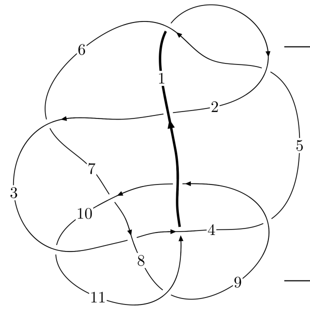
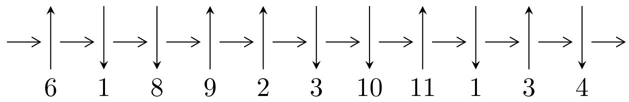
$11n_{86}$ ($K11n_{86}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -43u^9 + 25u^8 + 66u^7 - 10u^6 - 255u^5 + 76u^4 + 202u^3 + 72u^2 + 77b - 63u - 107, \\
& -200u^9 + 93u^8 + 264u^7 - 68u^6 - 1041u^5 + 255u^4 + 773u^3 + 197u^2 + 77a - 105u - 435, \\
& u^{10} - u^9 - u^8 + u^7 + 5u^6 - 4u^5 - 3u^4 + u^3 + u^2 + 2u - 1\rangle \\
I_2^u = \langle & -u^4 + u^2 + b - u - 1,\ -3u^4 - u^3 + 2u^2 + a - 2u - 3,\ u^5 - u^3 + u^2 + u - 1\rangle \\
I_3^u = \langle & 624u^{13} + 464u^{12} + \cdots + 481b - 103,\ 879u^{13} + 406u^{12} + \cdots + 481a - 2102, \\
& u^{14} + 6u^{10} - u^9 - u^8 - 4u^7 + 12u^6 - 4u^5 + 5u^4 - 10u^3 + 11u^2 - 5u + 1\rangle \\
I_4^u = \langle & u^3 - u^2 + b - u + 1,\ a,\ u^4 - u^3 - u^2 + u + 1\rangle \\
I_5^u = \langle & b + 1,\ a,\ u + 1\rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 34 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. $\boldsymbol{I_1^u = \langle -43u^9 + 25u^8 + \cdots + 77b - 107,\ -200u^9 + 93u^8 + \cdots + 77a - 435,\ u^{10} - u^9 + \cdots + 2u - 1 \rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 2.59740u^9 - 1.20779u^8 + \cdots + 1.36364u + 5.64935 \\ 0.558442u^9 - 0.324675u^8 + \cdots + 0.818182u + 1.38961 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 2.59740u^9 - 1.20779u^8 + \cdots + 0.363636u + 5.64935 \\ 0.558442u^9 - 0.324675u^8 + \cdots + 0.818182u + 1.38961 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2.63636u^9 + 1.09091u^8 + \cdots - 1.90909u - 4.90909 \\ -1.41558u^9 + 0.753247u^8 + \cdots + 0.181818u - 2.10390 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.03896u^9 - 0.883117u^8 + \cdots + 0.545455u + 4.25974 \\ 0.558442u^9 - 0.324675u^8 + \cdots + 0.818182u + 1.38961 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2.18182u^9 - 1.45455u^8 + \cdots + 2.54545u + 5.54545 \\ 0.831169u^9 - 0.506494u^8 + \cdots + 1.63636u + 2.20779 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 3.01299u^9 - 1.96104u^8 + \cdots + 4.18182u + 7.75325 \\ 0.831169u^9 - 0.506494u^8 + \cdots + 1.63636u + 2.20779 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 6.70130u^9 - 3.89610u^8 + \cdots + 4.81818u + 14.6753 \\ 2.11688u^9 - 1.64935u^8 + \cdots + 1.63636u + 4.77922 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{31}{7}u^9 - \frac{19}{7}u^8 + \cdots + 4u + \frac{76}{7} \\ 1.41558u^9 - 0.753247u^8 + \cdots + 1.81818u + 3.10390 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{31}{7}u^9 - \frac{19}{7}u^8 + \cdots + 4u + \frac{76}{7} \\ 1.41558u^9 - 0.753247u^8 + \cdots + 1.81818u + 3.10390 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{73}{11}u^9 - \frac{34}{11}u^8 - 7u^7 + \frac{18}{11}u^6 + \frac{360}{11}u^5 - \frac{95}{11}u^4 - \frac{192}{11}u^3 - \frac{68}{11}u^2 - \frac{12}{11}u + \frac{109}{11}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{10} - 5u^9 + 13u^8 - 21u^7 + 27u^6 - 32u^5 + 35u^4 - 27u^3 + 11u^2 - 3$
c_2	$u^{10} + u^9 + \cdots - 66u + 9$
c_3, c_{11}	$u^{10} - u^9 - u^8 + u^7 + 5u^6 - 4u^5 - 3u^4 + u^3 + u^2 + 2u - 1$
c_4, c_{10}	$u^{10} - 8u^8 - u^7 + 19u^6 + 4u^5 - 4u^4 - 10u^3 - 8u^2 - 3u - 1$
c_6	$u^{10} + 2u^9 + \cdots - 1236u - 471$
c_7, c_9	$u^{10} + 10u^8 + 11u^7 + 13u^6 + 54u^5 - 66u^4 - 220u^3 - 96u^2 + 13u - 1$
c_8	$u^{10} + 9u^9 + \cdots - 33u - 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{10} + y^9 + \cdots - 66y + 9$
c_2	$y^{10} + 25y^9 + \cdots - 5958y + 81$
c_3, c_{11}	$y^{10} - 3y^9 + 13y^8 - 25y^7 + 43y^6 - 48y^5 + 25y^4 - y^3 + 3y^2 - 6y + 1$
c_4, c_{10}	$y^{10} - 16y^9 + \cdots + 7y + 1$
c_6	$y^{10} + 46y^9 + \cdots - 1142418y + 221841$
c_7, c_9	$y^{10} + 20y^9 + \cdots + 23y + 1$
c_8	$y^{10} - 19y^9 + \cdots - 183y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.959690 + 0.284587I$ $a = -1.388110 - 0.012888I$ $b = -0.199305 - 0.484467I$	$-3.79026 - 3.69224I$	$-7.80243 + 4.12303I$
$u = 0.959690 - 0.284587I$ $a = -1.388110 + 0.012888I$ $b = -0.199305 + 0.484467I$	$-3.79026 + 3.69224I$	$-7.80243 - 4.12303I$
$u = -0.891654$ $a = 0.375214$ $b = -0.593341$	-1.69527	-5.20410
$u = -0.291247 + 0.679656I$ $a = -0.051370 + 0.427907I$ $b = -0.102468 + 0.538626I$	$-0.05612 + 1.78093I$	$-0.00118 - 2.91964I$
$u = -0.291247 - 0.679656I$ $a = -0.051370 - 0.427907I$ $b = -0.102468 - 0.538626I$	$-0.05612 - 1.78093I$	$-0.00118 + 2.91964I$
$u = -1.07634 + 0.95572I$ $a = 0.65860 + 1.36757I$ $b = 1.89867 - 0.06406I$	$12.08100 + 3.47973I$	$0.63239 - 2.31358I$
$u = -1.07634 - 0.95572I$ $a = 0.65860 - 1.36757I$ $b = 1.89867 + 0.06406I$	$12.08100 - 3.47973I$	$0.63239 + 2.31358I$
$u = 1.13781 + 0.99669I$ $a = -0.425016 + 1.320730I$ $b = -1.98575 + 0.43054I$	$11.8608 - 11.7195I$	$0.24253 + 5.99452I$
$u = 1.13781 - 0.99669I$ $a = -0.425016 - 1.320730I$ $b = -1.98575 - 0.43054I$	$11.8608 + 11.7195I$	$0.24253 - 5.99452I$
$u = 0.431833$ $a = 5.03658$ $b = 1.37105$	2.62770	7.06150

II.

$$\boldsymbol{I^u_2 = \langle -u^4+u^2+b-u-1,\ -3u^4-u^3+2u^2+a-2u-3,\ u^5-u^3+u^2+u-1\rangle}$$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 3u^4+u^3-2u^2+2u+3 \\ u^4-u^2+u+1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3u^4+u^3-2u^2+3u+3 \\ u^4+u^3-u^2+u+1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -4u^4-3u^3+u^2-u-6 \\ -2u^4-u-2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2u^4+u^3-u^2+u+2 \\ u^4-u^2+u+1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3u^4+2u^3-u^2+2u+4 \\ 2u^4+u^3-u^2+2u+2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 5u^4+3u^3-2u^2+4u+6 \\ 2u^4+u^3-u^2+2u+2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 9u^4+8u^3-5u^2+5u+15 \\ 3u^4+3u^3-u^2+u+6 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 8u^4+4u^3-4u^2+5u+9 \\ 3u^4+u^3-2u^2+3u+3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 8u^4+4u^3-4u^2+5u+9 \\ 3u^4+u^3-2u^2+3u+3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 - 2u^4 + 3u^3 - 3u^2 + u - 1$
c_2	$u^5 + 2u^4 - u^3 - 7u^2 - 5u - 1$
c_3, c_{11}	$u^5 - u^3 + u^2 + u - 1$
c_4, c_{10}	$u^5 + u^4 - u^3 - u^2 + 1$
c_5	$u^5 + 2u^4 + 3u^3 + 3u^2 + u + 1$
c_6	$u^5 + u^4 - 8u^3 + 7u^2 - u + 1$
c_7, c_9	$u^5 + 3u^4 + 3u^3 + 3u^2 + 2u + 1$
c_8	$u^5 + 8u^4 + 25u^3 + 40u^2 + 34u + 13$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^5 + 2y^4 - y^3 - 7y^2 - 5y - 1$
c_2	$y^5 - 6y^4 + 19y^3 - 35y^2 + 11y - 1$
c_3, c_{11}	$y^5 - 2y^4 + 3y^3 - 3y^2 + 3y - 1$
c_4, c_{10}	$y^5 - 3y^4 + 3y^3 - 3y^2 + 2y - 1$
c_6	$y^5 - 17y^4 + 48y^3 - 35y^2 - 13y - 1$
c_7, c_9	$y^5 - 3y^4 - 5y^3 - 3y^2 - 2y - 1$
c_8	$y^5 - 14y^4 + 53y^3 - 108y^2 + 116y - 169$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.699311 + 0.811268I$ $a = -0.078457 - 1.141870I$ $b = 0.609585 - 0.707177I$	$0.29233 - 3.70382I$	$-1.60688 + 5.64419I$
$u = 0.699311 - 0.811268I$ $a = -0.078457 + 1.141870I$ $b = 0.609585 + 0.707177I$	$0.29233 + 3.70382I$	$-1.60688 - 5.64419I$
$u = -1.045750 + 0.405588I$ $a = -1.14636 - 0.95711I$ $b = -0.831219 - 0.322384I$	$-3.01018 + 5.17259I$	$-5.18262 - 7.13326I$
$u = -1.045750 - 0.405588I$ $a = -1.14636 + 0.95711I$ $b = -0.831219 + 0.322384I$	$-3.01018 - 5.17259I$	$-5.18262 + 7.13326I$
$u = 0.692872$ $a = 4.44963$ $b = 1.44327$	2.14584	-10.4210

III. $I^u_3 = \langle 624u^{13} + 464u^{12} + \cdots + 481b - 103,\ 879u^{13} + 406u^{12} + \cdots + 481a - 2102,\ u^{14} + 6u^{10} + \cdots - 5u + 1\rangle$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.82744u^{13} - 0.844075u^{12} + \cdots - 14.1351u + 4.37006 \\ -1.29730u^{13} - 0.964657u^{12} + \cdots - 5.52807u + 0.214137 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{13} - 6u^9 + u^8 + u^7 + 4u^6 - 12u^5 + 4u^4 - 5u^3 + 10u^2 - 11u + 5 \\ -0.827443u^{13} - 0.844075u^{12} + \cdots - 2.13514u - 0.629938 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.629938u^{13} + 0.827443u^{12} + \cdots - 10.7069u + 6.28482 \\ -0.871102u^{13} - 0.207900u^{12} + \cdots - 7.56341u + 1.53222 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.530146u^{13} + 0.120582u^{12} + \cdots - 8.60707u + 4.15593 \\ -1.29730u^{13} - 0.964657u^{12} + \cdots - 5.52807u + 0.214137 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.538462u^{12} + 0.153846u^{11} + \cdots - 6.69231u + 3.61538 \\ -0.787942u^{13} - 1.07900u^{12} + \cdots - 0.403326u - 0.754678 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.787942u^{13} - 0.540541u^{12} + \cdots - 7.09563u + 2.86071 \\ -0.787942u^{13} - 1.07900u^{12} + \cdots - 0.403326u - 0.754678 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 3.86694u^{13} + 0.916840u^{12} + \cdots + 28.3285u - 6.57173 \\ -1.28690u^{13} - 1.23701u^{12} + \cdots - 3.44075u + 0.812890 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.50728u^{13} - 1.50936u^{12} + \cdots - 7.66112u + 1.18087 \\ -0.719335u^{13} - 0.968815u^{12} + \cdots + 1.43451u - 1.67983 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.50728u^{13} - 1.50936u^{12} + \cdots - 7.66112u + 1.18087 \\ -0.719335u^{13} - 0.968815u^{12} + \cdots + 1.43451u - 1.67983 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{3807}{481}u^{13} - \frac{317}{481}u^{12} + \cdots + \frac{38069}{481}u - \frac{12692}{481}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^7 + 2u^6 + 2u^5 - u^2 - 2u - 1)^2$
c_2	$(u^7 + 4u^5 - 4u^3 - u^2 + 2u - 1)^2$
c_3, c_{11}	$u^{14} + 6u^{10} - u^9 - u^8 - 4u^7 + 12u^6 - 4u^5 + 5u^4 - 10u^3 + 11u^2 - 5u + 1$
c_4, c_{10}	$u^{14} - 10u^{12} + \cdots + 143u + 43$
c_6	$(u^7 - 2u^6 + 10u^5 + 8u^4 - 18u^3 - 39u^2 - 22u - 5)^2$
c_7, c_9	$u^{14} - 5u^{13} + \cdots - 198u + 121$
c_8	$(u^7 - 3u^6 + 2u^5 + 5u^4 - 9u^3 + u^2 + 6u - 4)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^7 + 4y^5 - 4y^3 - y^2 + 2y - 1)^2$
c_2	$(y^7 + 8y^6 + 8y^5 - 28y^4 + 32y^3 - 17y^2 + 2y - 1)^2$
c_3, c_{11}	$y^{14} + 12y^{12} + \cdots - 3y + 1$
c_4, c_{10}	$y^{14} - 20y^{13} + \cdots - 12623y + 1849$
c_6	$(y^7 + 16y^6 + 96y^5 - 624y^4 + 488y^3 - 649y^2 + 94y - 25)^2$
c_7, c_9	$y^{14} + 23y^{13} + \cdots - 22264y + 14641$
c_8	$(y^7 - 5y^6 + 16y^5 - 43y^4 + 71y^3 - 69y^2 + 44y - 16)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.872006 + 0.599247I$ $a = 0.26301 - 1.49380I$ $b = 1.15078 - 1.28311I$	$1.69011 - 4.26740I$	$3.53857 + 7.16930I$
$u = 0.872006 - 0.599247I$ $a = 0.26301 + 1.49380I$ $b = 1.15078 + 1.28311I$	$1.69011 + 4.26740I$	$3.53857 - 7.16930I$
$u = -0.515925 + 0.958517I$ $a = 0.43660 - 1.40817I$ $b = -0.805651 - 0.112130I$	$1.69011 + 4.26740I$	$3.53857 - 7.16930I$
$u = -0.515925 - 0.958517I$ $a = 0.43660 + 1.40817I$ $b = -0.805651 + 0.112130I$	$1.69011 - 4.26740I$	$3.53857 + 7.16930I$
$u = 0.455596 + 0.508546I$ $a = 1.43288 - 1.59941I$ $b = 1.123580 + 0.237077I$	2.45915	$4.25058 + 0.I$
$u = 0.455596 - 0.508546I$ $a = 1.43288 + 1.59941I$ $b = 1.123580 - 0.237077I$	2.45915	$4.25058 + 0.I$
$u = -1.185390 + 0.692372I$ $a = -0.269101 - 0.619577I$ $b = -0.906225 - 0.384044I$	$-1.50295 + 3.09849I$	$-4.37162 - 6.44758I$
$u = -1.185390 - 0.692372I$ $a = -0.269101 + 0.619577I$ $b = -0.906225 + 0.384044I$	$-1.50295 - 3.09849I$	$-4.37162 + 6.44758I$
$u = -0.933345 + 1.046640I$ $a = 0.472546 + 0.634897I$ $b = 2.08158 + 0.10145I$	$12.56520 + 3.87242I$	$1.20776 - 2.37795I$
$u = -0.933345 - 1.046640I$ $a = 0.472546 - 0.634897I$ $b = 2.08158 - 0.10145I$	$12.56520 - 3.87242I$	$1.20776 + 2.37795I$

Solutions to I^u_3	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.94715 + 1.16711I$ $a = -0.514111 + 0.530046I$ $b = -1.86610 - 0.33648I$	$12.56520 + 3.87242I$	$1.20776 - 2.37795I$
$u = 0.94715 - 1.16711I$ $a = -0.514111 - 0.530046I$ $b = -1.86610 + 0.33648I$	$12.56520 - 3.87242I$	$1.20776 + 2.37795I$
$u = 0.359911 + 0.252178I$ $a = 0.67818 - 1.99812I$ $b = -0.777963 - 0.701026I$	$-1.50295 - 3.09849I$	$-4.37162 + 6.44758I$
$u = 0.359911 - 0.252178I$ $a = 0.67818 + 1.99812I$ $b = -0.777963 + 0.701026I$	$-1.50295 + 3.09849I$	$-4.37162 - 6.44758I$

IV. $\boldsymbol{I_4^u = \langle u^3 - u^2 + b - u + 1,\ a,\ u^4 - u^3 - u^2 + u + 1 \rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^3 - u^2 - 3$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.692440 + 0.318148I$ $a = 0$ $b = -1.192440 - 0.547877I$	$-1.64493 - 2.02988I$	$-3.50000 + 0.86603I$
$u = -0.692440 - 0.318148I$ $a = 0$ $b = -1.192440 + 0.547877I$	$-1.64493 + 2.02988I$	$-3.50000 - 0.86603I$
$u = 1.192440 + 0.547877I$ $a = 0$ $b = 0.692440 - 0.318148I$	$-1.64493 - 2.02988I$	$-3.50000 + 0.86603I$
$u = 1.192440 - 0.547877I$ $a = 0$ $b = 0.692440 + 0.318148I$	$-1.64493 + 2.02988I$	$-3.50000 - 0.86603I$

V. $I_5^u = \langle b+1,\ a,\ u+1 \rangle$

(i) Arc colorings

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

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

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

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

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

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

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

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

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

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

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

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

(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_5 c_6, c_8	u
c_3, c_4, c_7 c_9, c_{10}, c_{11}	$u + 1$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 0$ $b = -1.00000$	-1.64493	-6.00000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u^2+u+1)^2(u^5-2u^4+3u^3-3u^2+u-1)$ $\cdot(u^7+2u^6+2u^5-u^2-2u-1)^2$ $\cdot(u^{10}-5u^9+13u^8-21u^7+27u^6-32u^5+35u^4-27u^3+11u^2-3)$
c_2	$u(u^2+u+1)^2(u^5+2u^4-u^3-7u^2-5u-1)$ $\cdot((u^7+4u^5-4u^3-u^2+2u-1)^2)(u^{10}+u^9+\cdots-66u+9)$
c_3, c_{11}	$(u+1)(u^4-u^3-u^2+u+1)(u^5-u^3+u^2+u-1)$ $\cdot(u^{10}-u^9-u^8+u^7+5u^6-4u^5-3u^4+u^3+u^2+2u-1)$ $\cdot(u^{14}+6u^{10}-u^9-u^8-4u^7+12u^6-4u^5+5u^4-10u^3+11u^2-5u+1)$
c_4, c_{10}	$(u+1)(u^4-u^3-u^2+u+1)(u^5+u^4-u^3-u^2+1)$ $\cdot(u^{10}-8u^8-u^7+19u^6+4u^5-4u^4-10u^3-8u^2-3u-1)$ $\cdot(u^{14}-10u^{12}+\cdots+143u+43)$
c_5	$u(u^2-u+1)^2(u^5+2u^4+3u^3+3u^2+u+1)$ $\cdot(u^7+2u^6+2u^5-u^2-2u-1)^2$ $\cdot(u^{10}-5u^9+13u^8-21u^7+27u^6-32u^5+35u^4-27u^3+11u^2-3)$
c_6	$u(u^2+u+1)^2(u^5+u^4-8u^3+7u^2-u+1)$ $\cdot(u^7-2u^6+10u^5+8u^4-18u^3-39u^2-22u-5)^2$ $\cdot(u^{10}+2u^9+\cdots-1236u-471)$
c_7, c_9	$(u-1)^4(u+1)(u^5+3u^4+3u^3+3u^2+2u+1)$ $\cdot(u^{10}+10u^8+11u^7+13u^6+54u^5-66u^4-220u^3-96u^2+13u-1)$ $\cdot(u^{14}-5u^{13}+\cdots-198u+121)$
c_8	$u^5(u^5+8u^4+25u^3+40u^2+34u+13)$ $\cdot(u^7-3u^6+2u^5+5u^4-9u^3+u^2+6u-4)^2$ $\cdot(u^{10}+9u^9+\cdots-33u-3)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y(y^2+y+1)^2(y^5+2y^4-y^3-7y^2-5y-1)$ $\cdot((y^7+4y^5-4y^3-y^2+2y-1)^2)(y^{10}+y^9+\cdots-66y+9)$
c_2	$y(y^2+y+1)^2(y^5-6y^4+19y^3-35y^2+11y-1)$ $\cdot(y^7+8y^6+8y^5-28y^4+32y^3-17y^2+2y-1)^2$ $\cdot(y^{10}+25y^9+\cdots-5958y+81)$
c_3, c_{11}	$(y-1)(y^4-3y^3+5y^2-3y+1)(y^5-2y^4+3y^3-3y^2+3y-1)$ $\cdot(y^{10}-3y^9+13y^8-25y^7+43y^6-48y^5+25y^4-y^3+3y^2-6y+1)$ $\cdot(y^{14}+12y^{12}+\cdots-3y+1)$
c_4, c_{10}	$(y-1)(y^4-3y^3+5y^2-3y+1)(y^5-3y^4+3y^3-3y^2+2y-1)$ $\cdot(y^{10}-16y^9+\cdots+7y+1)(y^{14}-20y^{13}+\cdots-12623y+1849)$
c_6	$y(y^2+y+1)^2(y^5-17y^4+48y^3-35y^2-13y-1)$ $\cdot(y^7+16y^6+96y^5-624y^4+488y^3-649y^2+94y-25)^2$ $\cdot(y^{10}+46y^9+\cdots-1142418y+221841)$
c_7, c_9	$((y-1)^5)(y^5-3y^4+\cdots-2y-1)(y^{10}+20y^9+\cdots+23y+1)$ $\cdot(y^{14}+23y^{13}+\cdots-22264y+14641)$
c_8	$y^5(y^5-14y^4+53y^3-108y^2+116y-169)$ $\cdot(y^7-5y^6+16y^5-43y^4+71y^3-69y^2+44y-16)^2$ $\cdot(y^{10}-19y^9+\cdots-183y+9)$