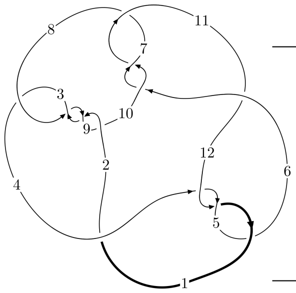
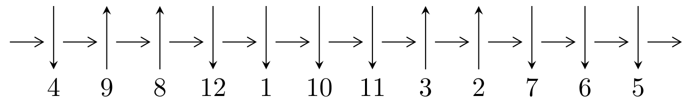
$12a_{1164}$ ($K12a_{1164}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$4{,}12 \underset{c_4}{\rightarrow} 5 \underset{c_{12}}{\longrightarrow} 1 \underset{c_1}{\longrightarrow} 2 \underset{c_5}{\rightarrow} 6{,}8 \underset{c_3}{\rightarrow} 3 \underset{c_8}{\longrightarrow} 9 \underset{c_{11}}{\rightarrow} 11 \underset{c_7}{\rightarrow} 7 \underset{c_{10}}{\rightarrow} 10 \twoheadrightarrow c_2, c_6, c_9$$

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

$$
\begin{aligned}
I_1^u &= \langle u^{19} + u^{18} + \cdots + 2b - 1,\ u^6 - 3u^4 + 2u^2 + a + 1,\ u^{21} + u^{20} + \cdots + u + 1\rangle \\
I_2^u &= \langle -1056266u^{33} - 534744u^{32} + \cdots + 2309809b - 234638, \\
&\quad - 619436u^{33} - 841682u^{32} + \cdots + 6929427a - 2733846,\ u^{34} + u^{33} + \cdots + 6u - 3\rangle \\
I_3^u &= \langle b^2 + 2,\ a + 1,\ u - 1\rangle \\
I_4^u &= \langle b,\ a + 1,\ u + 1\rangle
\end{aligned}
$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 58 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.

$$I_1^u = \langle u^{19} + u^{18} + \cdots + 2b - 1,\ u^6 - 3u^4 + 2u^2 + a + 1,\ u^{21} + u^{20} + \cdots + u + 1\rangle$$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^6 + 3u^4 - 2u^2 - 1 \\ -\frac{1}{2}u^{19} - \frac{1}{2}u^{18} + \cdots + \frac{1}{2}u + \frac{1}{2} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} \frac{1}{2}u^{19} + \frac{1}{2}u^{18} + \cdots - \frac{1}{2}u + \frac{1}{2} \\ \frac{1}{2}u^{20} - 5u^{18} + \cdots - u - \frac{1}{2} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{1}{2}u^{20} - \frac{1}{2}u^{19} + \cdots + \frac{1}{2}u^2 + \frac{5}{2}u \\ \frac{1}{2}u^{20} + \frac{1}{2}u^{19} + \cdots - \frac{1}{2}u^2 + \frac{1}{2}u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^4 - u^2 - 1 \\ -\frac{1}{2}u^{19} - \frac{1}{2}u^{18} + \cdots + \frac{1}{2}u + \frac{1}{2} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^3 + 2u \\ \frac{1}{2}u^{20} + \frac{1}{2}u^{19} + \cdots - \frac{1}{2}u^2 + \frac{1}{2}u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -u^{20} + u^{19} + 13u^{18} - 10u^{17} - 67u^{16} + 44u^{15} + 175u^{14} - 107u^{13} - 225u^{12} + 145u^{11} + 63u^{10} - 83u^9 + 168u^8 - 36u^7 - 146u^6 + 70u^5 - 25u^4 - 11u^3 + 41u^2 - 17u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{21} - 3u^{20} + \cdots + 16u^2 - 16$
c_2, c_3, c_8 c_9	$u^{21} + 3u^{20} + \cdots - 4u - 2$
c_4, c_5, c_6 c_7, c_{10}, c_{12}	$u^{21} + u^{20} + \cdots + u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{21} + 11y^{20} + \cdots + 512y - 256$
c_2, c_3, c_8 c_9	$y^{21} + 23y^{20} + \cdots - 32y - 4$
c_4, c_5, c_6 c_7, c_{10}, c_{12}	$y^{21} - 21y^{20} + \cdots - 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.121015 + 0.802604I$ $a = 1.51299 - 1.34586I$ $b = -0.16702 + 1.51542I$	$-2.09551 - 4.69375I$	$-3.63503 + 3.84735I$
$u = 0.121015 - 0.802604I$ $a = 1.51299 + 1.34586I$ $b = -0.16702 - 1.51542I$	$-2.09551 + 4.69375I$	$-3.63503 - 3.84735I$
$u = -0.040007 + 0.789380I$ $a = 1.62258 + 0.43481I$ $b = -0.588267 - 0.491565I$	$4.51526 + 2.01021I$	$0.41448 - 3.78371I$
$u = -0.040007 - 0.789380I$ $a = 1.62258 - 0.43481I$ $b = -0.588267 + 0.491565I$	$4.51526 - 2.01021I$	$0.41448 + 3.78371I$
$u = 1.283400 + 0.250591I$ $a = 0.110044 + 0.250523I$ $b = -0.205916 - 1.377950I$	$-9.03034 - 2.72457I$	$-12.33705 + 3.20097I$
$u = 1.283400 - 0.250591I$ $a = 0.110044 - 0.250523I$ $b = -0.205916 + 1.377950I$	$-9.03034 + 2.72457I$	$-12.33705 - 3.20097I$
$u = -1.35078$ $a = -0.736116$ $b = 0.673734$	-7.60400	-10.4800
$u = -1.319980 + 0.321329I$ $a = 0.757736 - 0.419310I$ $b = -0.688597 + 0.357279I$	$-3.53789 + 5.93688I$	$-7.80246 - 3.12775I$
$u = -1.319980 - 0.321329I$ $a = 0.757736 + 0.419310I$ $b = -0.688597 - 0.357279I$	$-3.53789 - 5.93688I$	$-7.80246 + 3.12775I$
$u = 1.388650 + 0.093259I$ $a = -0.673057 - 0.380782I$ $b = 0.353596 - 0.874613I$	$-10.38940 - 3.55849I$	$-14.4570 + 4.3859I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.388650 - 0.093259I$ $a = -0.673057 + 0.380782I$ $b = 0.353596 + 0.874613I$	$-10.38940 + 3.55849I$	$-14.4570 - 4.3859I$
$u = 1.353780 + 0.356484I$ $a = 1.326430 + 0.422608I$ $b = -0.624029 + 0.625071I$	$-4.33607 - 10.34760I$	$-9.08482 + 8.30410I$
$u = 1.353780 - 0.356484I$ $a = 1.326430 - 0.422608I$ $b = -0.624029 - 0.625071I$	$-4.33607 + 10.34760I$	$-9.08482 - 8.30410I$
$u = -1.38701 + 0.37866I$ $a = 1.88840 - 0.29011I$ $b = -0.19424 - 1.57233I$	$-11.6562 + 13.3679I$	$-11.96534 - 7.27527I$
$u = -1.38701 - 0.37866I$ $a = 1.88840 + 0.29011I$ $b = -0.19424 + 1.57233I$	$-11.6562 - 13.3679I$	$-11.96534 + 7.27527I$
$u = 0.445437 + 0.325177I$ $a = -1.38881 - 0.40146I$ $b = 0.02269 - 1.49213I$	$-6.40486 - 1.31691I$	$-7.01863 + 5.01587I$
$u = 0.445437 - 0.325177I$ $a = -1.38881 + 0.40146I$ $b = 0.02269 + 1.49213I$	$-6.40486 + 1.31691I$	$-7.01863 - 5.01587I$
$u = -1.47176 + 0.13523I$ $a = -0.818744 + 1.112050I$ $b = 0.06951 + 1.62601I$	$-18.9337 + 4.9859I$	$-15.7556 - 3.2060I$
$u = -1.47176 - 0.13523I$ $a = -0.818744 - 1.112050I$ $b = 0.06951 - 1.62601I$	$-18.9337 - 4.9859I$	$-15.7556 + 3.2060I$
$u = -0.198124 + 0.264706I$ $a = -0.969512 + 0.228317I$ $b = 0.185405 + 0.382871I$	$-0.126670 + 0.730510I$	$-4.11837 - 9.53132I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.198124 - 0.264706I$ $a = -0.969512 - 0.228317I$ $b = \ \ 0.185405 - 0.382871I$	$-0.126670 - 0.730510I$	$-4.11837 + 9.53132I$

II.

$\boldsymbol{I_2^u = \langle -1.06 \times 10^6 u^{33} - 5.35 \times 10^5 u^{32} + \cdots + 2.31 \times 10^6 b - 2.35 \times 10^5,\ -6.19 \times 10^5 u^{33} - 8.42 \times 10^5 u^{32} + \cdots + 6.93 \times 10^6 a - 2.73 \times 10^6,\ u^{34} + u^{33} + \cdots + 6u - 3 \rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

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

$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0893921u^{33} + 0.121465u^{32} + \cdots + 3.10263u + 0.394527 \\ 0.457296u^{33} + 0.231510u^{32} + \cdots - 1.08414u + 0.101583 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.408040u^{33} - 0.237636u^{32} + \cdots + 4.75198u - 0.453759 \\ -0.180498u^{33} + 0.325687u^{32} + \cdots - 2.48353u + 0.264153 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0764438u^{33} - 0.0671149u^{32} + \cdots - 1.96468u + 3.75923 \\ -0.151130u^{33} - 0.0265009u^{32} + \cdots + 1.29755u - 1.23819 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^5 - 2u^3 + u \\ u^7 - 3u^5 + 2u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.328926u^{33} - 0.0100975u^{32} + \cdots + 5.68192u - 0.510619 \\ 0.418318u^{33} + 0.131562u^{32} + \cdots - 2.57929u - 0.0948537 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.350446u^{33} + 0.00787828u^{32} + \cdots + 1.10883u + 1.78222 \\ -0.352234u^{33} - 0.131296u^{32} + \cdots + 0.866235u - 0.633064 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{113576}{2309809}u^{33} + \frac{5887808}{2309809}u^{32} + \cdots - \frac{11535388}{2309809}u - \frac{230526}{2309809}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$(u^{17} - 3u^{16} + \cdots + 9u - 3)^2$
c_2, c_3, c_8 c_9	$(u^{17} - u^{16} + \cdots + u + 1)^2$
c_4, c_5, c_6 c_7, c_{10}, c_{12}	$u^{34} + u^{33} + \cdots + 6u - 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$(y^{17} + 11y^{16} + \cdots + 57y - 9)^2$
c_2, c_3, c_8 c_9	$(y^{17} + 19y^{16} + \cdots + y - 1)^2$
c_4, c_5, c_6 c_7, c_{10}, c_{12}	$y^{34} - 25y^{33} + \cdots - 48y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.180995 + 0.883653I$ $a = -1.35621 + 1.29271I$ $b = 0.17426 - 1.55100I$	$-6.70220 - 8.83664I$	$-8.37368 + 5.87120I$
$u = 0.180995 - 0.883653I$ $a = -1.35621 - 1.29271I$ $b = 0.17426 + 1.55100I$	$-6.70220 + 8.83664I$	$-8.37368 - 5.87120I$
$u = 0.595797 + 0.672047I$ $a = 0.993055 - 0.599481I$ $b = -0.02780 + 1.57600I$	$-12.06090 - 2.39923I$	$-12.86600 + 3.27109I$
$u = 0.595797 - 0.672047I$ $a = 0.993055 + 0.599481I$ $b = -0.02780 - 1.57600I$	$-12.06090 + 2.39923I$	$-12.86600 - 3.27109I$
$u = -1.13369$ $a = 0.407824$ $b = -0.387802$	-2.28510	-1.13090
$u = -0.136716 + 0.824881I$ $a = -1.58020 - 0.51459I$ $b = 0.580614 + 0.569922I$	$0.35577 + 6.09306I$	$-4.70703 - 6.87425I$
$u = -0.136716 - 0.824881I$ $a = -1.58020 + 0.51459I$ $b = 0.580614 - 0.569922I$	$0.35577 - 6.09306I$	$-4.70703 + 6.87425I$
$u = -1.101130 + 0.389395I$ $a = 0.509094 - 0.606456I$ $b = -0.488571 + 0.501958I$	$-2.59185 - 1.70542I$	$-7.89077 + 4.02096I$
$u = -1.101130 - 0.389395I$ $a = 0.509094 + 0.606456I$ $b = -0.488571 - 0.501958I$	$-2.59185 + 1.70542I$	$-7.89077 - 4.02096I$
$u = 1.128290 + 0.347386I$ $a = 0.098642 - 0.298753I$ $b = 0.14171 + 1.46572I$	$-5.15765 + 0.50801I$	$-6.42549 + 0.23246I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.128290 - 0.347386I$ $a = 0.098642 + 0.298753I$ $b = 0.14171 - 1.46572I$	$-5.15765 - 0.50801I$	$-6.42549 - 0.23246I$
$u = 1.080650 + 0.504832I$ $a = -0.224516 + 0.457220I$ $b = -0.13662 - 1.53895I$	$-9.44087 + 3.91820I$	$-11.59784 - 2.39256I$
$u = 1.080650 - 0.504832I$ $a = -0.224516 - 0.457220I$ $b = -0.13662 + 1.53895I$	$-9.44087 - 3.91820I$	$-11.59784 + 2.39256I$
$u = 0.078456 + 0.750182I$ $a = -1.69151 - 0.36066I$ $b = 0.601563 + 0.400803I$	$0.85249 - 2.05778I$	$-2.98070 + 0.37816I$
$u = 0.078456 - 0.750182I$ $a = -1.69151 + 0.36066I$ $b = 0.601563 - 0.400803I$	$0.85249 + 2.05778I$	$-2.98070 - 0.37816I$
$u = 1.213590 + 0.290321I$ $a = 1.38485 + 0.75199I$ $b = -0.488571 + 0.501958I$	$-2.59185 - 1.70542I$	$-7.89077 + 4.02096I$
$u = 1.213590 - 0.290321I$ $a = 1.38485 - 0.75199I$ $b = -0.488571 - 0.501958I$	$-2.59185 + 1.70542I$	$-7.89077 - 4.02096I$
$u = 1.260460 + 0.061296I$ $a = 0.428262 + 0.963327I$ $b = -0.151255 + 0.679822I$	$-4.41315 - 1.83062I$	$-11.59303 + 5.22267I$
$u = 1.260460 - 0.061296I$ $a = 0.428262 - 0.963327I$ $b = -0.151255 - 0.679822I$	$-4.41315 + 1.83062I$	$-11.59303 - 5.22267I$
$u = -1.230380 + 0.338033I$ $a = -0.652848 + 0.475134I$ $b = 0.601563 - 0.400803I$	$0.85249 + 2.05778I$	$-2.98070 - 0.37816I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.230380-0.338033I$ $a=-0.652848-0.475134I$ $b=\ \ 0.601563+0.400803I$	$0.85249-2.05778I$	$-2.98070+0.37816I$
$u=-0.502282+0.483544I$ $a=\ \ 0.782134+0.681918I$ $b=-0.151255-0.679822I$	$-4.41315+1.83062I$	$-11.59303-5.22267I$
$u=-0.502282-0.483544I$ $a=\ \ 0.782134-0.681918I$ $b=-0.151255+0.679822I$	$-4.41315-1.83062I$	$-11.59303+5.22267I$
$u=\ \ 1.293540+0.343405I$ $a=-1.35895-0.53387I$ $b=\ \ 0.580614-0.569922I$	$0.35577-6.09306I$	$-4.70703+6.87425I$
$u=\ \ 1.293540-0.343405I$ $a=-1.35895+0.53387I$ $b=\ \ 0.580614+0.569922I$	$0.35577+6.09306I$	$-4.70703-6.87425I$
$u=\ \ 0.043766+0.657258I$ $a=-1.87701+1.49405I$ $b=\ \ 0.14171-1.46572I$	$-5.15765-0.50801I$	$-6.42549-0.23246I$
$u=\ \ 0.043766-0.657258I$ $a=-1.87701-1.49405I$ $b=\ \ 0.14171+1.46572I$	$-5.15765+0.50801I$	$-6.42549+0.23246I$
$u=-1.312420+0.277525I$ $a=\ \ 2.25755-0.93271I$ $b=-0.13662-1.53895I$	$-9.44087+3.91820I$	$-11.59784-2.39256I$
$u=-1.312420-0.277525I$ $a=\ \ 2.25755+0.93271I$ $b=-0.13662+1.53895I$	$-9.44087-3.91820I$	$-11.59784+2.39256I$
$u=-1.370680+0.056095I$ $a=\ \ 0.56793-2.07715I$ $b=-0.02780-1.57600I$	$-12.06090+2.39923I$	$-12.86600-3.27109I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.370680 - 0.056095I$ $a = \quad 0.56793 + 2.07715I$ $b = -0.02780 + 1.57600I$	$-12.06090 - 2.39923I$	$-12.86600 + 3.27109I$
$u = -1.343580 + 0.346101I$ $a = -2.09386 + 0.46604I$ $b = \quad 0.17426 + 1.55100I$	$-6.70220 + 8.83664I$	$-8.37368 - 5.87120I$
$u = -1.343580 - 0.346101I$ $a = -2.09386 - 0.46604I$ $b = \quad 0.17426 - 1.55100I$	$-6.70220 - 8.83664I$	$-8.37368 + 5.87120I$
$u = \quad 0.376966$ $a = \quad 2.21933$ $b = -0.387802$	-2.28510	-1.13090

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

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -1 \\ b \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -b + 1 \\ -2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} b + 1 \\ -b \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1 \\ b + 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -b \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -1.00000$ $b = 1.414210I$	-8.22467	-12.0000
$u = 1.00000$ $a = -1.00000$ $b = -1.414210I$	-8.22467	-12.0000

IV. $I_4^u = \langle b,\ a+1,\ u+1 \rangle$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

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

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

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

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

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

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

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3 c_8, c_9, c_{11}	u
c_4, c_5, c_{10}	$u + 1$
c_6, c_7, c_{12}	$u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_8, c_9, c_{11}	y
c_4, c_5, c_6 c_7, c_{10}, c_{12}	$y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = -1.00000$ $b = 0$	-3.28987	-12.0000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^3(u^{17} - 3u^{16} + \cdots + 9u - 3)^2(u^{21} - 3u^{20} + \cdots + 16u^2 - 16)$
c_2, c_3, c_8 c_9	$u(u^2 + 2)(u^{17} - u^{16} + \cdots + u + 1)^2(u^{21} + 3u^{20} + \cdots - 4u - 2)$
c_4, c_5, c_{10}	$((u-1)^2)(u+1)(u^{21} + u^{20} + \cdots + u + 1)(u^{34} + u^{33} + \cdots + 6u - 3)$
c_6, c_7, c_{12}	$(u-1)(u+1)^2(u^{21} + u^{20} + \cdots + u + 1)(u^{34} + u^{33} + \cdots + 6u - 3)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^3(y^{17}+11y^{16}+\cdots+57y-9)^2(y^{21}+11y^{20}+\cdots+512y-256)$
c_2, c_3, c_8 c_9	$y(y+2)^2(y^{17}+19y^{16}+\cdots+y-1)^2(y^{21}+23y^{20}+\cdots-32y-4)$
c_4, c_5, c_6 c_7, c_{10}, c_{12}	$((y-1)^3)(y^{21}-21y^{20}+\cdots-3y-1)(y^{34}-25y^{33}+\cdots-48y+9)$