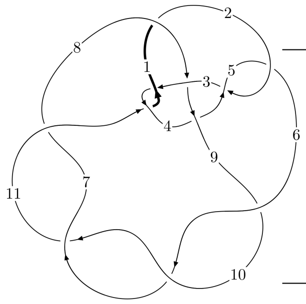
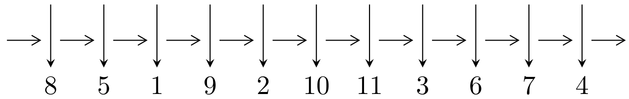
$11a_{291}$ $(K11a_{291})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 9320183u^{20} - 5745909u^{19} + \cdots + 120011978b - 47600802,$$
$$49214757u^{20} - 69440884u^{19} + \cdots + 240023956a + 223258849,\ u^{21} - 2u^{20} + \cdots + 13u - 4\rangle$$
$$I_2^u = \langle -u^{15}a - 3u^{15} + \cdots + 3a - 1,\ -4u^{15}a + 18u^{15} + \cdots - 6a + 36,$$
$$u^{16} - u^{15} - 9u^{14} + 8u^{13} + 31u^{12} - 22u^{11} - 52u^{10} + 22u^9 + 47u^8 - 2u^7 - 24u^6 - 6u^5 + 2u^4 + 6u^3 + 2u^2 - 1\rangle$$
$$I_3^u = \langle b + 1,\ 2a + 3,\ u^2 + u - 1\rangle$$
$$I_4^u = \langle b - a - 1,\ a^2 + 2a + 2,\ u - 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 57 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. $\boldsymbol{I_1^u = \langle 9.32\times10^6u^{20} - 5.75\times10^6u^{19} + \cdots + 1.20\times10^8b - 4.76\times10^7,\ 4.92\times10^7u^{20} - 6.94\times10^7u^{19} + \cdots + 2.40\times10^8a + 2.23\times10^8,\ u^{21} - 2u^{20} + \cdots + 13u - 4\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.205041u^{20} + 0.289308u^{19} + \cdots - 1.57998u - 0.930152\\-0.0776604u^{20} + 0.0478778u^{19} + \cdots - 0.825434u + 0.396634\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-0.222415u^{20} + 0.221463u^{19} + \cdots - 0.915430u - 0.633782\\-0.230117u^{20} + 0.198897u^{19} + \cdots + 0.482667u - 0.0496061\end{pmatrix}$$
$$a_5 = \begin{pmatrix}0.210965u^{20} - 0.285506u^{19} + \cdots + 1.46088u + 1.21110\\0.145840u^{20} - 0.137084u^{19} + \cdots + 1.32796u - 0.343964\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.399042u^{20} + 0.523770u^{19} + \cdots - 1.95821u - 1.41205\\-0.279364u^{20} + 0.259774u^{19} + \cdots - 1.80557u + 0.498910\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0.219932u^{20} - 0.302643u^{19} + \cdots + 0.964152u + 1.28379\\0.154807u^{20} - 0.154222u^{19} + \cdots + 0.831233u - 0.271279\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0.219932u^{20} - 0.302643u^{19} + \cdots + 0.964152u + 1.28379\\0.154807u^{20} - 0.154222u^{19} + \cdots + 0.831233u - 0.271279\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{162514487}{240023956}u^{20} - \frac{304511969}{240023956}u^{19} + \cdots + \frac{520499563}{60005989}u - \frac{1134730210}{60005989}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$4(4u^{21} - 2u^{20} + \cdots + 6u + 2)$
c_2, c_3, c_5 c_{11}	$u^{21} + 2u^{20} + \cdots + 5u + 1$
c_6, c_7, c_9 c_{10}	$u^{21} + 2u^{20} + \cdots + 13u + 4$
c_8	$u^{21} + 3u^{20} + \cdots + 88u + 32$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$16(16y^{21} - 76y^{20} + \cdots + 76y - 4)$
c_2, c_3, c_5 c_{11}	$y^{21} + 8y^{20} + \cdots + 5y - 1$
c_6, c_7, c_9 c_{10}	$y^{21} - 24y^{20} + \cdots + 273y - 16$
c_8	$y^{21} + 7y^{20} + \cdots + 448y - 1024$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.789797 + 0.624633I$ $a = -1.51457 - 0.44640I$ $b = -0.546053 + 1.249230I$	$3.68387 + 11.47460I$	$-9.39826 - 8.82846I$
$u = -0.789797 - 0.624633I$ $a = -1.51457 + 0.44640I$ $b = -0.546053 - 1.249230I$	$3.68387 - 11.47460I$	$-9.39826 + 8.82846I$
$u = 0.758227 + 0.411195I$ $a = -0.698370 + 0.278847I$ $b = 0.041928 - 0.594017I$	$-0.315718 - 0.478711I$	$-14.5208 + 0.8983I$
$u = 0.758227 - 0.411195I$ $a = -0.698370 - 0.278847I$ $b = 0.041928 + 0.594017I$	$-0.315718 + 0.478711I$	$-14.5208 - 0.8983I$
$u = -0.179300 + 0.815897I$ $a = 0.030732 + 0.642646I$ $b = -0.442140 - 1.177470I$	$5.53762 - 6.70880I$	$-6.60250 + 5.49950I$
$u = -0.179300 - 0.815897I$ $a = 0.030732 - 0.642646I$ $b = -0.442140 + 1.177470I$	$5.53762 + 6.70880I$	$-6.60250 - 5.49950I$
$u = 0.506129 + 0.654446I$ $a = 0.657349 - 1.025090I$ $b = 0.372085 + 0.842002I$	$0.34108 - 3.49247I$	$-11.9725 + 8.3783I$
$u = 0.506129 - 0.654446I$ $a = 0.657349 + 1.025090I$ $b = 0.372085 - 0.842002I$	$0.34108 + 3.49247I$	$-11.9725 - 8.3783I$
$u = 1.209060 + 0.446540I$ $a = 0.070327 + 0.349474I$ $b = -0.345184 + 1.020620I$	$1.29592 + 2.27858I$	$-10.67873 - 5.63740I$
$u = 1.209060 - 0.446540I$ $a = 0.070327 - 0.349474I$ $b = -0.345184 - 1.020620I$	$1.29592 - 2.27858I$	$-10.67873 + 5.63740I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.639776 + 0.168175I$ $a = 1.34866 + 0.57840I$ $b = 1.079910 + 0.285594I$	$-2.83019 + 0.37915I$	$-14.9029 - 12.5783I$
$u = -0.639776 - 0.168175I$ $a = 1.34866 - 0.57840I$ $b = 1.079910 - 0.285594I$	$-2.83019 - 0.37915I$	$-14.9029 + 12.5783I$
$u = -1.56702 + 0.20612I$ $a = 1.206150 + 0.091091I$ $b = 0.510228 - 1.044980I$	$-6.63082 + 6.65001I$	$-13.3056 - 6.2387I$
$u = -1.56702 - 0.20612I$ $a = 1.206150 - 0.091091I$ $b = 0.510228 + 1.044980I$	$-6.63082 - 6.65001I$	$-13.3056 + 6.2387I$
$u = 1.59922 + 0.05529I$ $a = 1.76881 - 0.60078I$ $b = 1.291780 - 0.473779I$	$-10.58370 - 1.26080I$	$-14.0233 + 4.6800I$
$u = 1.59922 - 0.05529I$ $a = 1.76881 + 0.60078I$ $b = 1.291780 + 0.473779I$	$-10.58370 + 1.26080I$	$-14.0233 - 4.6800I$
$u = 1.63963 + 0.18902I$ $a = -1.69792 - 0.35423I$ $b = -0.63892 - 1.29044I$	$-4.5325 - 14.5799I$	$-12.0752 + 7.7299I$
$u = 1.63963 - 0.18902I$ $a = -1.69792 + 0.35423I$ $b = -0.63892 + 1.29044I$	$-4.5325 + 14.5799I$	$-12.0752 - 7.7299I$
$u = -1.68983 + 0.00575I$ $a = -0.819332 - 0.396829I$ $b = -0.450400 - 0.614576I$	$-9.51673 - 1.46421I$	$-13.5665 + 4.8534I$
$u = -1.68983 - 0.00575I$ $a = -0.819332 + 0.396829I$ $b = -0.450400 + 0.614576I$	$-9.51673 + 1.46421I$	$-13.5665 - 4.8534I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.306916$ $a = -0.953646$ $b = 0.253532$	-0.600717	-16.6570

II. $I_2^u = \langle -u^{15}a - 3u^{15} + \cdots + 3a - 1,\ -4u^{15}a + 18u^{15} + \cdots - 6a + 36,\ u^{16} - u^{15} + \cdots + 2u^2 - 1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ \frac{1}{2}u^{15}a + \frac{3}{2}u^{15} + \cdots - \frac{3}{2}a + \frac{1}{2} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^{15}a + 2u^{15} + \cdots - a + 1 \\ \frac{1}{2}u^{15}a + \frac{3}{2}u^{15} + \cdots - \frac{1}{2}a + \frac{1}{2} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{3}{2}u^{15}a - \frac{7}{2}u^{15} + \cdots + \frac{1}{2}a - \frac{11}{2} \\ -\frac{1}{2}u^{15}a + \frac{1}{2}u^{15} + \cdots - \frac{1}{2}a - \frac{1}{2} \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{15} + 8u^{13} - 22u^{11} + 22u^9 - 2u^7 - 6u^5 + 6u^3 \\ -u^{15} + 9u^{13} - 30u^{11} + 45u^9 - 30u^7 + 8u^5 + 2u^3 - u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{3}{2}u^{15}a - \frac{5}{2}u^{15} + \cdots + \frac{1}{2}a - \frac{5}{2} \\ -\frac{1}{2}u^{15}a + \frac{3}{2}u^{15} + \cdots - \frac{1}{2}a + \frac{5}{2} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{3}{2}u^{15}a - \frac{5}{2}u^{15} + \cdots + \frac{1}{2}a - \frac{5}{2} \\ -\frac{1}{2}u^{15}a + \frac{3}{2}u^{15} + \cdots - \frac{1}{2}a + \frac{5}{2} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{13} - 32u^{11} + 92u^9 + 4u^8 - 112u^7 - 20u^6 + 56u^5 + 28u^4 - 12u^3 - 8u^2 - 12u - 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{32} - 3u^{31} + \cdots + 52u + 17$
c_2, c_3, c_5 c_{11}	$u^{32} - 5u^{31} + \cdots - 11u + 2$
c_6, c_7, c_9 c_{10}	$(u^{16} + u^{15} + \cdots + 2u^2 - 1)^2$
c_8	$(u^{16} - u^{15} + \cdots + 2u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{32} + 11y^{31} + \cdots + 14534y + 289$
c_2, c_3, c_5 c_{11}	$y^{32} + 19y^{31} + \cdots + 59y + 4$
c_6, c_7, c_9 c_{10}	$(y^{16} - 19y^{15} + \cdots - 4y + 1)^2$
c_8	$(y^{16} + 5y^{15} + \cdots - 4y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.752457 + 0.456573I$ $a = -0.862515 - 0.499116I$ $b = -0.965256 - 0.143588I$	$0.28749 + 6.07197I$	$-12.6157 - 7.0281I$
$u = -0.752457 + 0.456573I$ $a = 1.61525 + 0.23701I$ $b = 0.562596 - 1.228100I$	$0.28749 + 6.07197I$	$-12.6157 - 7.0281I$
$u = -0.752457 - 0.456573I$ $a = -0.862515 + 0.499116I$ $b = -0.965256 + 0.143588I$	$0.28749 - 6.07197I$	$-12.6157 + 7.0281I$
$u = -0.752457 - 0.456573I$ $a = 1.61525 - 0.23701I$ $b = 0.562596 + 1.228100I$	$0.28749 - 6.07197I$	$-12.6157 + 7.0281I$
$u = 0.790211 + 0.368636I$ $a = -0.861711 - 0.010777I$ $b = 0.058639 - 0.741860I$	$-0.311107 - 0.489680I$	$-14.3561 + 1.4314I$
$u = 0.790211 + 0.368636I$ $a = -0.580679 + 0.527896I$ $b = -0.071737 - 0.398232I$	$-0.311107 - 0.489680I$	$-14.3561 + 1.4314I$
$u = 0.790211 - 0.368636I$ $a = -0.861711 + 0.010777I$ $b = 0.058639 + 0.741860I$	$-0.311107 + 0.489680I$	$-14.3561 - 1.4314I$
$u = 0.790211 - 0.368636I$ $a = -0.580679 - 0.527896I$ $b = -0.071737 + 0.398232I$	$-0.311107 + 0.489680I$	$-14.3561 - 1.4314I$
$u = -0.452620 + 0.425410I$ $a = 0.223204 - 0.029590I$ $b = -0.325222 - 1.319700I$	$5.17692 + 1.52971I$	$-5.27263 - 5.08772I$
$u = -0.452620 + 0.425410I$ $a = -2.28305 - 0.32185I$ $b = -0.511738 + 1.137200I$	$5.17692 + 1.52971I$	$-5.27263 - 5.08772I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.452620 - 0.425410I$ $a = 0.223204 + 0.029590I$ $b = -0.325222 + 1.319700I$	$5.17692 - 1.52971I$	$-5.27263 + 5.08772I$
$u = -0.452620 - 0.425410I$ $a = -2.28305 + 0.32185I$ $b = -0.511738 - 1.137200I$	$5.17692 - 1.52971I$	$-5.27263 + 5.08772I$
$u = -0.071750 + 0.572783I$ $a = -0.393981 - 0.880662I$ $b = 0.338699 + 1.140160I$	$2.27257 - 2.57669I$	$-8.69244 + 2.71681I$
$u = -0.071750 + 0.572783I$ $a = -0.152598 - 0.881762I$ $b = -0.658604 + 0.021898I$	$2.27257 - 2.57669I$	$-8.69244 + 2.71681I$
$u = -0.071750 - 0.572783I$ $a = -0.393981 + 0.880662I$ $b = 0.338699 - 1.140160I$	$2.27257 + 2.57669I$	$-8.69244 - 2.71681I$
$u = -0.071750 - 0.572783I$ $a = -0.152598 + 0.881762I$ $b = -0.658604 - 0.021898I$	$2.27257 + 2.57669I$	$-8.69244 - 2.71681I$
$u = 0.508466$ $a = 6.38440 + 5.02047I$ $b = 0.074040 - 1.008190I$	2.52578	-17.0940
$u = 0.508466$ $a = 6.38440 - 5.02047I$ $b = 0.074040 + 1.008190I$	2.52578	-17.0940
$u = 1.52559 + 0.07425I$ $a = -0.185891 + 0.863663I$ $b = -0.18841 + 1.53021I$	$-1.40970 - 3.12434I$	$-9.94060 + 3.66013I$
$u = 1.52559 + 0.07425I$ $a = -1.91032 - 0.81582I$ $b = -0.793946 - 1.008570I$	$-1.40970 - 3.12434I$	$-9.94060 + 3.66013I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.52559 - 0.07425I$ $a = -0.185891 - 0.863663I$ $b = -0.18841 - 1.53021I$	$-1.40970 + 3.12434I$	$-9.94060 - 3.66013I$
$u = 1.52559 - 0.07425I$ $a = -1.91032 + 0.81582I$ $b = -0.793946 + 1.008570I$	$-1.40970 + 3.12434I$	$-9.94060 - 3.66013I$
$u = -1.57280$ $a = 1.97074 + 0.61509I$ $b = 0.237438 - 1.081260I$	-4.71670	-16.1480
$u = -1.57280$ $a = 1.97074 - 0.61509I$ $b = 0.237438 + 1.081260I$	-4.71670	-16.1480
$u = 1.62338 + 0.13130I$ $a = -1.49404 + 0.52581I$ $b = -1.144250 + 0.248239I$	$-7.82454 - 8.28859I$	$-14.5771 + 5.2713I$
$u = 1.62338 + 0.13130I$ $a = 1.68539 + 0.55122I$ $b = 0.72433 + 1.27550I$	$-7.82454 - 8.28859I$	$-14.5771 + 5.2713I$
$u = 1.62338 - 0.13130I$ $a = -1.49404 - 0.52581I$ $b = -1.144250 - 0.248239I$	$-7.82454 + 8.28859I$	$-14.5771 - 5.2713I$
$u = 1.62338 - 0.13130I$ $a = 1.68539 - 0.55122I$ $b = 0.72433 - 1.27550I$	$-7.82454 + 8.28859I$	$-14.5771 - 5.2713I$
$u = -1.63018 + 0.10414I$ $a = -1.297790 + 0.134879I$ $b = -0.436027 + 0.931326I$	$-8.61070 + 2.28357I$	$-15.9247 - 0.3083I$
$u = -1.63018 + 0.10414I$ $a = 0.643588 + 0.194017I$ $b = 0.599447 + 0.332807I$	$-8.61070 + 2.28357I$	$-15.9247 - 0.3083I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.63018 - 0.10414I$ $a = -1.297790 - 0.134879I$ $b = -0.436027 - 0.931326I$	$-8.61070 - 2.28357I$	$-15.9247 + 0.3083I$
$u = -1.63018 - 0.10414I$ $a = 0.643588 - 0.194017I$ $b = 0.599447 - 0.332807I$	$-8.61070 - 2.28357I$	$-15.9247 + 0.3083I$

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

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_7 = \begin{pmatrix}1\\-u+1\end{pmatrix}$$

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

$$a_2 = \begin{pmatrix}-1.5\\-1\end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix}-0.5\\-1\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-2\\-2\end{pmatrix}$$

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

$$a_4 = \begin{pmatrix}\frac{1}{2}u-1\\\frac{1}{2}u-\frac{3}{2}\end{pmatrix}$$

$$a_4 = \begin{pmatrix}\frac{1}{2}u-1\\\frac{1}{2}u-\frac{3}{2}\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{15}{4}u - \frac{39}{4}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$16(16y^2 - 12y + 1)$
c_2, c_3, c_5 c_{11}	$(y-1)^2$
c_6, c_7, c_9 c_{10}	$y^2 - 3y + 1$
c_8	y^2

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -1.50000$ $b = -1.00000$	-2.63189	-7.43240
$u = -1.61803$ $a = -1.50000$ $b = -1.00000$	-10.5276	-15.8180

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000 + 1.00000I$ $b = 1.000000I$	1.64493	-8.00000
$u = 1.00000$ $a = -1.00000 - 1.00000I$ $b = -1.000000I$	1.64493	-8.00000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$16(u^2+2u+2)(4u^2-2u-1)(4u^{21}-2u^{20}+\cdots+6u+2)$ $\cdot(u^{32}-3u^{31}+\cdots+52u+17)$
c_2, c_{11}	$((u-1)^2)(u^2+1)(u^{21}+2u^{20}+\cdots+5u+1)(u^{32}-5u^{31}+\cdots-11u+2)$
c_3, c_5	$((u+1)^2)(u^2+1)(u^{21}+2u^{20}+\cdots+5u+1)(u^{32}-5u^{31}+\cdots-11u+2)$
c_4	$16(u^2-2u+2)(4u^2+2u-1)(4u^{21}-2u^{20}+\cdots+6u+2)$ $\cdot(u^{32}-3u^{31}+\cdots+52u+17)$
c_6, c_7	$((u-1)^2)(u^2+u-1)(u^{16}+u^{15}+\cdots+2u^2-1)^2$ $\cdot(u^{21}+2u^{20}+\cdots+13u+4)$
c_8	$u^2(u^2+1)(u^{16}-u^{15}+\cdots+2u-1)^2(u^{21}+3u^{20}+\cdots+88u+32)$
c_9, c_{10}	$((u+1)^2)(u^2-u-1)(u^{16}+u^{15}+\cdots+2u^2-1)^2$ $\cdot(u^{21}+2u^{20}+\cdots+13u+4)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$256(y^2+4)(16y^2-12y+1)(16y^{21}-76y^{20}+\cdots+76y-4)$ $\cdot(y^{32}+11y^{31}+\cdots+14534y+289)$
c_2, c_3, c_5 c_{11}	$((y-1)^2)(y+1)^2(y^{21}+8y^{20}+\cdots+5y-1)$ $\cdot(y^{32}+19y^{31}+\cdots+59y+4)$
c_6, c_7, c_9 c_{10}	$((y-1)^2)(y^2-3y+1)(y^{16}-19y^{15}+\cdots-4y+1)^2$ $\cdot(y^{21}-24y^{20}+\cdots+273y-16)$
c_8	$y^2(y+1)^2(y^{16}+5y^{15}+\cdots-4y+1)^2$ $\cdot(y^{21}+7y^{20}+\cdots+448y-1024)$