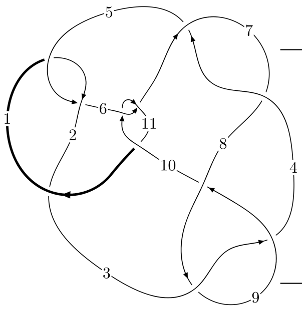
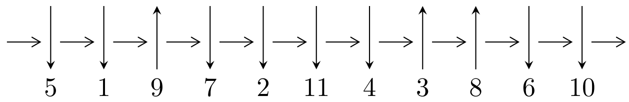
$11a_{134}$ ($K11a_{134}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -2u^{27} - 5u^{26} + \cdots + b - 5,\ -5u^{27} - 11u^{26} + \cdots + 2a - 10,\ u^{28} + 3u^{27} + \cdots + 6u + 2\rangle$$
$$I_2^u = \langle 2u^{19}a + 292u^{19} + \cdots - 19a + 450,\ -2u^{19}a + u^{19} + \cdots - 4a + 1,\ u^{20} - u^{19} + \cdots + 2u - 1\rangle$$
$$I_3^u = \langle u^3 + b - u - 1,\ u^3 + 2u^2 + 2a - 4,\ u^4 - 2u^2 + 2\rangle$$

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

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 73 representations.

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

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

I. $I_1^u = \langle -2u^{27}-5u^{26}+\cdots+b-5,\ -5u^{27}-11u^{26}+\cdots+2a-10,\ u^{28}+3u^{27}+\cdots+6u+2\rangle$

(i) Arc colorings

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

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

$$a_1 = \begin{pmatrix} \frac{5}{2}u^{27} + \frac{11}{2}u^{26} + \cdots + 11u + 5 \\ 2u^{27} + 5u^{26} + \cdots + 11u + 5 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -\frac{3}{2}u^{27} - \frac{7}{2}u^{26} + \cdots - 7u - 2 \\ -u^{27} - 3u^{26} + \cdots - 7u - 3 \end{pmatrix}$$

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

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

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

$$a_5 = \begin{pmatrix} u^6 - u^4 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{3}{2}u^{27} + \frac{7}{2}u^{26} + \cdots + 7u + 3 \\ u^{27} + 3u^{26} + \cdots + 6u + 3 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{3}{2}u^{27} + \frac{7}{2}u^{26} + \cdots + 7u + 3 \\ -u^{27} - 2u^{26} + \cdots - 3u - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{3}{2}u^{27} + \frac{7}{2}u^{26} + \cdots + 7u + 3 \\ -u^{27} - 2u^{26} + \cdots - 3u - 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 16u^{27} + 34u^{26} - 80u^{25} - 254u^{24} + 90u^{23} + 816u^{22} + 388u^{21} - 1304u^{20} - 1582u^{19} + 636u^{18} + 2460u^{17} + 1314u^{16} - 1448u^{15} - 2534u^{14} - 826u^{13} + 1418u^{12} + 1758u^{11} + 426u^{10} - 722u^9 - 752u^8 - 194u^7 + 132u^6 + 96u^5 - 4u^4 + 10u^3 + 68u^2 + 70u + 24$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_{10}	$u^{28} + u^{27} + \cdots - 5u^2 + 1$
c_2, c_{11}	$u^{28} + 11u^{27} + \cdots + 10u + 1$
c_3, c_8	$u^{28} - 3u^{27} + \cdots - 6u + 2$
c_4, c_7	$u^{28} - 9u^{27} + \cdots - 118u + 14$
c_9	$u^{28} - 15u^{27} + \cdots - 4u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_{10}	$y^{28} - 11y^{27} + \cdots - 10y + 1$
c_2, c_{11}	$y^{28} + 21y^{27} + \cdots - 6y + 1$
c_3, c_8	$y^{28} - 15y^{27} + \cdots - 4y + 4$
c_4, c_7	$y^{28} + 21y^{27} + \cdots + 2092y + 196$
c_9	$y^{28} - 3y^{27} + \cdots + 112y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.921184+0.300728I$ $a=\ \ 0.870295-0.372461I$ $b=\ \ 0.659106-0.511462I$	$1.56197-1.13269I$	$1.72628+0.97911I$
$u=-0.921184-0.300728I$ $a=\ \ 0.870295+0.372461I$ $b=\ \ 0.659106+0.511462I$	$1.56197+1.13269I$	$1.72628-0.97911I$
$u=-0.879043+0.588894I$ $a=-1.46570+0.82867I$ $b=-0.651267+0.638133I$	$-2.48501-9.60327I$	$-7.71691+9.77284I$
$u=-0.879043-0.588894I$ $a=-1.46570-0.82867I$ $b=-0.651267-0.638133I$	$-2.48501+9.60327I$	$-7.71691-9.77284I$
$u=-0.644981+0.626187I$ $a=\ \ 0.089635+0.895732I$ $b=-0.092830+1.067970I$	$-3.15613+4.86238I$	$-9.07167-4.07725I$
$u=-0.644981-0.626187I$ $a=\ \ 0.089635-0.895732I$ $b=-0.092830-1.067970I$	$-3.15613-4.86238I$	$-9.07167+4.07725I$
$u=\ \ 1.099790+0.120657I$ $a=\ \ 0.57327-1.71129I$ $b=\ \ 0.677548-0.714007I$	$2.55286+5.06128I$	$-0.17487-6.03485I$
$u=\ \ 1.099790-0.120657I$ $a=\ \ 0.57327+1.71129I$ $b=\ \ 0.677548+0.714007I$	$2.55286-5.06128I$	$-0.17487+6.03485I$
$u=-0.158971+0.833066I$ $a=-0.681108-0.773177I$ $b=-0.64725+2.19051I$	$1.27438+10.50480I$	$-6.28570-6.88896I$
$u=-0.158971-0.833066I$ $a=-0.681108+0.773177I$ $b=-0.64725-2.19051I$	$1.27438-10.50480I$	$-6.28570+6.88896I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.050730 + 0.482260I$ $a = 0.437094 - 0.465500I$ $b = 0.469489 + 0.315915I$	$0.63188 + 4.55606I$	$-2.14668 - 8.40653I$
$u = 1.050730 - 0.482260I$ $a = 0.437094 + 0.465500I$ $b = 0.469489 - 0.315915I$	$0.63188 - 4.55606I$	$-2.14668 + 8.40653I$
$u = -0.045051 + 0.816095I$ $a = 0.601069 + 0.545123I$ $b = -0.048727 - 1.403620I$	$4.78070 - 0.80383I$	$-1.62038 + 2.30991I$
$u = -0.045051 - 0.816095I$ $a = 0.601069 - 0.545123I$ $b = -0.048727 + 1.403620I$	$4.78070 + 0.80383I$	$-1.62038 - 2.30991I$
$u = -1.083610 + 0.529736I$ $a = 1.44141 + 0.49547I$ $b = 1.244770 - 0.462759I$	$0.11867 - 1.62470I$	$-4.25246 - 1.50082I$
$u = -1.083610 - 0.529736I$ $a = 1.44141 - 0.49547I$ $b = 1.244770 + 0.462759I$	$0.11867 + 1.62470I$	$-4.25246 + 1.50082I$
$u = -0.362452 + 0.684626I$ $a = 0.114239 - 0.531482I$ $b = -0.940476 - 0.787619I$	$-1.97520 - 3.04297I$	$-7.88705 + 5.30670I$
$u = -0.362452 - 0.684626I$ $a = 0.114239 + 0.531482I$ $b = -0.940476 + 0.787619I$	$-1.97520 + 3.04297I$	$-7.88705 - 5.30670I$
$u = 1.228580 + 0.361628I$ $a = 1.30002 + 1.89665I$ $b = -0.70865 + 2.23120I$	$5.53046 - 6.50130I$	$-1.52112 + 3.99395I$
$u = 1.228580 - 0.361628I$ $a = 1.30002 - 1.89665I$ $b = -0.70865 - 2.23120I$	$5.53046 + 6.50130I$	$-1.52112 - 3.99395I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.223330 + 0.431243I$ $a = -0.56938 - 1.41568I$ $b = 1.03679 - 1.32323I$	$8.56164 + 5.19775I$	$1.77174 - 5.54191I$
$u = 1.223330 - 0.431243I$ $a = -0.56938 + 1.41568I$ $b = 1.03679 + 1.32323I$	$8.56164 - 5.19775I$	$1.77174 + 5.54191I$
$u = -1.213290 + 0.476726I$ $a = 0.99905 - 1.70279I$ $b = -0.29155 - 2.27808I$	$8.23527 - 3.85685I$	$1.62083 + 1.19155I$
$u = -1.213290 - 0.476726I$ $a = 0.99905 + 1.70279I$ $b = -0.29155 + 2.27808I$	$8.23527 + 3.85685I$	$1.62083 - 1.19155I$
$u = -1.200190 + 0.525957I$ $a = -1.20643 + 2.71163I$ $b = 1.07784 + 3.13954I$	$4.3694 - 15.4841I$	$-3.32553 + 9.90334I$
$u = -1.200190 - 0.525957I$ $a = -1.20643 - 2.71163I$ $b = 1.07784 - 3.13954I$	$4.3694 + 15.4841I$	$-3.32553 - 9.90334I$
$u = 0.406338 + 0.510758I$ $a = 0.496544 - 0.118248I$ $b = -0.284789 + 0.096942I$	$-1.214540 - 0.443734I$	$-7.11648 + 2.03107I$
$u = 0.406338 - 0.510758I$ $a = 0.496544 + 0.118248I$ $b = -0.284789 - 0.096942I$	$-1.214540 + 0.443734I$	$-7.11648 - 2.03107I$

II. $I_2^u = \langle 2u^{19}a + 292u^{19} + \cdots - 19a + 450,\ -2u^{19}a + u^{19} + \cdots - 4a + 1,\ u^{20} - u^{19} + \cdots + 2u - 1\rangle$

(i) Arc colorings

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

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

$$a_1 = \begin{pmatrix} a \\ -0.00496278au^{19} - 0.724566u^{19} + \cdots + 0.0471464a - 1.11663 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.275434au^{19} + 0.213400u^{19} + \cdots + 0.883375a + 0.972705 \\ 0.449132au^{19} - 0.426799u^{19} + \cdots + 0.233251a - 0.945409 \end{pmatrix}$$

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

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

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

$$a_5 = \begin{pmatrix} u^6 - u^4 + 1 \\ u^6 - 2u^4 + u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.00496278au^{19} + 0.275434u^{19} + \cdots + 1.04715a - 0.116625 \\ 0.00496278au^{19} - 0.275434u^{19} + \cdots - 0.0471464a - 0.883375 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.00496278au^{19} + 0.275434u^{19} + \cdots + 1.04715a - 0.116625 \\ -0.0521092au^{19} + 1.39206u^{19} + \cdots - 0.00496278a + 1.27543 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.00496278au^{19} + 0.275434u^{19} + \cdots + 1.04715a - 0.116625 \\ -0.0521092au^{19} + 1.39206u^{19} + \cdots - 0.00496278a + 1.27543 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^{19} - 24u^{17} + 4u^{16} + 64u^{15} - 20u^{14} - 84u^{13} + 44u^{12} + 36u^{11} - 44u^{10} + 44u^9 + 8u^8 - 60u^7 + 24u^6 + 16u^5 - 16u^4 + 12u^3 - 8u + 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_{10}	$u^{40} + u^{39} + \cdots - 8u - 5$
c_2, c_{11}	$u^{40} + 21u^{39} + \cdots + 224u + 25$
c_3, c_8	$(u^{20} + u^{19} + \cdots - 2u - 1)^2$
c_4, c_7	$(u^{20} + 3u^{19} + \cdots + 12u + 1)^2$
c_9	$(u^{20} - 11u^{19} + \cdots - 2u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_{10}	$y^{40} - 21y^{39} + \cdots - 224y + 25$
c_2, c_{11}	$y^{40} - 5y^{39} + \cdots + 10824y + 625$
c_3, c_8	$(y^{20} - 11y^{19} + \cdots - 2y + 1)^2$
c_4, c_7	$(y^{20} + 17y^{19} + \cdots - 62y + 1)^2$
c_9	$(y^{20} - 3y^{19} + \cdots - 6y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.912041 + 0.514968I$ $a = 1.202430 + 0.262634I$ $b = 0.790032 + 0.864705I$	$-0.30488 + 4.84109I$	$-4.36837 - 6.37981I$
$u = 0.912041 + 0.514968I$ $a = -0.863351 - 1.079300I$ $b = -0.211896 - 0.497080I$	$-0.30488 + 4.84109I$	$-4.36837 - 6.37981I$
$u = 0.912041 - 0.514968I$ $a = 1.202430 - 0.262634I$ $b = 0.790032 - 0.864705I$	$-0.30488 - 4.84109I$	$-4.36837 + 6.37981I$
$u = 0.912041 - 0.514968I$ $a = -0.863351 + 1.079300I$ $b = -0.211896 + 0.497080I$	$-0.30488 - 4.84109I$	$-4.36837 + 6.37981I$
$u = -1.06181$ $a = 0.56924 + 1.35366I$ $b = 0.606732 + 0.596965I$	3.24334	1.89980
$u = -1.06181$ $a = 0.56924 - 1.35366I$ $b = 0.606732 - 0.596965I$	3.24334	1.89980
$u = -0.774874 + 0.460321I$ $a = -0.561614 + 0.452611I$ $b = -1.18361 + 1.19079I$	$-4.54605 - 1.94645I$	$-10.94680 + 4.81876I$
$u = -0.774874 + 0.460321I$ $a = -1.46137 + 2.24925I$ $b = -0.021165 + 1.201370I$	$-4.54605 - 1.94645I$	$-10.94680 + 4.81876I$
$u = -0.774874 - 0.460321I$ $a = -0.561614 - 0.452611I$ $b = -1.18361 - 1.19079I$	$-4.54605 + 1.94645I$	$-10.94680 - 4.81876I$
$u = -0.774874 - 0.460321I$ $a = -1.46137 - 2.24925I$ $b = -0.021165 - 1.201370I$	$-4.54605 + 1.94645I$	$-10.94680 - 4.81876I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.113113 + 0.821783I$ $a = -0.299059 + 0.841825I$ $b = -0.56052 - 2.00946I$	$3.49387 - 4.79919I$	$-3.30190 + 3.09464I$
$u = 0.113113 + 0.821783I$ $a = 0.772001 - 0.434810I$ $b = 0.210069 + 1.180080I$	$3.49387 - 4.79919I$	$-3.30190 + 3.09464I$
$u = 0.113113 - 0.821783I$ $a = -0.299059 - 0.841825I$ $b = -0.56052 + 2.00946I$	$3.49387 + 4.79919I$	$-3.30190 - 3.09464I$
$u = 0.113113 - 0.821783I$ $a = 0.772001 + 0.434810I$ $b = 0.210069 - 1.180080I$	$3.49387 + 4.79919I$	$-3.30190 - 3.09464I$
$u = 1.170970 + 0.421653I$ $a = 1.23567 - 1.48439I$ $b = 1.257140 - 0.347565I$	$1.14846 + 2.14390I$	$-2.54408 - 0.24308I$
$u = 1.170970 + 0.421653I$ $a = 1.58784 + 1.85840I$ $b = -0.32685 + 3.00361I$	$1.14846 + 2.14390I$	$-2.54408 - 0.24308I$
$u = 1.170970 - 0.421653I$ $a = 1.23567 + 1.48439I$ $b = 1.257140 + 0.347565I$	$1.14846 - 2.14390I$	$-2.54408 + 0.24308I$
$u = 1.170970 - 0.421653I$ $a = 1.58784 - 1.85840I$ $b = -0.32685 - 3.00361I$	$1.14846 - 2.14390I$	$-2.54408 + 0.24308I$
$u = 0.529602 + 0.535861I$ $a = 0.677079 + 0.411101I$ $b = -0.172938 + 0.721517I$	$-1.34713 - 0.58469I$	$-6.79795 + 0.00910I$
$u = 0.529602 + 0.535861I$ $a = 0.217669 - 0.460034I$ $b = -0.330007 - 0.464624I$	$-1.34713 - 0.58469I$	$-6.79795 + 0.00910I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.529602 - 0.535861I$ $a = 0.677079 - 0.411101I$ $b = -0.172938 - 0.721517I$	$-1.34713 + 0.58469I$	$-6.79795 - 0.00910I$
$u = 0.529602 - 0.535861I$ $a = 0.217669 + 0.460034I$ $b = -0.330007 + 0.464624I$	$-1.34713 + 0.58469I$	$-6.79795 - 0.00910I$
$u = 0.733657$ $a = -0.0310510$ $b = -1.32411$	-2.31303	-1.06120
$u = 0.733657$ $a = 3.26976$ $b = 1.25419$	-2.31303	-1.06120
$u = -1.174860 + 0.481002I$ $a = 1.53410 + 1.25489I$ $b = 1.46261 + 0.11524I$	$0.72067 - 6.27316I$	$-3.89985 + 6.54347I$
$u = -1.174860 + 0.481002I$ $a = -0.21958 + 2.77549I$ $b = 2.31326 + 2.48708I$	$0.72067 - 6.27316I$	$-3.89985 + 6.54347I$
$u = -1.174860 - 0.481002I$ $a = 1.53410 - 1.25489I$ $b = 1.46261 - 0.11524I$	$0.72067 + 6.27316I$	$-3.89985 - 6.54347I$
$u = -1.174860 - 0.481002I$ $a = -0.21958 - 2.77549I$ $b = 2.31326 - 2.48708I$	$0.72067 + 6.27316I$	$-3.89985 - 6.54347I$
$u = -0.092790 + 0.716473I$ $a = -0.305987 - 0.163469I$ $b = -1.46800 - 0.22850I$	$-2.37392 + 1.80448I$	$-7.17537 - 3.70058I$
$u = -0.092790 + 0.716473I$ $a = 0.24857 - 1.73836I$ $b = -0.95298 + 1.64118I$	$-2.37392 + 1.80448I$	$-7.17537 - 3.70058I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.092790-0.716473I$ $a=-0.305987+0.163469I$ $b=-1.46800+0.22850I$	$-2.37392-1.80448I$	$-7.17537+3.70058I$
$u=-0.092790-0.716473I$ $a=\ \ 0.24857+1.73836I$ $b=-0.95298-1.64118I$	$-2.37392-1.80448I$	$-7.17537+3.70058I$
$u=-1.224930+0.393654I$ $a=-0.512370+0.914068I$ $b=\ \ 0.812344+0.856039I$	$7.52808+0.63661I$	$0.960350+0.169887I$
$u=-1.224930+0.393654I$ $a=\ \ 1.29904-1.92814I$ $b=-0.59511-2.39970I$	$7.52808+0.63661I$	$0.960350+0.169887I$
$u=-1.224930-0.393654I$ $a=-0.512370-0.914068I$ $b=\ \ 0.812344-0.856039I$	$7.52808-0.63661I$	$0.960350-0.169887I$
$u=-1.224930-0.393654I$ $a=\ \ 1.29904+1.92814I$ $b=-0.59511+2.39970I$	$7.52808-0.63661I$	$0.960350-0.169887I$
$u=\ \ 1.205800+0.505812I$ $a=\ \ 0.75323+1.60895I$ $b=-0.32838+2.10011I$	$6.73027+9.64430I$	$-0.34532-6.20543I$
$u=\ \ 1.205800+0.505812I$ $a=-0.99290-2.52542I$ $b=\ \ 1.23423-2.75984I$	$6.73027+9.64430I$	$-0.34532-6.20543I$
$u=\ \ 1.205800-0.505812I$ $a=\ \ 0.75323-1.60895I$ $b=-0.32838-2.10011I$	$6.73027-9.64430I$	$-0.34532+6.20543I$
$u=\ \ 1.205800-0.505812I$ $a=-0.99290+2.52542I$ $b=\ \ 1.23423+2.75984I$	$6.73027-9.64430I$	$-0.34532+6.20543I$

III. $I_3^u = \langle u^3 + b - u - 1,\ u^3 + 2u^2 + 2a - 4,\ u^4 - 2u^2 + 2\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.098680 + 0.455090I$ $a = 0.67820 - 1.77689I$ $b = 1.45509 - 1.09868I$	$-0.82247 + 3.66386I$	$-8.00000 - 4.00000I$
$u = 1.098680 - 0.455090I$ $a = 0.67820 + 1.77689I$ $b = 1.45509 + 1.09868I$	$-0.82247 - 3.66386I$	$-8.00000 + 4.00000I$
$u = -1.098680 + 0.455090I$ $a = 1.321800 + 0.223113I$ $b = 0.544910 - 1.098680I$	$-0.82247 - 3.66386I$	$-8.00000 + 4.00000I$
$u = -1.098680 - 0.455090I$ $a = 1.321800 - 0.223113I$ $b = 0.544910 + 1.098680I$	$-0.82247 + 3.66386I$	$-8.00000 - 4.00000I$

IV. $\boldsymbol{I_1^v = \langle a,\ b+1,\ v+1 \rangle}$

(i) Arc colorings

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

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

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

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

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

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

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

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

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

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = \quad 0$ $b = -1.00000$	-3.28987	-12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u-1)(u+1)^4(u^{28}+u^{27}+\cdots-5u^2+1)(u^{40}+u^{39}+\cdots-8u-5)$
c_2, c_{11}	$((u+1)^5)(u^{28}+11u^{27}+\cdots+10u+1)(u^{40}+21u^{39}+\cdots+224u+25)$
c_3, c_8	$u(u^4-2u^2+2)(u^{20}+u^{19}+\cdots-2u-1)^2(u^{28}-3u^{27}+\cdots-6u+2)$
c_4, c_7	$u(u^4+2u^2+2)(u^{20}+3u^{19}+\cdots+12u+1)^2$ $\cdot(u^{28}-9u^{27}+\cdots-118u+14)$
c_5, c_{10}	$((u-1)^4)(u+1)(u^{28}+u^{27}+\cdots-5u^2+1)(u^{40}+u^{39}+\cdots-8u-5)$
c_9	$u(u^2-2u+2)^2(u^{20}-11u^{19}+\cdots-2u+1)^2$ $\cdot(u^{28}-15u^{27}+\cdots-4u+4)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_6 c_{10}	$((y-1)^5)(y^{28}-11y^{27}+\cdots-10y+1)(y^{40}-21y^{39}+\cdots-224y+25)$
c_2, c_{11}	$((y-1)^5)(y^{28}+21y^{27}+\cdots-6y+1)(y^{40}-5y^{39}+\cdots+10824y+625)$
c_3, c_8	$y(y^2-2y+2)^2(y^{20}-11y^{19}+\cdots-2y+1)^2$ $\cdot(y^{28}-15y^{27}+\cdots-4y+4)$
c_4, c_7	$y(y^2+2y+2)^2(y^{20}+17y^{19}+\cdots-62y+1)^2$ $\cdot(y^{28}+21y^{27}+\cdots+2092y+196)$
c_9	$y(y^2+4)^2(y^{20}-3y^{19}+\cdots-6y+1)^2(y^{28}-3y^{27}+\cdots+112y+16)$