u^{11} - 10.6318u^{10} + \cdots - 331.906u - 78.9325 \\ -0.355926u^{11} + 0.917638u^{10} + \cdots + 7.76055u - 0.482769 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 4.97856u^{11} - 9.71419u^{10} + \cdots - 324.145u - 79.4152 \\ -0.355926u^{11} + 0.917638u^{10} + \cdots + 7.76055u - 0.482769 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 10.4727u^{11} - 20.4059u^{10} + \cdots - 687.945u - 168.916 \\ -0.0727736u^{11} + 0.157615u^{10} + \cdots + 1.99730u + 0.0813584 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 5.36750u^{11} - 10.6628u^{10} + \cdots - 333.969u - 79.1754 \\ -0.265808u^{11} + 0.694626u^{10} + \cdots + 5.32292u - 0.312044 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 10.7685u^{11} - 21.3803u^{10} + \cdots - 679.589u - 161.749 \\ 0.351838u^{11} - 1.17629u^{10} + \cdots - 3.06138u + 0.472073 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 37.0246u^{11} - 71.7730u^{10} + \cdots - 2435.33u - 591.123 \\ -0.190524u^{11} + 0.480988u^{10} + \cdots + 4.89160u + 0.498647 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 31.2970u^{11} - 60.7573u^{10} + \cdots - 2064.36u - 503.536 \\ 0.180314u^{11} - 0.534039u^{10} + \cdots - 2.09965u + 0.898103 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 31.2970u^{11} - 60.7573u^{10} + \cdots - 2064.36u - 503.536 \\ 0.180314u^{11} - 0.534039u^{10} + \cdots - 2.09965u + 0.898103 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$$= -\frac{120214687040}{9357920303}u^{11} + \frac{17317169680}{9357920303}u^{10} + \cdots + \frac{622019165280}{322686907}u + \frac{5213231948632}{9357920303}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^6 - 2u^5 - 3u^4 + 2u^3 - 4u^2 - 10u - 1)^2$
c_2, c_4, c_7 c_9	$u^{12} - 9u^{10} + 21u^8 - 30u^6 + 23u^4 - 8u^2 + 1$
c_3, c_5	$u^{12} - 2u^{11} + \cdots - 12u + 1$
c_6, c_8	$u^{12} + 2u^{11} + \cdots + 12u + 1$
c_{10}	$(u^6 + 2u^5 - 3u^4 - 2u^3 - 4u^2 + 10u - 1)^2$
c_{11}	$(u^6 + 4u^4 + 11u^2 - 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^6 - 10y^5 + 9y^4 - 22y^3 + 62y^2 - 92y + 1)^2$
c_2, c_4, c_7 c_9	$(y^6 - 9y^5 + 21y^4 - 30y^3 + 23y^2 - 8y + 1)^2$
c_3, c_5, c_6 c_8	$y^{12} - 48y^{11} + \cdots - 260y + 1$
c_{11}	$(y^3 + 4y^2 + 11y - 3)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_7^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.04156$ $a = 0.818175$ $b = -2.34015$	-0.403335	690.830
$u = -0.185343 + 0.681445I$ $a = 0.199845 + 0.807519I$ $b = -1.00769 - 3.18429I$	$-0.62080 + 6.33267I$	$10.5872 - 10.3937I$
$u = -0.185343 - 0.681445I$ $a = 0.199845 - 0.807519I$ $b = -1.00769 + 3.18429I$	$-0.62080 - 6.33267I$	$10.5872 + 10.3937I$
$u = -0.610652 + 0.293339I$ $a = -0.93175 - 1.43916I$ $b = 0.762152 + 1.043440I$	$-0.62080 + 6.33267I$	$10.5872 - 10.3937I$
$u = -0.610652 - 0.293339I$ $a = -0.93175 + 1.43916I$ $b = 0.762152 - 1.043440I$	$-0.62080 - 6.33267I$	$10.5872 + 10.3937I$
$u = 1.235890 + 0.607704I$ $a = 0.378372 - 0.196961I$ $b = 0.052606 + 0.384202I$	$-0.62080 - 6.33267I$	$10.5872 + 10.3937I$
$u = 1.235890 - 0.607704I$ $a = 0.378372 + 0.196961I$ $b = 0.052606 - 0.384202I$	$-0.62080 + 6.33267I$	$10.5872 - 10.3937I$
$u = -0.90547 + 1.21802I$ $a = 0.069427 + 0.762114I$ $b = 0.82828 - 2.12111I$	$-0.62080 + 6.33267I$	$10.5872 - 10.3937I$
$u = -0.90547 - 1.21802I$ $a = 0.069427 - 0.762114I$ $b = 0.82828 + 2.12111I$	$-0.62080 - 6.33267I$	$10.5872 + 10.3937I$
$u = 0.0621100$ $a = 40.5810$ $b = -0.0168748$	-0.403335	690.830

Solutions to I_7^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -2.43574$ $a = 1.03479$ $b = -0.238066$	-0.403335	690.830
$u = 6.34634$ $a = 0.134279$ $b = 7.32440$	-0.403335	690.830

VIII.
$\boldsymbol{I^u_8 = \langle -3.84\times 10^{6} u^{11} + 8.53\times 10^{6} u^{10} + \cdots + 9.62\times 10^{6} b - 1.50\times 10^{7},\ 2.17\times 10^{7} u^{11} - 6.40\times 10^{7} u^{10} + \cdots + 2.89\times 10^{7} a + 1.78\times 10^{6},\ u^{12} - 3u^{11} + \cdots + 25u^2 - 3\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.752476u^{11} + 2.21898u^{10} + \cdots - 14.0569u - 0.0617978 \\ 0.399132u^{11} - 0.886334u^{10} + \cdots + 0.905814u + 1.55750 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1.33055u^{11} + 3.75852u^{10} + \cdots - 21.8132u + 1.26455 \\ 0.474331u^{11} - 1.10281u^{10} + \cdots + 0.888146u + 1.98250 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.856218u^{11} + 2.65571u^{10} + \cdots - 20.9251u + 3.24705 \\ 0.474331u^{11} - 1.10281u^{10} + \cdots + 0.888146u + 1.98250 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1.27266u^{11} - 3.34318u^{10} + \cdots + 20.0104u - 5.67212 \\ -0.0952408u^{11} + 0.203920u^{10} + \cdots + 1.86972u + 0.223893 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1.26989u^{11} + 3.79571u^{10} + \cdots - 24.3819u + 1.52572 \\ 0.557626u^{11} - 1.21768u^{10} + \cdots - 0.352878u + 1.67943 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.481396u^{11} - 2.00064u^{10} + \cdots + 29.4914u - 5.06785 \\ -0.109216u^{11} + 0.560242u^{10} + \cdots - 1.69307u - 1.38466 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.62779u^{11} + 6.07527u^{10} + \cdots - 76.9600u + 20.5954 \\ 0.0384477u^{11} - 0.150506u^{10} + \cdots + 0.0617978u + 1.25743 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2.36787u^{11} + 7.01824u^{10} + \cdots - 62.3409u + 15.2970 \\ 0.156229u^{11} - 0.349463u^{10} + \cdots - 1.38815u + 0.476791 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2.36787u^{11} + 7.01824u^{10} + \cdots - 62.3409u + 15.2970 \\ 0.156229u^{11} - 0.349463u^{10} + \cdots - 1.38815u + 0.476791 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{3743040}{9619063}u^{11} - \frac{21556320}{9619063}u^{10} + \cdots + \frac{940282848}{9619063}u - \frac{442031262}{9619063}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^6 - 5y^5 - 4y^4 - 6y^3 - 8y^2 - 12y + 1)^2$
c_2, c_4, c_7 c_9	$(y^6 - 5y^5 + 8y^4 - 7y^3 - 3y^2 + 2y + 1)^2$
c_3, c_5, c_6 c_8	$y^{12} - 17y^{11} + \cdots - 150y + 9$
c_{11}	$(y^3 + 2y^2 + y - 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_8^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.993657$ $a=-0.814967$ $b=\ \ 1.77226$	-0.403335	-75.8160
$u=\ \ 0.749156+0.689827I$ $a=\ \ 0.512708+0.359105I$ $b=-0.13466-1.78906I$	$-0.62080+6.33267I$	$-5.09224-6.77700I$
$u=\ \ 0.749156-0.689827I$ $a=\ \ 0.512708-0.359105I$ $b=-0.13466+1.78906I$	$-0.62080-6.33267I$	$-5.09224+6.77700I$
$u=\ \ 1.063990+0.437974I$ $a=-0.096400-0.545572I$ $b=\ \ 0.371049+0.149196I$	$-0.62080-6.33267I$	$-5.09224+6.77700I$
$u=\ \ 1.063990-0.437974I$ $a=-0.096400+0.545572I$ $b=\ \ 0.371049-0.149196I$	$-0.62080+6.33267I$	$-5.09224-6.77700I$
$u=\ \ 0.592462+0.353499I$ $a=-0.95202+1.61908I$ $b=-0.126984-1.276200I$	$-0.62080-6.33267I$	$-5.09224+6.77700I$
$u=\ \ 0.592462-0.353499I$ $a=-0.95202-1.61908I$ $b=-0.126984+1.276200I$	$-0.62080+6.33267I$	$-5.09224-6.77700I$
$u=-1.06445+1.26319I$ $a=\ \ 0.155027+0.768975I$ $b=\ \ 0.63432-2.03002I$	$-0.62080+6.33267I$	$-5.09224-6.77700I$
$u=-1.06445-1.26319I$ $a=\ \ 0.155027-0.768975I$ $b=\ \ 0.63432+2.03002I$	$-0.62080-6.33267I$	$-5.09224+6.77700I$
$u=-0.287025$ $a=\ \ 6.30537$ $b=\ \ 0.313822$	-0.403335	-75.8160

Solutions to I_8^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.75765$ $a = 1.02967$ $b = -0.370859$	-0.403335	-75.8160
$u = 3.35600$ $a = 0.241298$ $b = 3.79733$	-0.403335	-75.8160

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

(i) Arc colorings

$a_3 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

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

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

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

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

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

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

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

$a_9 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$

$a_{10} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_9^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 0$ $b = 1.00000$	-3.28987	-12.0000

X. $I^u_{10} = \langle b-1,\ a+u-3,\ u^2-2u-1\rangle$

(i) Arc colorings

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

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

$$a_6 = \begin{pmatrix} 1 \\ 2u+1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u+3 \\ 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2u+4 \\ 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -2u+5 \\ 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u-3 \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2u+5 \\ 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 4u-9 \\ u-1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -3u+8 \\ -u+1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -5u+12 \\ 2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -5u+12 \\ 2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -36$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{10}	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.414214$ $a = \quad 3.41421$ $b = \quad 1.00000$	1.64493	−36.0000
$u = \quad 2.41421$ $a = \quad 0.585786$ $b = \quad 1.00000$	1.64493	−36.0000

XI. $I^u_{11} = \langle b,\ a-1,\ u-1 \rangle$

(i) Arc colorings

$a_3 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$

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

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

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

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

$a_1 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$

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

$a_{11} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$

$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_{10} = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$

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

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_{11}^u		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	1.00000		
$a =$	1.00000	1.64493	6.00000
$b =$	0		

XII. $I_{12}^{u} = \langle b - 1,\ a - 1,\ u - 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	y
c_2, c_3, c_4 c_5, c_6, c_7 c_8, c_9, c_{11}	$y - 1$
c_{10}	$y - 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_{12}		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	1.00000		
$a =$	1.00000	0	0
$b =$	1.00000		

XIII. $I^u_{13} = \langle b+1,\ a-1,\ u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y - 4$
c_2, c_3, c_4 c_5, c_6, c_7 c_8, c_9, c_{11}	$y - 1$
c_{10}	y

(vi) Complex Volumes and Cusp Shapes

Solutions to I_{13}^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 1.00000$ $b = -1.00000$	0	0

XIV. $I_1^v = \langle a,\ b+1,\ v-1 \rangle$

(i) Arc colorings

$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

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

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

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

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

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

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

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

$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$

$a_4 = \begin{pmatrix} 3 \\ 1 \end{pmatrix}$

$a_4 = \begin{pmatrix} 3 \\ 1 \end{pmatrix}$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 1.00000$ $a = 0$ $b = -1.00000$	1.64493	6.00000

XV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u-2)(u-1)^9(u+1)^2(u^6-2u^5-3u^4+2u^3-4u^2-10u-1)^2$ $\cdot(u^6-u^5-u^4+5u^3-u^2-4u+2)(u^6+u^5-2u^4+2u^3-2u^2+4u-1)^2$ $\cdot(u^{10}+10u^9+\cdots+131u+29)(u^{15}+9u^{14}+\cdots-32u-16)$ $\cdot((u^{18}-4u^{17}+\cdots+4u^2+1)^2)(u^{18}-u^{17}+\cdots+8u-1)^2$
c_2, c_4, c_7 c_9	$u(u-1)^3(u+1)(u^2-2)(u^3-u-1)^2(u^5-2u^3+u+1)^2$ $\cdot(u^6-2u^4+2u^2+1)(u^6+3u^5+2u^4-u^3-u^2-1)^2$ $\cdot(u^{12}-9u^{10}+21u^8-30u^6+23u^4-8u^2+1)$ $\cdot(u^{15}-4u^{13}+9u^{11}-2u^{10}-8u^9+7u^8+2u^7-12u^6+4u^5+9u^4-2u-2)$ $\cdot((u^{18}-8u^{16}+\cdots+2u-1)^2)(u^{36}+3u^{35}+\cdots+34u+13)$
c_3, c_5	$u(u-1)^2(u+1)^2(u^2-2u-1)(u^6-2u^5-2u^3+5u^2-2u-1)$ $\cdot(u^6-u^5+2u^3-u+1)(u^{10}+4u^7+\cdots-u+1)$ $\cdot(u^{12}-3u^{11}+\cdots+25u^2-3)(u^{12}-2u^{11}+\cdots-12u+1)$ $\cdot(u^{15}+2u^{13}+\cdots+6u^3-1)(u^{36}-10u^{35}+\cdots-6u-1)$ $\cdot(u^{36}-u^{35}+\cdots-2u+1)$
c_6, c_8	$u(u-1)^3(u+1)(u^2+2u-1)(u^6-2u^5-2u^3+5u^2-2u-1)$ $\cdot(u^6+u^5-2u^3+u+1)(u^{10}+4u^7+\cdots-u+1)$ $\cdot(u^{12}-3u^{11}+\cdots+25u^2-3)(u^{12}+2u^{11}+\cdots+12u+1)$ $\cdot(u^{15}+2u^{13}+\cdots+6u^3-1)(u^{36}-10u^{35}+\cdots-6u-1)$ $\cdot(u^{36}-u^{35}+\cdots-2u+1)$
c_{10}	$u(u-1)^{10}(u+1)(u+2)(u^6+u^5-2u^4+2u^3-2u^2+4u-1)^2$ $\cdot(u^6+u^5-u^4-5u^3-u^2+4u+2)$ $\cdot(u^6+2u^5-3u^4-2u^3-4u^2+10u-1)^2$ $\cdot(u^{10}+10u^9+\cdots+131u+29)(u^{15}+9u^{14}+\cdots-32u-16)$ $\cdot((u^{18}-4u^{17}+\cdots+4u^2+1)^2)(u^{18}-u^{17}+\cdots+8u-1)^2$
c_{11}	$u^3(u-1)^3(u+1)(u^3+u+1)^4(u^3-2u^2+3u-1)^2$ $\cdot(u^5+5u^4+13u^3+18u^2+16u+8)^2(u^6-2u^4+2u^2+1)$ $\cdot(u^6+4u^4+11u^2-3)^2(u^9-u^8+3u^7+u^6+u^5-u^4+2u^3+u+1)^4$ $\cdot(u^{15}+13u^{14}+\cdots-416u-64)(u^{18}-5u^{17}+\cdots-8u+1)^2$

XVI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y(y-4)(y-1)^{11}(y^6-10y^5+9y^4-22y^3+62y^2-92y+1)^2$ $\cdot(y^6-5y^5-4y^4-6y^3-8y^2-12y+1)^2$ $\cdot(y^6-3y^5+9y^4-27y^3+37y^2-20y+4)$ $\cdot(y^{10}-4y^9+\cdots+877y+841)(y^{15}-5y^{14}+\cdots+384y-256)$ $\cdot((y^{18}-7y^{17}+\cdots-32y+1)^2)(y^{18}+10y^{17}+\cdots+8y+1)^2$
c_2, c_4, c_7 c_9	$y(y-2)^2(y-1)^4(y^3-2y^2+y-1)^2(y^3-2y^2+2y+1)^2$ $\cdot(y^5-4y^4+6y^3-4y^2+y-1)^2$ $\cdot(y^6-9y^5+21y^4-30y^3+23y^2-8y+1)^2$ $\cdot((y^6-5y^5+\cdots+2y+1)^2)(y^{15}-8y^{14}+\cdots+4y-4)$ $\cdot((y^{18}-16y^{17}+\cdots-18y+1)^2)(y^{36}-15y^{35}+\cdots+40y+169)$
c_3, c_5, c_6 c_8	$y(y-1)^4(y^2-6y+1)(y^6-4y^5+2y^4-14y^3+17y^2-14y+1)$ $\cdot(y^6-y^5+4y^4-4y^3+4y^2-y+1)$ $\cdot(y^{10}+8y^8-6y^7+22y^6-15y^5+39y^4-53y^3+25y^2-3y+1)$ $\cdot(y^{12}-48y^{11}+\cdots-260y+1)(y^{12}-17y^{11}+\cdots-150y+9)$ $\cdot(y^{15}+4y^{14}+\cdots+12y^2-1)(y^{36}-42y^{35}+\cdots-66y+1)$ $\cdot(y^{36}-y^{35}+\cdots+28y+1)$
c_{11}	$y^3(y-1)^4(y^3-2y^2+2y+1)^2(y^3+2y^2+y-1)^4$ $\cdot(y^3+2y^2+5y-1)^2(y^3+4y^2+11y-3)^4$ $\cdot(y^5+y^4+21y^3+12y^2-32y-64)^2$ $\cdot(y^9+5y^8+13y^7+7y^6+17y^5+11y^4+4y^3+6y^2+y-1)^4$ $\cdot(y^{15}-7y^{14}+\cdots+11264y-4096)(y^{18}+3y^{17}+\cdots-8y+1)^2$