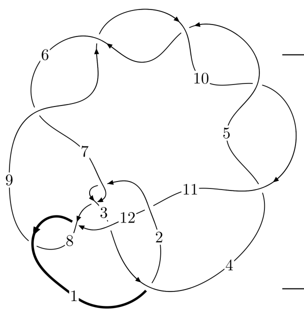
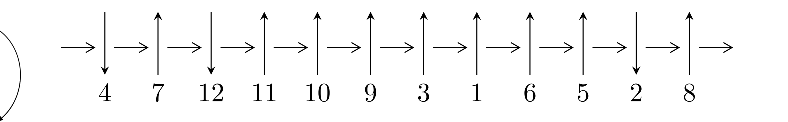
$12a_{1118}$ $(K12a_{1118})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -u^{25} + 6u^{24} + \cdots + 2b + 2,\ u^{25} - 4u^{24} + \cdots + 4a - 28,\ u^{26} - 6u^{25} + \cdots + 38u - 4\rangle \\
I_2^u &= \langle 23119780u^{10}a^3 - 26302390u^{10}a^2 + \cdots - 9354998a + 21323123,\ u^{10}a^2 - 2u^{10}a + \cdots - 4a + 22, \\
&\quad\ u^{11} + u^{10} + 8u^9 + 7u^8 + 22u^7 + 16u^6 + 24u^5 + 13u^4 + 9u^3 + 3u^2 - 1\rangle \\
I_3^u &= \langle u^{11} + 2u^{10} + 9u^9 + 14u^8 + 29u^7 + 34u^6 + 40u^5 + 33u^4 + 21u^3 + 10u^2 + b + 2u, \\
&\quad\ u^9 + 2u^8 + 8u^7 + 12u^6 + 22u^5 + 23u^4 + 24u^3 + 15u^2 + a + 8u + 2, \\
&\quad\ u^{13} + u^{12} + 10u^{11} + 9u^{10} + 38u^9 + 30u^8 + 68u^7 + 45u^6 + 57u^5 + 30u^4 + 18u^3 + 9u^2 + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 83 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. $I_1^u = \langle -u^{25}+6u^{24}+\cdots+2b+2,\ u^{25}-4u^{24}+\cdots+4a-28,\ u^{26}-6u^{25}+\cdots+38u-4\rangle$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} -\frac{1}{4}u^{25} + u^{24} + \cdots - \frac{141}{4}u + 7 \\ \frac{1}{2}u^{25} - 3u^{24} + \cdots - \frac{1}{2}u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^{25} + \frac{11}{2}u^{24} + \cdots + 73u - \frac{21}{2} \\ \frac{1}{2}u^{25} - 3u^{24} + \cdots - \frac{27}{2}u + 2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} \frac{1}{4}u^{25} - 2u^{24} + \cdots - \frac{271}{4}u + 10 \\ \frac{1}{2}u^{25} - 2u^{24} + \cdots + \frac{7}{2}u - 1 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} \frac{1}{4}u^{25} - u^{24} + \cdots - \frac{71}{4}u + 4 \\ -\frac{1}{2}u^{25} + 2u^{24} + \cdots + \frac{3}{2}u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{25} + \frac{11}{2}u^{24} + \cdots + 42u - \frac{9}{2} \\ -\frac{1}{2}u^{25} + 3u^{24} + \cdots + \frac{71}{2}u - 4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $=$

$10u^{25}-57u^{24}+332u^{23}-1235u^{22}+4198u^{21}-11498u^{20}+28340u^{19}-60404u^{18}+115879u^{17}-197385u^{16}+302899u^{15}-416264u^{14}+513994u^{13}-567135u^{12}+556938u^{11}-481994u^{10}+362452u^9-230985u^8+118944u^7-43997u^6+6370u^5+5367u^4-5117u^3+2313u^2-586u+70$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{26} - 8u^{24} + \cdots + 12u - 1$
c_2, c_7, c_8 c_{12}	$u^{26} + u^{25} + \cdots - 2u^2 + 1$
c_3	$u^{26} + 22u^{25} + \cdots - 18432u - 2048$
c_4, c_5, c_6 c_9, c_{10}	$u^{26} + 6u^{25} + \cdots - 38u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{26} - 16y^{25} + \cdots - 70y + 1$
c_2, c_7, c_8 c_{12}	$y^{26} - 17y^{25} + \cdots - 4y + 1$
c_3	$y^{26} + 4y^{25} + \cdots - 27262976y + 4194304$
c_4, c_5, c_6 c_9, c_{10}	$y^{26} + 34y^{25} + \cdots - 44y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.451485 + 0.924968I$ $a = -0.130539 + 0.087112I$ $b = -0.420502 + 1.028160I$	$-1.83398 + 3.85554I$	$5.01598 - 5.40942I$
$u = 0.451485 - 0.924968I$ $a = -0.130539 - 0.087112I$ $b = -0.420502 - 1.028160I$	$-1.83398 - 3.85554I$	$5.01598 + 5.40942I$
$u = 0.145760 + 1.021400I$ $a = -0.753104 + 0.547406I$ $b = 0.342480 + 0.917771I$	$-5.29967 + 2.25279I$	$-2.26265 - 1.02341I$
$u = 0.145760 - 1.021400I$ $a = -0.753104 - 0.547406I$ $b = 0.342480 - 0.917771I$	$-5.29967 - 2.25279I$	$-2.26265 + 1.02341I$
$u = -0.134335 + 1.100410I$ $a = 0.416493 - 0.318786I$ $b = -0.390034 - 0.369021I$	$-2.74898 - 2.01553I$	$1.43698 + 3.09740I$
$u = -0.134335 - 1.100410I$ $a = 0.416493 + 0.318786I$ $b = -0.390034 + 0.369021I$	$-2.74898 + 2.01553I$	$1.43698 - 3.09740I$
$u = 0.396788 + 1.050250I$ $a = 0.134501 - 0.556460I$ $b = 0.016917 - 1.255860I$	$1.46402 + 12.63110I$	$4.83525 - 8.43212I$
$u = 0.396788 - 1.050250I$ $a = 0.134501 + 0.556460I$ $b = 0.016917 + 1.255860I$	$1.46402 - 12.63110I$	$4.83525 + 8.43212I$
$u = 0.600772 + 0.564810I$ $a = -0.561165 - 0.113187I$ $b = 0.746852 - 0.565960I$	$4.56542 - 4.85080I$	$7.22981 + 3.61746I$
$u = 0.600772 - 0.564810I$ $a = -0.561165 + 0.113187I$ $b = 0.746852 + 0.565960I$	$4.56542 + 4.85080I$	$7.22981 - 3.61746I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.670718 + 0.249321I$ $a = -0.759309 + 1.103710I$ $b = -0.558746 - 0.364300I$	$5.48801 + 9.02308I$	$9.08097 - 7.68820I$
$u = 0.670718 - 0.249321I$ $a = -0.759309 - 1.103710I$ $b = -0.558746 + 0.364300I$	$5.48801 - 9.02308I$	$9.08097 + 7.68820I$
$u = 0.690457$ $a = 1.22468$ $b = 0.250949$	0.998593	8.67860
$u = 0.20001 + 1.43415I$ $a = 0.643331 - 0.201919I$ $b = -0.264059 + 0.214501I$	$-1.89647 - 1.89309I$	$0. + 6.08456I$
$u = 0.20001 - 1.43415I$ $a = 0.643331 + 0.201919I$ $b = -0.264059 - 0.214501I$	$-1.89647 + 1.89309I$	$0. - 6.08456I$
$u = -0.429222$ $a = 0.516067$ $b = 0.291290$	0.763290	13.8640
$u = 0.267171 + 0.243833I$ $a = 0.55910 - 1.66853I$ $b = -0.284304 + 0.462050I$	$-1.36903 + 0.83532I$	$-2.70440 - 2.37254I$
$u = 0.267171 - 0.243833I$ $a = 0.55910 + 1.66853I$ $b = -0.284304 - 0.462050I$	$-1.36903 - 0.83532I$	$-2.70440 + 2.37254I$
$u = 0.12117 + 1.70487I$ $a = -0.62468 + 1.80132I$ $b = 0.62452 - 2.89110I$	$-11.05900 + 6.11346I$	0
$u = 0.12117 - 1.70487I$ $a = -0.62468 - 1.80132I$ $b = 0.62452 + 2.89110I$	$-11.05900 - 6.11346I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.03696 + 1.72884I$ $a = -0.22533 + 2.32808I$ $b = 0.64136 - 3.89431I$	$-15.1673 + 2.9962I$	0
$u = 0.03696 - 1.72884I$ $a = -0.22533 - 2.32808I$ $b = 0.64136 + 3.89431I$	$-15.1673 - 2.9962I$	0
$u = 0.10685 + 1.73374I$ $a = -0.06331 - 2.57899I$ $b = 0.50020 + 4.27014I$	$-8.3828 + 14.7085I$	0
$u = 0.10685 - 1.73374I$ $a = -0.06331 + 2.57899I$ $b = 0.50020 - 4.27014I$	$-8.3828 - 14.7085I$	0
$u = 0.00604 + 1.75193I$ $a = 0.243641 - 1.347570I$ $b = -0.72580 + 2.35283I$	$-13.16660 - 2.24388I$	0
$u = 0.00604 - 1.75193I$ $a = 0.243641 + 1.347570I$ $b = -0.72580 - 2.35283I$	$-13.16660 + 2.24388I$	0

II. $\boldsymbol{I_2^u = \langle 2.31\times 10^7 a^3u^{10} - 2.63\times 10^7 a^2u^{10} + \cdots - 9.35\times 10^6 a + 2.13\times 10^7,\ u^{10}a^2 - 2u^{10}a + \cdots - 4a + 22,\ u^{11} + u^{10} + \cdots + 3u^2 - 1\rangle}$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} a \\ -0.412667a^3u^{10} + 0.469473a^2u^{10} + \cdots + 0.166978a - 0.380598 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0858867a^3u^{10} - 0.0605538a^2u^{10} + \cdots + 0.000325567a - 0.0737747 \\ -1.13526a^3u^{10} + 0.251129a^2u^{10} + \cdots - 0.150324a - 0.602754 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0633228a^3u^{10} - 0.468909a^2u^{10} + \cdots + 0.271627a + 0.426519 \\ 0.0410336a^3u^{10} + 0.393880a^2u^{10} + \cdots - 0.430740a - 0.364930 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0633228a^3u^{10} - 0.468909a^2u^{10} + \cdots + 0.271627a + 0.426519 \\ -0.796648a^3u^{10} + 0.684500a^2u^{10} + \cdots + 0.614664a - 0.672255 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0967847a^3u^{10} + 0.188328a^2u^{10} + \cdots + 0.565347a - 0.481624 \\ 0.148469a^3u^{10} - 0.590797a^2u^{10} + \cdots + 0.472771a + 0.763252 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{6227312}{4309639}u^{10}a^3 + \frac{5964000}{4309639}u^{10}a^2 + \cdots - \frac{1111192}{4309639}a + \frac{41519866}{4309639}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{44} - 11u^{43} + \cdots + 38u + 13$
c_2, c_7, c_8 c_{12}	$u^{44} - u^{43} + \cdots + 2u + 523$
c_3	$(u^2 - u + 1)^{22}$
c_4, c_5, c_6 c_9, c_{10}	$(u^{11} - u^{10} + 8u^9 - 7u^8 + 22u^7 - 16u^6 + 24u^5 - 13u^4 + 9u^3 - 3u^2 + 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{44} + 3y^{43} + \cdots - 352y + 169$
c_2, c_7, c_8 c_{12}	$y^{44} - 33y^{43} + \cdots - 4215384y + 273529$
c_3	$(y^2 + y + 1)^{22}$
c_4, c_5, c_6 c_9, c_{10}	$(y^{11} + 15y^{10} + \cdots + 6y - 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.275765 + 1.061690I$ $a = -0.728865 - 0.809753I$ $b = 0.080233 - 0.451905I$	$-2.83219 - 6.29362I$	$3.04971 + 7.48739I$
$u = -0.275765 + 1.061690I$ $a = 0.557010 - 0.084213I$ $b = -0.240918 - 0.000795I$	$-2.83219 - 2.23386I$	$3.04971 + 0.55918I$
$u = -0.275765 + 1.061690I$ $a = -0.010262 + 0.496761I$ $b = -0.352183 + 1.366660I$	$-2.83219 - 6.29362I$	$3.04971 + 7.48739I$
$u = -0.275765 + 1.061690I$ $a = 0.083613 - 0.399393I$ $b = -0.415306 - 0.692098I$	$-2.83219 - 2.23386I$	$3.04971 + 0.55918I$
$u = -0.275765 - 1.061690I$ $a = -0.728865 + 0.809753I$ $b = 0.080233 + 0.451905I$	$-2.83219 + 6.29362I$	$3.04971 - 7.48739I$
$u = -0.275765 - 1.061690I$ $a = 0.557010 + 0.084213I$ $b = -0.240918 + 0.000795I$	$-2.83219 + 2.23386I$	$3.04971 - 0.55918I$
$u = -0.275765 - 1.061690I$ $a = -0.010262 - 0.496761I$ $b = -0.352183 - 1.366660I$	$-2.83219 + 6.29362I$	$3.04971 - 7.48739I$
$u = -0.275765 - 1.061690I$ $a = 0.083613 + 0.399393I$ $b = -0.415306 + 0.692098I$	$-2.83219 + 2.23386I$	$3.04971 - 0.55918I$
$u = 0.147502 + 0.884325I$ $a = -0.460680 - 0.739819I$ $b = -0.14293 - 2.00358I$	$2.91253 - 0.37141I$	$6.54419 - 1.26506I$
$u = 0.147502 + 0.884325I$ $a = -0.830945 - 0.100702I$ $b = 1.92441 - 0.89790I$	$2.91253 + 3.68836I$	$6.54419 - 8.19326I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.147502 + 0.884325I$ $a = 1.75919 - 0.06636I$ $b = -0.902380 + 0.298066I$	$2.91253 - 0.37141I$	$6.54419 - 1.26506I$
$u = 0.147502 + 0.884325I$ $a = 0.87986 + 1.62833I$ $b = 0.075265 + 0.845390I$	$2.91253 + 3.68836I$	$6.54419 - 8.19326I$
$u = 0.147502 - 0.884325I$ $a = -0.460680 + 0.739819I$ $b = -0.14293 + 2.00358I$	$2.91253 + 0.37141I$	$6.54419 + 1.26506I$
$u = 0.147502 - 0.884325I$ $a = -0.830945 + 0.100702I$ $b = 1.92441 + 0.89790I$	$2.91253 - 3.68836I$	$6.54419 + 8.19326I$
$u = 0.147502 - 0.884325I$ $a = 1.75919 + 0.06636I$ $b = -0.902380 - 0.298066I$	$2.91253 + 0.37141I$	$6.54419 + 1.26506I$
$u = 0.147502 - 0.884325I$ $a = 0.87986 - 1.62833I$ $b = 0.075265 - 0.845390I$	$2.91253 - 3.68836I$	$6.54419 + 8.19326I$
$u = -0.499488 + 0.319159I$ $a = 1.208330 + 0.110857I$ $b = 0.046892 - 0.246928I$	$1.46463 + 0.40435I$	$7.42199 + 0.45025I$
$u = -0.499488 + 0.319159I$ $a = 0.259039 + 0.666603I$ $b = 0.021941 - 0.860156I$	$1.46463 - 3.65542I$	$7.42199 + 7.37845I$
$u = -0.499488 + 0.319159I$ $a = -0.351543 + 0.419479I$ $b = 0.761598 + 0.127213I$	$1.46463 + 0.40435I$	$7.42199 + 0.45025I$
$u = -0.499488 + 0.319159I$ $a = -0.22815 - 1.67377I$ $b = -0.529863 + 0.219840I$	$1.46463 - 3.65542I$	$7.42199 + 7.37845I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.499488 - 0.319159I$ $a = 1.208330 - 0.110857I$ $b = 0.046892 + 0.246928I$	$1.46463 - 0.40435I$	$7.42199 - 0.45025I$
$u = -0.499488 - 0.319159I$ $a = 0.259039 - 0.666603I$ $b = 0.021941 + 0.860156I$	$1.46463 + 3.65542I$	$7.42199 - 7.37845I$
$u = -0.499488 - 0.319159I$ $a = -0.351543 - 0.419479I$ $b = 0.761598 - 0.127213I$	$1.46463 - 0.40435I$	$7.42199 - 0.45025I$
$u = -0.499488 - 0.319159I$ $a = -0.22815 + 1.67377I$ $b = -0.529863 - 0.219840I$	$1.46463 + 3.65542I$	$7.42199 - 7.37845I$
$u = 0.337740$ $a = 1.01271 + 1.56832I$ $b = 1.173410 - 0.619485I$	$5.57164 - 2.02988I$	$17.6982 + 3.4641I$
$u = 0.337740$ $a = 1.01271 - 1.56832I$ $b = 1.173410 + 0.619485I$	$5.57164 + 2.02988I$	$17.6982 - 3.4641I$
$u = 0.337740$ $a = -3.49129 + 2.72471I$ $b = -0.742021 - 0.127702I$	$5.57164 - 2.02988I$	$17.6982 + 3.4641I$
$u = 0.337740$ $a = -3.49129 - 2.72471I$ $b = -0.742021 + 0.127702I$	$5.57164 + 2.02988I$	$17.6982 - 3.4641I$
$u = 0.03037 + 1.69780I$ $a = 0.314985 + 0.028310I$ $b = -1.41879 + 0.04931I$	$-6.31060 + 0.27231I$	$5.67978 + 0.60080I$
$u = 0.03037 + 1.69780I$ $a = 2.00060 - 1.04238I$ $b = -2.34894 + 1.64792I$	$-6.31060 + 4.33207I$	$5.67978 - 6.32740I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.03037 + 1.69780I$ $a = 1.01690 + 2.65293I$ $b = -2.14979 - 4.64665I$	$-6.31060 + 4.33207I$	$5.67978 - 6.32740I$
$u = 0.03037 + 1.69780I$ $a = -0.42896 - 3.44681I$ $b = 1.07118 + 5.34607I$	$-6.31060 + 0.27231I$	$5.67978 + 0.60080I$
$u = 0.03037 - 1.69780I$ $a = 0.314985 - 0.028310I$ $b = -1.41879 - 0.04931I$	$-6.31060 - 0.27231I$	$5.67978 - 0.60080I$
$u = 0.03037 - 1.69780I$ $a = 2.00060 + 1.04238I$ $b = -2.34894 - 1.64792I$	$-6.31060 - 4.33207I$	$5.67978 + 6.32740I$
$u = 0.03037 - 1.69780I$ $a = 1.01690 - 2.65293I$ $b = -2.14979 + 4.64665I$	$-6.31060 - 4.33207I$	$5.67978 + 6.32740I$
$u = 0.03037 - 1.69780I$ $a = -0.42896 + 3.44681I$ $b = 1.07118 - 5.34607I$	$-6.31060 - 0.27231I$	$5.67978 - 0.60080I$
$u = -0.07149 + 1.73688I$ $a = 0.162493 + 0.742689I$ $b = -0.547608 - 1.209520I$	$-12.82460 - 3.66856I$	$2.45524 - 0.62833I$
$u = -0.07149 + 1.73688I$ $a = -0.21407 - 1.93867I$ $b = 0.03324 + 3.34038I$	$-12.82460 - 3.66856I$	$2.45524 - 0.62833I$
$u = -0.07149 + 1.73688I$ $a = -0.45177 - 2.10999I$ $b = 0.90946 + 3.80724I$	$-12.8246 - 7.7283I$	$2.45524 + 6.29988I$
$u = -0.07149 + 1.73688I$ $a = -0.55819 + 2.75265I$ $b = 1.19310 - 4.42722I$	$-12.8246 - 7.7283I$	$2.45524 + 6.29988I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.07149 - 1.73688I$ $a = 0.162493 - 0.742689I$ $b = -0.547608 + 1.209520I$	$-12.82460 + 3.66856I$	$2.45524 + 0.62833I$
$u = -0.07149 - 1.73688I$ $a = -0.21407 + 1.93867I$ $b = 0.03324 - 3.34038I$	$-12.82460 + 3.66856I$	$2.45524 + 0.62833I$
$u = -0.07149 - 1.73688I$ $a = -0.45177 + 2.10999I$ $b = 0.90946 - 3.80724I$	$-12.8246 + 7.7283I$	$2.45524 - 6.29988I$
$u = -0.07149 - 1.73688I$ $a = -0.55819 - 2.75265I$ $b = 1.19310 + 4.42722I$	$-12.8246 + 7.7283I$	$2.45524 - 6.29988I$

III.
$\boldsymbol{I_3^u = \langle u^{11}+2u^{10}+\cdots+b+2u,\ u^9+2u^8+\cdots+a+2,\ u^{13}+u^{12}+\cdots+9u^2+1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-u^9-2u^8-8u^7-12u^6-22u^5-23u^4-24u^3-15u^2-8u-2\\-u^{11}-2u^{10}+\cdots-10u^2-2u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-u^{12}-u^{11}+\cdots+u+3\\u^{12}+2u^{11}+\cdots+5u+1\end{pmatrix}$$
$$a_4 = \begin{pmatrix}u^2+1\\u^4+2u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^{10}-2u^9+\cdots-10u-2\\-u^{12}-2u^{11}+\cdots-10u^2-2u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-u\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u^2+1\\-u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^{10}-2u^9+\cdots-9u-1\\-u^{12}-2u^{11}+\cdots-11u^2-3u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u^{12}+u^{11}+\cdots+12u+3\\-u^9-5u^7+u^6-6u^5+4u^4+u^3+4u^2+3u-1\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= u^{11}-u^{10}+9u^9-5u^8+29u^7-4u^6+40u^5+9u^4+22u^3+9u^2+3u+7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{13} + 8y^{11} + \cdots - 3y - 1$
c_2, c_7, c_8 c_{12}	$y^{13} - 13y^{12} + \cdots + 11y - 1$
c_3	$y^{13} + 3y^{12} + \cdots - 8y^2 - 1$
c_4, c_5, c_6 c_9, c_{10}	$y^{13} + 19y^{12} + \cdots - 18y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.363309 + 0.993875I$ $a = -0.234037 - 0.199816I$ $b = -0.153313 - 0.741103I$	$-3.28638 - 3.32543I$	$-0.20293 + 6.40733I$
$u = -0.363309 - 0.993875I$ $a = -0.234037 + 0.199816I$ $b = -0.153313 + 0.741103I$	$-3.28638 + 3.32543I$	$-0.20293 - 6.40733I$
$u = 0.068223 + 0.860959I$ $a = 1.16656 + 0.93044I$ $b = -1.01746 + 1.16245I$	$2.84340 + 2.46222I$	$5.75228 - 1.11123I$
$u = 0.068223 - 0.860959I$ $a = 1.16656 - 0.93044I$ $b = -1.01746 - 1.16245I$	$2.84340 - 2.46222I$	$5.75228 + 1.11123I$
$u = -0.607046$ $a = 1.00467$ $b = 0.0554938$	-0.159667	0.213830
$u = 0.05505 + 1.46562I$ $a = 0.604850 - 0.524644I$ $b = -0.213415 + 0.805814I$	$-1.30630 - 1.19378I$	$7.88487 - 0.81336I$
$u = 0.05505 - 1.46562I$ $a = 0.604850 + 0.524644I$ $b = -0.213415 - 0.805814I$	$-1.30630 + 1.19378I$	$7.88487 + 0.81336I$
$u = 0.111741 + 0.305914I$ $a = -1.08614 - 2.80587I$ $b = 0.998300 - 0.585449I$	$4.72620 - 1.85764I$	$6.09818 + 1.03366I$
$u = 0.111741 - 0.305914I$ $a = -1.08614 + 2.80587I$ $b = 0.998300 + 0.585449I$	$4.72620 + 1.85764I$	$6.09818 - 1.03366I$
$u = 0.01867 + 1.69606I$ $a = -0.29196 + 2.24184I$ $b = -0.27954 - 3.66705I$	$-6.32539 + 2.80660I$	$5.56241 - 1.03151I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.01867 - 1.69606I$ $a = -0.29196 - 2.24184I$ $b = -0.27954 + 3.66705I$	$-6.32539 - 2.80660I$	$5.56241 + 1.03151I$
$u = -0.08685 + 1.73120I$ $a = -0.16161 - 1.73134I$ $b = 0.13768 + 2.89130I$	$-13.02100 - 5.11261I$	$1.29827 + 4.74921I$
$u = -0.08685 - 1.73120I$ $a = -0.16161 + 1.73134I$ $b = 0.13768 - 2.89130I$	$-13.02100 + 5.11261I$	$1.29827 - 4.74921I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$(u^{13} - 4u^{10} + 4u^9 + 6u^7 - 9u^6 + 3u^5 - 4u^4 + 6u^3 - 2u^2 + u - 1)$ $\cdot (u^{26} - 8u^{24} + \cdots + 12u - 1)(u^{44} - 11u^{43} + \cdots + 38u + 13)$
c_2, c_8	$(u^{13} + u^{12} + \cdots + u + 1)(u^{26} + u^{25} + \cdots - 2u^2 + 1)$ $\cdot (u^{44} - u^{43} + \cdots + 2u + 523)$
c_3	$(u^2 - u + 1)^{22}$ $\cdot (u^{13} + u^{12} + 2u^{11} + 6u^{10} + 4u^9 + 3u^8 + 9u^7 + 6u^6 + 4u^4 + 4u^3 + 1)$ $\cdot (u^{26} + 22u^{25} + \cdots - 18432u - 2048)$
c_4, c_5, c_6	$(u^{11} - u^{10} + 8u^9 - 7u^8 + 22u^7 - 16u^6 + 24u^5 - 13u^4 + 9u^3 - 3u^2 + 1)^4$ $\cdot (u^{13} + u^{12} + \cdots + 9u^2 + 1)(u^{26} + 6u^{25} + \cdots - 38u - 4)$
c_7, c_{12}	$(u^{13} - u^{12} + \cdots + u - 1)(u^{26} + u^{25} + \cdots - 2u^2 + 1)$ $\cdot (u^{44} - u^{43} + \cdots + 2u + 523)$
c_9, c_{10}	$(u^{11} - u^{10} + 8u^9 - 7u^8 + 22u^7 - 16u^6 + 24u^5 - 13u^4 + 9u^3 - 3u^2 + 1)^4$ $\cdot (u^{13} - u^{12} + \cdots - 9u^2 - 1)(u^{26} + 6u^{25} + \cdots - 38u - 4)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$(y^{13} + 8y^{11} + \cdots - 3y - 1)(y^{26} - 16y^{25} + \cdots - 70y + 1)$ $\cdot (y^{44} + 3y^{43} + \cdots - 352y + 169)$
c_2, c_7, c_8 c_{12}	$(y^{13} - 13y^{12} + \cdots + 11y - 1)(y^{26} - 17y^{25} + \cdots - 4y + 1)$ $\cdot (y^{44} - 33y^{43} + \cdots - 4215384y + 273529)$
c_3	$((y^2 + y + 1)^{22})(y^{13} + 3y^{12} + \cdots - 8y^2 - 1)$ $\cdot (y^{26} + 4y^{25} + \cdots - 27262976y + 4194304)$
c_4, c_5, c_6 c_9, c_{10}	$((y^{11} + 15y^{10} + \cdots + 6y - 1)^4)(y^{13} + 19y^{12} + \cdots - 18y - 1)$ $\cdot (y^{26} + 34y^{25} + \cdots - 44y + 16)$