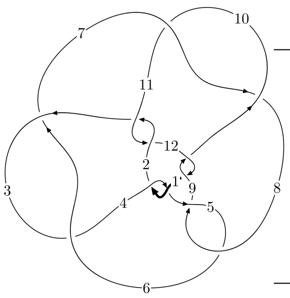
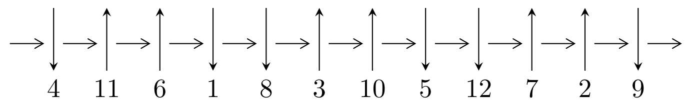
$12a_{1202}$ $(K12a_{1202})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle b+u,\ a+u-1,\ u^8-3u^7+8u^6-11u^5+12u^4-7u^3+2u^2+1\rangle \\
I_2^u &= \langle b+u, \\
&\quad 5u^{13}+8u^{12}+37u^{11}+36u^{10}+87u^9+50u^8+68u^7+14u^6-24u^5-10u^4-31u^3+14u^2+4a+31u+8, \\
&\quad u^{14}+2u^{13}+8u^{12}+10u^{11}+20u^{10}+16u^9+17u^8+6u^7-4u^6-6u^5-7u^4+6u^2+4u+1\rangle \\
I_3^u &= \langle 2u^{13}+3u^{12}+14u^{11}+13u^{10}+30u^9+17u^8+16u^7+4u^6-20u^5-4u^4-14u^3+3u^2+4b+12u+5, \\
&\quad 2u^{13}+3u^{12}+14u^{11}+13u^{10}+30u^9+17u^8+16u^7+4u^6-20u^5-4u^4-14u^3+3u^2+4a+12u+1, \\
&\quad u^{14}+2u^{13}+8u^{12}+10u^{11}+20u^{10}+16u^9+17u^8+6u^7-4u^6-6u^5-7u^4+6u^2+4u+1\rangle \\
I_4^u &= \langle 150778247696u^{13}-1269915907352u^{12}+\cdots+295231314488b-694243865440, \\
&\quad -45565437328u^{13}+456270050744u^{12}+\cdots+59046262976a+429363368096, \\
&\quad 16u^{14}-152u^{13}+\cdots-384u+64\rangle \\
I_5^u &= \langle b+u,\ a+u+1,\ u^8+u^7+4u^6+u^5+4u^4-u^3+2u^2+1\rangle \\
I_6^u &= \langle -4u^{17}a-67u^{17}+\cdots-4a+48,\ u^{17}a+35u^{17}+\cdots+14a-83,\ u^{18}+3u^{17}+\cdots-5u+1\rangle \\
I_7^u &= \langle -u^5a^3+u^5a^2+\cdots+a+2,\ -u^5a^3+u^5a^2+\cdots-b-a, \\
&\quad u^5a^2+u^3a^2+u^5-u^3a-u^4-u^2a+bu-au-u^2-b+u+1, \\
&\quad u^6a^2+2u^4a^2+u^6-u^4a-u^5+a^2u^2-u^3a+u^4-u^2a-2u^3-au+u^2+1\rangle
\end{aligned}$$

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 94 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`).

* 1 irreducible components of $\dim_{\mathbb{C}} = 1$

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

I. $\boldsymbol{I_1^u = \langle b+u,\ a+u-1,\ u^8-3u^7+8u^6-11u^5+12u^4-7u^3+2u^2+1\rangle}$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u+1 \\ -u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^2-u+1 \\ u^2-u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^3-u^2+2u \\ u^3-u^2+u \end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix} -u^7+2u^6-5u^5+5u^4-5u^3+3u^2-u+1 \\ -u^7+u^6-3u^5+u^4-2u^3+u^2-u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^4-u^3+3u^2-u+1 \\ -u^6+u^5-2u^4+u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^7-2u^6+5u^5-4u^4+4u^3 \\ u^7-2u^6+4u^5-3u^4+2u^3+u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3u^7+3u^6-6u^5-6u^4+12u^3-15u^2+9u$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_9 c_{10}, c_{11}, c_{12}	$y^8 + 7y^7 + 22y^6 + 33y^5 + 24y^4 + 15y^3 + 28y^2 + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.802481 + 0.507921I$ $a = 0.197519 - 0.507921I$ $b = -0.802481 - 0.507921I$	$9.81664 - 1.80153I$	$6.98214 - 1.70884I$
$u = 0.802481 - 0.507921I$ $a = 0.197519 + 0.507921I$ $b = -0.802481 + 0.507921I$	$9.81664 + 1.80153I$	$6.98214 + 1.70884I$
$u = 0.36074 + 1.40947I$ $a = 0.63926 - 1.40947I$ $b = -0.36074 - 1.40947I$	$-9.81664 + 1.80153I$	$-6.98214 + 1.70884I$
$u = 0.36074 - 1.40947I$ $a = 0.63926 + 1.40947I$ $b = -0.36074 + 1.40947I$	$-9.81664 - 1.80153I$	$-6.98214 - 1.70884I$
$u = -0.252888 + 0.365077I$ $a = 1.252890 - 0.365077I$ $b = 0.252888 - 0.365077I$	$-1.13765I$	$0. + 6.26766I$
$u = -0.252888 - 0.365077I$ $a = 1.252890 + 0.365077I$ $b = 0.252888 + 0.365077I$	$1.13765I$	$0. - 6.26766I$
$u = 0.58967 + 1.51917I$ $a = 0.41033 - 1.51917I$ $b = -0.58967 - 1.51917I$	$18.0487I$	$0. - 8.38908I$
$u = 0.58967 - 1.51917I$ $a = 0.41033 + 1.51917I$ $b = -0.58967 + 1.51917I$	$-18.0487I$	$0. + 8.38908I$

II. $I_2^u = \langle b + u,\ 5u^{13} + 8u^{12} + \cdots + 4a + 8,\ u^{14} + 2u^{13} + \cdots + 4u + 1\rangle$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{5}{4}u^{13} - 2u^{12} + \cdots - \frac{31}{4}u - 2 \\ -u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{3}{2}u^{13} - \frac{5}{2}u^{12} + \cdots - \frac{17}{2}u - \frac{5}{2} \\ -\frac{1}{4}u^{13} - \frac{1}{2}u^{12} + \cdots - \frac{7}{4}u - \frac{1}{2} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{13} + \frac{3}{2}u^{12} + \cdots + 5u + 2 \\ \frac{3}{16}u^{13} + \frac{1}{8}u^{12} + \cdots + \frac{31}{16}u + \frac{3}{4} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{1}{2}u^{13} - \frac{3}{4}u^{12} + \cdots - 3u - \frac{1}{4} \\ u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{3}{2}u^{13} - \frac{5}{2}u^{12} + \cdots - \frac{19}{2}u - \frac{5}{2} \\ -u^3 - u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{2}u^{12} - \frac{1}{2}u^{11} + \cdots - 4u - \frac{3}{2} \\ -\frac{3}{4}u^{13} - \frac{3}{2}u^{12} + \cdots - \frac{17}{4}u - \frac{3}{2} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{1}{2}u^{13} - u^{12} + \cdots - \frac{7}{2}u - \frac{1}{2} \\ -\frac{1}{2}u^{13} - \frac{3}{4}u^{12} + \cdots - u - \frac{1}{4} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{13} + \frac{3}{2}u^{12} + \cdots + 3u + \frac{3}{2} \\ -\frac{1}{4}u^{13} - \frac{1}{16}u^{12} + \cdots + u + \frac{3}{16} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{71}{8}u^{13} + \frac{61}{4}u^{12} + \frac{541}{8}u^{11} + \frac{137}{2}u^{10} + \frac{1283}{8}u^9 + \frac{175}{2}u^8 + 125u^7 + \frac{5}{4}u^6 - \frac{79}{2}u^5 - \frac{87}{2}u^4 - \frac{381}{8}u^3 + 27u^2 + \frac{411}{8}u + \frac{39}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_9 c_{12}	$u^{14} + 2u^{13} + \cdots + 4u + 1$
c_2, c_{11}	$16(16u^{14} + 152u^{13} + \cdots + 384u + 64)$
c_3, c_6, c_7 c_{10}	$u^{14} - 2u^{13} + \cdots - 4u + 1$
c_5, c_8	$16(16u^{14} - 152u^{13} + \cdots - 384u + 64)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_4 c_6, c_7, c_9 c_{10}, c_{12}	$y^{14} + 12y^{13} + \cdots - 4y + 1$
c_2, c_5, c_8 c_{11}	$256(256y^{14} + 736y^{13} + \cdots + 22528y + 4096)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.735177 + 0.243598I$ $a = -0.31889 - 1.70839I$ $b = -0.735177 - 0.243598I$	$8.49202 - 7.10507I$	$5.55614 + 2.56250I$
$u = 0.735177 - 0.243598I$ $a = -0.31889 + 1.70839I$ $b = -0.735177 + 0.243598I$	$8.49202 + 7.10507I$	$5.55614 - 2.56250I$
$u = 0.330527 + 1.221190I$ $a = 0.11627 - 2.33392I$ $b = -0.330527 - 1.221190I$	$5.35568 + 10.94750I$	$1.20768 - 7.19213I$
$u = 0.330527 - 1.221190I$ $a = 0.11627 + 2.33392I$ $b = -0.330527 + 1.221190I$	$5.35568 - 10.94750I$	$1.20768 + 7.19213I$
$u = -0.104132 + 1.285370I$ $a = 0.14969 - 1.95386I$ $b = 0.104132 - 1.285370I$	$-4.77245 - 2.59879I$	$-6.95245 + 3.73921I$
$u = -0.104132 - 1.285370I$ $a = 0.14969 + 1.95386I$ $b = 0.104132 + 1.285370I$	$-4.77245 + 2.59879I$	$-6.95245 - 3.73921I$
$u = -0.672210 + 0.160128I$ $a = -0.586673 + 0.704036I$ $b = 0.672210 - 0.160128I$	$4.77245 - 2.59879I$	$6.95245 + 3.73921I$
$u = -0.672210 - 0.160128I$ $a = -0.586673 - 0.704036I$ $b = 0.672210 + 0.160128I$	$4.77245 + 2.59879I$	$6.95245 - 3.73921I$
$u = -0.44398 + 1.43884I$ $a = -0.70423 - 1.58491I$ $b = 0.44398 - 1.43884I$	$-5.35568 - 10.94750I$	$-1.20768 + 7.19213I$
$u = -0.44398 - 1.43884I$ $a = -0.70423 + 1.58491I$ $b = 0.44398 + 1.43884I$	$-5.35568 + 10.94750I$	$-1.20768 - 7.19213I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.362798+0.314516I$ $a=\ \ 1.21504-0.98313I$ $b=\ \ 0.362798-0.314516I$	$-\,1.12378I$	$0.+6.09178I$
$u=-0.362798-0.314516I$ $a=\ \ 1.21504+0.98313I$ $b=\ \ 0.362798+0.314516I$	$1.12378I$	$0.-6.09178I$
$u=-0.48258+1.50879I$ $a=-0.37121-1.49894I$ $b=\ \ 0.48258-1.50879I$	$-8.49202-7.10507I$	$-5.55614+2.56250I$
$u=-0.48258-1.50879I$ $a=-0.37121+1.49894I$ $b=\ \ 0.48258+1.50879I$	$-8.49202+7.10507I$	$-5.55614-2.56250I$

III.

$\boldsymbol{I^u_3 = \langle 2u^{13}+3u^{12}+\cdots+4b+5,\ 2u^{13}+3u^{12}+\cdots+4a+1,\ u^{14}+2u^{13}+\cdots+4u+1\rangle}$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-\frac{1}{2}u^{13}-\frac{3}{4}u^{12}+\cdots-3u-\frac{1}{4}\\-\frac{1}{2}u^{13}-\frac{3}{4}u^{12}+\cdots-3u-\frac{5}{4}\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}u\\u\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-\frac{1}{2}u^{13}-\frac{3}{4}u^{12}+\cdots-3u-\frac{1}{4}\\-\frac{1}{2}u^{13}-\frac{3}{4}u^{12}+\cdots-3u-\frac{5}{4}\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}\frac{1}{4}u^{13}+\frac{1}{2}u^{12}+\cdots+\frac{11}{4}u+\frac{1}{2}\\\frac{1}{4}u^{13}+\frac{1}{2}u^{12}+\cdots+\frac{7}{4}u+\frac{1}{2}\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-\frac{3}{4}u^{13}-\frac{21}{16}u^{12}+\cdots-5u-\frac{17}{16}\\-\frac{1}{4}u^{13}-\frac{9}{16}u^{12}+\cdots-2u-\frac{13}{16}\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-0.812500u^{13}-1.54688u^{12}+\cdots-4.25000u-0.984375\\-0.0625000u^{13}-0.234375u^{12}+\cdots+0.750000u+0.0781250\end{pmatrix}$$

$$a_1 = \begin{pmatrix}0.421875u^{13}+1.03125u^{12}+\cdots+2.23438u+1.18750\\0.609375u^{13}+1.65625u^{12}+\cdots+3.17188u+0.937500\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-\frac{5}{4}u^{13}-\frac{29}{16}u^{12}+\cdots-7u-\frac{33}{16}\\\frac{1}{4}u^{13}+\frac{7}{16}u^{12}+\cdots-\frac{1}{2}u-\frac{5}{16}\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-0.687500u^{13}-1.12500u^{12}+\cdots-3.43750u-0.750000\\-\frac{7}{16}u^{13}-\frac{9}{8}u^{12}+\cdots-\frac{35}{16}u-\frac{3}{4}\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{71}{8}u^{13}+\frac{61}{4}u^{12}+\frac{541}{8}u^{11}+\frac{137}{2}u^{10}+\frac{1283}{8}u^9+\frac{175}{2}u^8+125u^7+\frac{5}{4}u^6-\frac{79}{2}u^5-\frac{87}{2}u^4-\frac{381}{8}u^3+27u^2+\frac{411}{8}u+\frac{39}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_5 c_8	$u^{14} + 2u^{13} + \cdots + 4u + 1$
c_2, c_7, c_{10} c_{11}	$u^{14} - 2u^{13} + \cdots - 4u + 1$
c_3, c_6	$16(16u^{14} + 152u^{13} + \cdots + 384u + 64)$
c_9, c_{12}	$16(16u^{14} - 152u^{13} + \cdots - 384u + 64)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5, c_7, c_8 c_{10}, c_{11}	$y^{14} + 12y^{13} + \cdots - 4y + 1$
c_3, c_6, c_9 c_{12}	$256(256y^{14} + 736y^{13} + \cdots + 22528y + 4096)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.735177 + 0.243598I$ $a = 0.337138 + 0.975478I$ $b = -0.662862 + 0.975478I$	$8.49202 - 7.10507I$	$5.55614 + 2.56250I$
$u = 0.735177 - 0.243598I$ $a = 0.337138 - 0.975478I$ $b = -0.662862 - 0.975478I$	$8.49202 + 7.10507I$	$5.55614 - 2.56250I$
$u = 0.330527 + 1.221190I$ $a = -0.506537 - 0.177835I$ $b = -1.50654 - 0.17783I$	$5.35568 + 10.94750I$	$1.20768 - 7.19213I$
$u = 0.330527 - 1.221190I$ $a = -0.506537 + 0.177835I$ $b = -1.50654 + 0.17783I$	$5.35568 - 10.94750I$	$1.20768 + 7.19213I$
$u = -0.104132 + 1.285370I$ $a = 0.145481 - 0.128174I$ $b = -0.854519 - 0.128174I$	$-4.77245 - 2.59879I$	$-6.95245 + 3.73921I$
$u = -0.104132 - 1.285370I$ $a = 0.145481 + 0.128174I$ $b = -0.854519 + 0.128174I$	$-4.77245 + 2.59879I$	$-6.95245 - 3.73921I$
$u = -0.672210 + 0.160128I$ $a = 0.292144 + 0.782483I$ $b = -0.707856 + 0.782483I$	$4.77245 - 2.59879I$	$6.95245 + 3.73921I$
$u = -0.672210 - 0.160128I$ $a = 0.292144 - 0.782483I$ $b = -0.707856 - 0.782483I$	$4.77245 + 2.59879I$	$6.95245 - 3.73921I$
$u = -0.44398 + 1.43884I$ $a = 0.28005 + 1.58724I$ $b = -0.71995 + 1.58724I$	$-5.35568 - 10.94750I$	$-1.20768 + 7.19213I$
$u = -0.44398 - 1.43884I$ $a = 0.28005 - 1.58724I$ $b = -0.71995 - 1.58724I$	$-5.35568 + 10.94750I$	$-1.20768 - 7.19213I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.362798 + 0.314516I$ $a = 1.098900 - 0.510617I$ $b = 0.098902 - 0.510617I$	$-1.12378I$	$0. + 6.09178I$
$u = -0.362798 - 0.314516I$ $a = 1.098900 + 0.510617I$ $b = 0.098902 + 0.510617I$	$1.12378I$	$0. - 6.09178I$
$u = -0.48258 + 1.50879I$ $a = 0.60282 + 1.29294I$ $b = -0.397177 + 1.292940I$	$-8.49202 - 7.10507I$	$-5.55614 + 2.56250I$
$u = -0.48258 - 1.50879I$ $a = 0.60282 - 1.29294I$ $b = -0.397177 - 1.292940I$	$-8.49202 + 7.10507I$	$-5.55614 - 2.56250I$

IV. $\boldsymbol{I_4^u = \langle 1.51\times 10^{11}u^{13} - 1.27\times 10^{12}u^{12} + \cdots + 2.95\times 10^{10}b - 6.94\times 10^{11},\ -4.56\times 10^{10}u^{13} + 4.56\times 10^{11}u^{12} + \cdots + 5.90\times 10^{10}a + 4.29\times 10^{11},\ 16u^{14} - 152u^{13} + \cdots - 384u + 64\rangle}$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.771690u^{13} - 7.72733u^{12} + \cdots + 36.3451u - 7.27164 \\ -5.10712u^{13} + 43.0143u^{12} + \cdots - 110.305u + 23.5153 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 6.27509u^{13} - 53.7103u^{12} + \cdots + 135.401u - 27.7001 \\ 0.396272u^{13} - 2.96866u^{12} + \cdots - 11.2489u + 3.08676 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.433597u^{13} + 3.07351u^{12} + \cdots + 9.75173u - 3.28454 \\ -1.39433u^{13} + 13.2245u^{12} + \cdots - 39.2531u + 7.93893 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.98473u^{13} + 17.4606u^{12} + \cdots - 37.1706u + 8.38054 \\ -1.02400u^{13} + 7.30966u^{12} + \cdots + 11.8341u - 3.84294 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -6.45812u^{13} + 53.4349u^{12} + \cdots - 113.519u + 23.9546 \\ 5.19125u^{13} - 46.5395u^{12} + \cdots + 130.406u - 26.1690 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 2.29549u^{13} - 18.6841u^{12} + \cdots + 22.4712u - 3.09596 \\ 1.93780u^{13} - 17.1761u^{12} + \cdots + 35.1477u - 7.07687 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -3.03039u^{13} + 26.1775u^{12} + \cdots - 50.8615u + 10.1149 \\ 0.216231u^{13} - 3.35036u^{12} + \cdots + 36.8578u - 8.71066 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.379426u^{13} - 2.77238u^{12} + \cdots - 1.09120u + 0.400513 \\ -0.177226u^{13} + 1.36624u^{12} + \cdots - 8.94746u + 1.81095 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= \frac{22971118306}{922597859}u^{13} - \frac{205737218319}{922597859}u^{12} + \cdots + \frac{620526036416}{922597859}u - \frac{129937751014}{922597859}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$16(16u^{14} - 152u^{13} + \cdots - 384u + 64)$
c_2, c_3, c_6 c_{11}	$u^{14} - 2u^{13} + \cdots - 4u + 1$
c_5, c_8, c_9 c_{12}	$u^{14} + 2u^{13} + \cdots + 4u + 1$
c_7, c_{10}	$16(16u^{14} + 152u^{13} + \cdots + 384u + 64)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_7 c_{10}	$256(256y^{14} + 736y^{13} + \cdots + 22528y + 4096)$
c_2, c_3, c_5 c_6, c_8, c_9 c_{11}, c_{12}	$y^{14} + 12y^{13} + \cdots - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.707856 + 0.782483I$ $a = 0.132280 + 0.530765I$ $b = 0.672210 + 0.160128I$	$4.77245 + 2.59879I$	$6.95245 - 3.73921I$
$u = 0.707856 - 0.782483I$ $a = 0.132280 - 0.530765I$ $b = 0.672210 - 0.160128I$	$4.77245 - 2.59879I$	$6.95245 + 3.73921I$
$u = 0.854519 + 0.128174I$ $a = 0.205611 + 0.203611I$ $b = 0.104132 - 1.285370I$	$-4.77245 - 2.59879I$	$-6.95245 + 3.73921I$
$u = 0.854519 - 0.128174I$ $a = 0.205611 - 0.203611I$ $b = 0.104132 + 1.285370I$	$-4.77245 + 2.59879I$	$-6.95245 - 3.73921I$
$u = 0.662862 + 0.975478I$ $a = -0.555661 - 0.388074I$ $b = -0.735177 + 0.243598I$	$8.49202 + 7.10507I$	$5.55614 - 2.56250I$
$u = 0.662862 - 0.975478I$ $a = -0.555661 + 0.388074I$ $b = -0.735177 - 0.243598I$	$8.49202 - 7.10507I$	$5.55614 + 2.56250I$
$u = 0.397177 + 1.292940I$ $a = -0.68850 + 1.52229I$ $b = 0.48258 + 1.50879I$	$-8.49202 + 7.10507I$	$-5.55614 - 2.56250I$
$u = 0.397177 - 1.292940I$ $a = -0.68850 - 1.52229I$ $b = 0.48258 - 1.50879I$	$-8.49202 - 7.10507I$	$-5.55614 + 2.56250I$
$u = -0.098902 + 0.510617I$ $a = 1.089120 + 0.255309I$ $b = 0.362798 - 0.314516I$	$-1.12378I$	$0. + 6.09178I$
$u = -0.098902 - 0.510617I$ $a = 1.089120 - 0.255309I$ $b = 0.362798 + 0.314516I$	$1.12378I$	$0. - 6.09178I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.50654 + 0.17783I$ $a = -0.019777 - 0.447277I$ $b = -0.330527 - 1.221190I$	$5.35568 + 10.94750I$	$1.20768 - 7.19213I$
$u = 1.50654 - 0.17783I$ $a = -0.019777 + 0.447277I$ $b = -0.330527 + 1.221190I$	$5.35568 - 10.94750I$	$1.20768 + 7.19213I$
$u = 0.71995 + 1.58724I$ $a = -0.413070 + 1.329820I$ $b = 0.44398 + 1.43884I$	$-5.35568 + 10.94750I$	$-1.20768 - 7.19213I$
$u = 0.71995 - 1.58724I$ $a = -0.413070 - 1.329820I$ $b = 0.44398 - 1.43884I$	$-5.35568 - 10.94750I$	$-1.20768 + 7.19213I$

V. $I_5^u = \langle b+u,\ a+u+1,\ u^8+u^7+4u^6+u^5+4u^4-u^3+2u^2+1\rangle$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u-1 \\ -u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^2-u-1 \\ -u^2-u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^3+u^2+2u \\ u^3+u^2+u \end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix} -u^7-2u^6-5u^5-5u^4-5u^3-3u^2-u-1 \\ -u^7-u^6-3u^5-u^4-2u^3-u^2-u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^4+u^3+3u^2+u+1 \\ -u^6-u^5-2u^4+u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^7+2u^6+5u^5+4u^4+4u^3 \\ u^7+2u^6+4u^5+3u^4+2u^3+u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^7-3u^6+6u^5-18u^4+6u^3-21u^2+9u-6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_9 c_{10}, c_{11}, c_{12}	$y^8 + 7y^7 + 22y^6 + 37y^5 + 36y^4 + 23y^3 + 12y^2 + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.200786+1.204120I$ $a=-0.79921-1.20412I$ $b=\ \ 0.200786-1.204120I$	$-1.61656I$	$-60.10+1.306426I$
$u=-0.200786-1.204120I$ $a=-0.79921+1.20412I$ $b=\ \ 0.200786+1.204120I$	$1.61656I$	$-60.10-1.306426I$
$u=\ \ 0.537476+0.510510I$ $a=-1.53748-0.51051I$ $b=-0.537476-0.510510I$	$7.30226+8.49334I$	$1.28328-6.26325I$
$u=\ \ 0.537476-0.510510I$ $a=-1.53748+0.51051I$ $b=-0.537476+0.510510I$	$7.30226-8.49334I$	$1.28328+6.26325I$
$u=-0.327893+0.646046I$ $a=-0.672107-0.646046I$ $b=\ \ 0.327893-0.646046I$	$-2.71955I$	$0.+9.22661I$
$u=-0.327893-0.646046I$ $a=-0.672107+0.646046I$ $b=\ \ 0.327893+0.646046I$	$2.71955I$	$0.-9.22661I$
$u=-0.50880+1.43795I$ $a=-0.49120-1.43795I$ $b=\ \ 0.50880-1.43795I$	$-7.30226-8.49334I$	$-1.28328+6.26325I$
$u=-0.50880-1.43795I$ $a=-0.49120+1.43795I$ $b=\ \ 0.50880+1.43795I$	$-7.30226+8.49334I$	$-1.28328-6.26325I$

VI. $\boldsymbol{I_6^u = \langle -4u^{17}a - 67u^{17} + \cdots - 4a + 48,\ u^{17}a + 35u^{17} + \cdots + 14a - 83,\ u^{18} + 3u^{17} + \cdots - 5u + 1\rangle}$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$

$$a_3 = \begin{pmatrix}a\\0.0434783au^{17} + 0.728261u^{17} + \cdots + 0.0434783a - 0.521739\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}u\\u\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-0.0434783au^{17} + 0.521739u^{17} + \cdots + 0.956522a + 0.271739\\ \frac{5}{4}u^{17} + \frac{15}{4}u^{16} + \cdots + \frac{19}{4}u - \frac{1}{4}\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}-0.206522au^{17} - 1.52174u^{17} + \cdots + 0.793478a + 5.47826\\0.521739au^{17} + 0.489130u^{17} + \cdots + 0.271739a + 0.739130\end{pmatrix}$$

$$a_6 = \begin{pmatrix}0.271739au^{17} - 3.01087u^{17} + \cdots - 0.728261a + 6.73913\\0.271739au^{17} - 2.01087u^{17} + \cdots - 0.728261a - 1.01087\end{pmatrix}$$

$$a_4 = \begin{pmatrix}0.304348au^{17} + 0.347826u^{17} + \cdots + 3.05435a - 0.652174\\0.902174au^{17} - 3.07609u^{17} + \cdots + 1.65217a + 3.42391\end{pmatrix}$$

$$a_1 = \begin{pmatrix}2.19565au^{17} + 2.90217u^{17} + \cdots - 0.304348a - 14.3478\\2.11957au^{17} + 2.56522u^{17} + \cdots + 0.119565a + 1.06522\end{pmatrix}$$

$$a_5 = \begin{pmatrix}0.815217au^{17} - 2.53261u^{17} + \cdots - 0.934783a + 5.21739\\0.978261au^{17} - 1.48913u^{17} + \cdots - 0.771739a - 0.739130\end{pmatrix}$$

$$a_9 = \begin{pmatrix}0.554348au^{17} + 0.597826u^{17} + \cdots - 0.695652a - 17.1522\\-\frac{3}{4}u^{17}a - \frac{5}{4}u^{17} + \cdots + 2a + \frac{15}{2}u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^{17} - 11u^{16} - 33u^{15} - 66u^{14} - 122u^{13} - 187u^{12} - 278u^{11} - 350u^{10} - 429u^9 - 473u^8 - 456u^7 - 421u^6 - 311u^5 - 184u^4 - 100u^3 - 6u^2 - u + 3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_5 c_8, c_9, c_{12}	$(u^{18} + 3u^{17} + \cdots - 5u + 1)^2$
c_2, c_3, c_6 c_7, c_{10}, c_{11}	$(u^{18} - 3u^{17} + \cdots + 5u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_8, c_9 c_{10}, c_{11}, c_{12}	$(y^{18} + 11y^{17} + \cdots + 5y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.033350+0.273029I$ $a=-0.433707-0.370047I$ $b=\ \ 0.201212-1.332210I$	$-5.69302I$	$0.+5.51057I$
$u=-1.033350+0.273029I$ $a=\ \ 0.1070220+0.0106006I$ $b=-0.393396+1.167600I$	$-5.69302I$	$0.+5.51057I$
$u=-1.033350-0.273029I$ $a=-0.433707+0.370047I$ $b=\ \ 0.201212+1.332210I$	$5.69302I$	$0.-5.51057I$
$u=-1.033350-0.273029I$ $a=\ \ 0.1070220-0.0106006I$ $b=-0.393396-1.167600I$	$5.69302I$	$0.-5.51057I$
$u=-0.142014+1.106070I$ $a=\ \ 0.071587-0.703715I$ $b=\ \ 1.15680-0.88478I$	$-1.89061-0.92430I$	$-3.71672+0.79423I$
$u=-0.142014+1.106070I$ $a=\ \ 0.96521+2.15390I$ $b=\ \ 0.046149+1.226040I$	$-1.89061-0.92430I$	$-3.71672+0.79423I$
$u=-0.142014-1.106070I$ $a=\ \ 0.071587+0.703715I$ $b=\ \ 1.15680+0.88478I$	$-1.89061+0.92430I$	$-3.71672-0.79423I$
$u=-0.142014-1.106070I$ $a=\ \ 0.96521-2.15390I$ $b=\ \ 0.046149-1.226040I$	$-1.89061+0.92430I$	$-3.71672-0.79423I$
$u=-0.273973+1.135890I$ $a=\ \ 0.470175-0.732350I$ $b=-0.137537+0.138392I$	$1.89061-0.92430I$	$3.71672+0.79423I$
$u=-0.273973+1.135890I$ $a=-0.965306-1.015510I$ $b=-0.822569-0.928852I$	$1.89061-0.92430I$	$3.71672+0.79423I$

Solutions to I_6^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.273973 - 1.135890I$ $a = 0.470175 + 0.732350I$ $b = -0.137537 - 0.138392I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = -0.273973 - 1.135890I$ $a = -0.965306 + 1.015510I$ $b = -0.822569 + 0.928852I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = -0.046149 + 1.226040I$ $a = 0.260286 + 1.034350I$ $b = 1.15680 + 0.88478I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -0.046149 + 1.226040I$ $a = -0.54315 + 2.07539I$ $b = 0.142014 + 1.106070I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -0.046149 - 1.226040I$ $a = 0.260286 - 1.034350I$ $b = 1.15680 - 0.88478I$	$-1.89061 - 0.92430I$	$-3.71672 + 0.79423I$
$u = -0.046149 - 1.226040I$ $a = -0.54315 - 2.07539I$ $b = 0.142014 - 1.106070I$	$-1.89061 - 0.92430I$	$-3.71672 + 0.79423I$
$u = 0.393396 + 1.167600I$ $a = -0.0434586 + 0.0825532I$ $b = 1.033350 + 0.273029I$	$5.69302I$	$0. - 5.51057I$
$u = 0.393396 + 1.167600I$ $a = -0.27658 + 2.05625I$ $b = 0.201212 + 1.332210I$	$5.69302I$	$0. - 5.51057I$
$u = 0.393396 - 1.167600I$ $a = -0.0434586 - 0.0825532I$ $b = 1.033350 - 0.273029I$	$-5.69302I$	$0. + 5.51057I$
$u = 0.393396 - 1.167600I$ $a = -0.27658 - 2.05625I$ $b = 0.201212 - 1.332210I$	$-5.69302I$	$0. + 5.51057I$

Solutions to I_6^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.822569 + 0.928852I$ $a = 0.401451 + 0.910666I$ $b = -0.137537 + 0.138392I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$
$u = 0.822569 + 0.928852I$ $a = 0.263961 - 1.292830I$ $b = 0.273973 - 1.135890I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$
$u = 0.822569 - 0.928852I$ $a = 0.401451 - 0.910666I$ $b = -0.137537 - 0.138392I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 0.822569 - 0.928852I$ $a = 0.263961 + 1.292830I$ $b = 0.273973 + 1.135890I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = -0.201212 + 1.332210I$ $a = 0.132851 - 0.432317I$ $b = 1.033350 - 0.273029I$	$-5.69302I$	$0. + 5.51057I$
$u = -0.201212 + 1.332210I$ $a = -0.07848 + 1.89570I$ $b = -0.393396 + 1.167600I$	$-5.69302I$	$0. + 5.51057I$
$u = -0.201212 - 1.332210I$ $a = 0.132851 + 0.432317I$ $b = 1.033350 + 0.273029I$	$5.69302I$	$0. - 5.51057I$
$u = -0.201212 - 1.332210I$ $a = -0.07848 - 1.89570I$ $b = -0.393396 - 1.167600I$	$5.69302I$	$0. - 5.51057I$
$u = -1.15680 + 0.88478I$ $a = 0.584996 + 0.682030I$ $b = 0.046149 + 1.226040I$	$-1.89061 - 0.92430I$	$-3.71672 + 0.79423I$
$u = -1.15680 + 0.88478I$ $a = -0.344252 - 0.418138I$ $b = 0.142014 - 1.106070I$	$-1.89061 - 0.92430I$	$-3.71672 + 0.79423I$

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.15680 - 0.88478I$ $a = 0.584996 - 0.682030I$ $b = 0.046149 - 1.226040I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = -1.15680 - 0.88478I$ $a = -0.344252 + 0.418138I$ $b = 0.142014 + 1.106070I$	$-1.89061 + 0.92430I$	$-3.71672 - 0.79423I$
$u = 0.137537 + 0.138392I$ $a = -0.13089 - 5.21023I$ $b = 0.273973 + 1.135890I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 0.137537 + 0.138392I$ $a = -5.94172 - 2.17896I$ $b = -0.822569 + 0.928852I$	$1.89061 + 0.92430I$	$3.71672 - 0.79423I$
$u = 0.137537 - 0.138392I$ $a = -0.13089 + 5.21023I$ $b = 0.273973 - 1.135890I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$
$u = 0.137537 - 0.138392I$ $a = -5.94172 + 2.17896I$ $b = -0.822569 - 0.928852I$	$1.89061 - 0.92430I$	$3.71672 + 0.79423I$

VII. $\boldsymbol{I^u_7 = \langle -u^5a^3 + u^5a^2 + \cdots + a + 2,\ -u^5a^3 + u^5a^2 + \cdots - b - a,\ u^5a^2 + u^5 + \cdots - b + 1,\ u^6a^2 + u^6 + \cdots - au + 1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ b \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^5a^2 - u^4a^2 + u^3a^2 + u^5 - a^2u^2 - u^3a - 2u^4 + u^3 - u^2 - b + a + 2u \\ u^5a^2 - u^4a^2 + u^3a^2 + u^5 - a^2u^2 - u^3a - 2u^4 + u^3 - u^2 + 2u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^5a^2 + u^5 + \cdots - b - 1 \\ -\frac{1}{2}u^5a^3 + \frac{1}{2}u^5a^2 + \cdots - \frac{1}{2}a - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{1}{2}u^5a^3 - \frac{1}{2}u^5a^2 + \cdots + \frac{1}{2}a + 1 \\ \frac{1}{2}u^5a^3 - \frac{1}{2}u^5a^2 + \cdots - \frac{1}{2}a - 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{1}{2}u^5a^4 - \frac{1}{4}u^5a^3 + \cdots - \frac{1}{2}a^2 + \frac{1}{4}a \\ \frac{1}{2}u^5a^4 - \frac{3}{4}u^5a^3 + \cdots - \frac{1}{2}a^2 - \frac{1}{4}a \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -\frac{1}{2}u^5a^4 - \frac{1}{4}u^5a^3 + \cdots + \frac{5}{4}a - 1 \\ -\frac{1}{2}u^5a^4 + \frac{1}{4}u^5a^3 + \cdots + \frac{3}{4}a - 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{1}{2}u^5a^3 - \frac{3}{2}u^5a^2 + \cdots + \frac{3}{2}b + \frac{1}{2}a \\ \frac{1}{2}u^5a^3 - \frac{1}{2}u^5a^2 + \cdots - \frac{1}{2}a - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{1}{2}u^5a^3 + \frac{1}{2}u^5a^2 + \cdots + \frac{1}{2}b - \frac{1}{2}a \\ u^5a^3 + 2u^5a^2 + \cdots - b + 2u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component : It cannot be defined for a positive dimension component.

(v) Riley Polynomials at the component : It cannot be defined for a positive dimension component.

(iv) Complex Volumes and Cusp Shapes

Solution to I_7^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \cdots$ $a = \cdots$ $b = \cdots$	0	0

VIII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5, c_9	$16(u^8 - 3u^7 + 8u^6 - 11u^5 + 12u^4 - 7u^3 + 2u^2 + 1)$ $\cdot (u^8 - u^7 + \cdots + 2u^2 + 1)(u^{14} + 2u^{13} + \cdots + 4u + 1)^2$ $\cdot (16u^{14} - 152u^{13} + \cdots - 384u + 64)(u^{18} + 3u^{17} + \cdots - 5u + 1)^2$
c_2, c_6, c_{10}	$16(u^8 - u^7 + 4u^6 - u^5 + 4u^4 + u^3 + 2u^2 + 1)$ $\cdot (u^8 + 3u^7 + 8u^6 + 11u^5 + 12u^4 + 7u^3 + 2u^2 + 1)$ $\cdot ((u^{14} - 2u^{13} + \cdots - 4u + 1)^2)(16u^{14} + 152u^{13} + \cdots + 384u + 64)$ $\cdot (u^{18} - 3u^{17} + \cdots + 5u + 1)^2$
c_3, c_7, c_{11}	$16(u^8 + u^7 + 4u^6 + u^5 + 4u^4 - u^3 + 2u^2 + 1)$ $\cdot (u^8 + 3u^7 + 8u^6 + 11u^5 + 12u^4 + 7u^3 + 2u^2 + 1)$ $\cdot ((u^{14} - 2u^{13} + \cdots - 4u + 1)^2)(16u^{14} + 152u^{13} + \cdots + 384u + 64)$ $\cdot (u^{18} - 3u^{17} + \cdots + 5u + 1)^2$
c_4, c_8, c_{12}	$16(u^8 - 3u^7 + 8u^6 - 11u^5 + 12u^4 - 7u^3 + 2u^2 + 1)$ $\cdot (u^8 + u^7 + \cdots + 2u^2 + 1)(u^{14} + 2u^{13} + \cdots + 4u + 1)^2$ $\cdot (16u^{14} - 152u^{13} + \cdots - 384u + 64)(u^{18} + 3u^{17} + \cdots - 5u + 1)^2$

IX. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3	$256(y^8 + 7y^7 + 22y^6 + 33y^5 + 24y^4 + 15y^3 + 28y^2 + 4y + 1)$
c_4, c_5, c_6	$\cdot\,(y^8 + 7y^7 + 22y^6 + 37y^5 + 36y^4 + 23y^3 + 12y^2 + 4y + 1)$
c_7, c_8, c_9	$\cdot\,(y^{14} + 12y^{13} + \cdots - 4y + 1)^2$
c_{10}, c_{11}, c_{12}	$\cdot\,(256y^{14} + 736y^{13} + \cdots + 22528y + 4096)$
	$\cdot\,(y^{18} + 11y^{17} + \cdots + 5y + 1)^2$