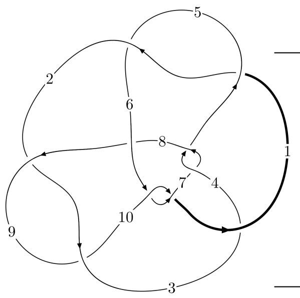
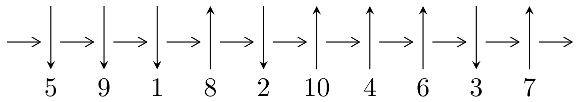
10_{99} $(K10a_{103})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle b+u,\ -2u^7-u^6+5u^5+3u^4-4u^3+u^2+2a-4u-4,\ u^8-3u^6+3u^4-2u^3+2u^2+2u-1\rangle$$
$$I_2^u = \langle 246u^{11}-474u^{10}+\cdots+72b-283,\ -1686u^{11}+3984u^{10}+\cdots+552a+4645,$$
$$3u^{12}-12u^{11}+14u^{10}+4u^9-20u^8+10u^7+32u^6-108u^5+163u^4-142u^3+96u^2-62u+23\rangle$$
$$I_3^u = \langle b,\ a-1,\ u^3-u+1\rangle$$
$$I_4^u = \langle b-1,\ a-u,\ u^3-u-1\rangle$$
$$I_5^u = \langle a^2+b+a,\ a^3+2a^2+a+1,\ u+1\rangle$$
$$I_6^u = \langle ba+a-1,\ u+1\rangle$$
$$I_7^u = \langle b-1,\ u^2a-au-1\rangle$$
$$I_8^u = \langle b-1,\ u+1\rangle$$

$$I_1^v = \langle a,\ b^3-b-1,\ v-1\rangle$$

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 32 representations.
* 3 irreducible components of $\dim_{\mathbb{C}} = 1$

[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. $I_1^u = \langle b+u,\ -2u^7-u^6+\cdots+2a-4,\ u^8-3u^6+3u^4-2u^3+2u^2+2u-1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}u^7+\frac{1}{2}u^6+\cdots+2u+2\\-u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u^7+\frac{1}{2}u^6+\cdots+\frac{3}{2}u+\frac{5}{2}\\-\frac{1}{2}u^7+\frac{3}{2}u^5+\cdots-\frac{1}{2}u-\frac{1}{2}\end{pmatrix}$$
$$a_5 = \begin{pmatrix}u^7+\frac{1}{2}u^6+\cdots+u+2\\-u\end{pmatrix}$$
$$a_1 = \begin{pmatrix}\frac{1}{2}u^7+\frac{1}{2}u^6+\cdots-u^2+2\\-u^2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-u^7+3u^5-\frac{5}{2}u^3+2u^2-\frac{3}{2}u-\frac{5}{2}\\\frac{1}{2}u^7-u^5+u^3-u^2+u+\frac{1}{2}\end{pmatrix}$$
$$a_4 = \begin{pmatrix}\frac{1}{2}u^3-u^2-\frac{1}{2}u+\frac{1}{2}\\-\frac{1}{2}u^4+\frac{1}{2}u^3+\frac{1}{2}u^2-u+\frac{1}{2}\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u^7-10u^5+2u^4+6u^3-12u^2+10u+6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5 c_9	$u^8 - 3u^6 + 3u^4 - 2u^3 + 2u^2 + 2u - 1$
c_3	$2(2u^8 - 10u^7 + 23u^6 - 22u^5 - 7u^4 + 37u^3 - 30u^2 + 8)$
c_4, c_6, c_7 c_{10}	$u^8 - 3u^6 + 3u^4 + 2u^3 + 2u^2 - 2u - 1$
c_8	$2(2u^8 + 10u^7 + 23u^6 + 22u^5 - 7u^4 - 37u^3 - 30u^2 + 8)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5, c_6, c_7 c_9, c_{10}	$y^8 - 6y^7 + 15y^6 - 14y^5 - 5y^4 + 14y^3 + 6y^2 - 8y + 1$
c_3, c_8	$4(4y^8 - 8y^7 + \cdots - 480y + 64)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.221678 + 0.868597I$ $a = -0.558946 + 1.189130I$ $b = -0.221678 - 0.868597I$	$7.42191 + 3.34562I$	$7.11001 - 1.68383I$
$u = 0.221678 - 0.868597I$ $a = -0.558946 - 1.189130I$ $b = -0.221678 + 0.868597I$	$7.42191 - 3.34562I$	$7.11001 + 1.68383I$
$u = -0.752536$ $a = -0.564130$ $b = 0.752536$	-1.28346	-8.36990
$u = 1.352820 + 0.318023I$ $a = -0.432640 + 0.858986I$ $b = -1.352820 - 0.318023I$	$-7.42191 - 3.34562I$	$-7.11001 + 1.68383I$
$u = 1.352820 - 0.318023I$ $a = -0.432640 - 0.858986I$ $b = -1.352820 + 0.318023I$	$-7.42191 + 3.34562I$	$-7.11001 - 1.68383I$
$u = -1.38933 + 0.55684I$ $a = 0.396967 + 1.206200I$ $b = 1.38933 - 0.55684I$	$14.3343I$	$0. - 7.84155I$
$u = -1.38933 - 0.55684I$ $a = 0.396967 - 1.206200I$ $b = 1.38933 + 0.55684I$	$- 14.3343I$	$0. + 7.84155I$
$u = 0.382196$ $a = 2.75337$ $b = -0.382196$	1.28346	8.36990

II. $I_2^u = \langle 246u^{11} - 474u^{10} + \cdots + 72b - 283,\ -1686u^{11} + 3984u^{10} + \cdots + 552a + 4645,\ 3u^{12} - 12u^{11} + \cdots - 62u + 23\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 3.05435u^{11} - 7.21739u^{10} + \cdots + 25.7808u - 8.41486 \\ -3.41667u^{11} + 6.58333u^{10} + \cdots - 21.3194u + 3.93056 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -7.48732u^{11} + 25.2409u^{10} + \cdots - 113.539u + 63.1407 \\ 1.08333u^{11} - 0.541667u^{10} + \cdots - 1.81944u + 6.80556 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.362319u^{11} - 0.634058u^{10} + \cdots + 4.46135u - 4.48430 \\ -3.41667u^{11} + 6.58333u^{10} + \cdots - 21.3194u + 3.93056 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.331522u^{11} + 0.423913u^{10} + \cdots - 3.47464u + 3.81522 \\ \frac{5}{4}u^{11} - \frac{13}{8}u^{10} + \cdots + \frac{131}{24}u - \frac{1}{3} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1.41848u^{11} - 3.79891u^{10} + \cdots + 14.0163u - 6.06522 \\ -1.62500u^{11} + 4.37500u^{10} + \cdots - 14.8333u + 7.04167 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 3.68116u^{11} - 12.3080u^{10} + \cdots + 55.6027u - 29.5495 \\ 1.70833u^{11} - 7.79167u^{10} + \cdots + 35.5972u - 23.5278 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= \frac{1}{18}u^{11} + \frac{38}{9}u^{10} - \frac{295}{54}u^9 - \frac{187}{54}u^8 + \frac{275}{54}u^7 - \frac{65}{27}u^6 - 2u^5 + \frac{71}{2}u^4 - \frac{2645}{54}u^3 + \frac{1855}{54}u^2 - \frac{785}{27}u + \frac{484}{27}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5 c_9	$3(3u^{12} - 12u^{11} + \cdots - 62u + 23)$
c_3	$(u^6 + u^5 + 2u^4 - u^3 + 2u^2 + 3)^2$
c_4, c_6, c_7 c_{10}	$3(3u^{12} + 12u^{11} + \cdots + 62u + 23)$
c_8	$(u^6 - u^5 + 2u^4 + u^3 + 2u^2 + 3)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5, c_6, c_7 c_9, c_{10}	$9(9y^{12} - 60y^{11} + \cdots + 572y + 529)$
c_3, c_8	$(y^6 + 3y^5 + 10y^4 + 13y^3 + 16y^2 + 12y + 9)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.079480 + 0.450431I$ $a = -0.019332 - 0.915767I$ $b = 0.187861 + 0.726416I$	$-4.33667I$	$0. + 5.70400I$
$u = 1.079480 - 0.450431I$ $a = -0.019332 + 0.915767I$ $b = 0.187861 - 0.726416I$	$4.33667I$	$0. - 5.70400I$
$u = 0.052828 + 1.195260I$ $a = 0.550361 + 0.680226I$ $b = -1.171280 - 0.484667I$	$4.49149 - 8.24229I$	$3.01193 + 6.51979I$
$u = 0.052828 - 1.195260I$ $a = 0.550361 - 0.680226I$ $b = -1.171280 + 0.484667I$	$4.49149 + 8.24229I$	$3.01193 - 6.51979I$
$u = -0.187861 + 0.726416I$ $a = 1.15611 - 0.83810I$ $b = -1.079480 + 0.450431I$	$4.33667I$	$0. - 5.70400I$
$u = -0.187861 - 0.726416I$ $a = 1.15611 + 0.83810I$ $b = -1.079480 - 0.450431I$	$-4.33667I$	$0. + 5.70400I$
$u = 1.171280 + 0.484667I$ $a = -0.362217 + 0.742191I$ $b = -0.052828 - 1.195260I$	$4.49149 - 8.24229I$	$3.01193 + 6.51979I$
$u = 1.171280 - 0.484667I$ $a = -0.362217 - 0.742191I$ $b = -0.052828 + 1.195260I$	$4.49149 + 8.24229I$	$3.01193 - 6.51979I$
$u = 1.296770 + 0.356378I$ $a = 0.391471 - 1.079490I$ $b = 1.41250 + 0.63054I$	$-4.49149 - 8.24229I$	$-3.01193 + 6.51979I$
$u = 1.296770 - 0.356378I$ $a = 0.391471 + 1.079490I$ $b = 1.41250 - 0.63054I$	$-4.49149 + 8.24229I$	$-3.01193 - 6.51979I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.41250+0.63054I$ $a=-0.194653-0.979163I$ $b=-1.296770+0.356378I$	$-4.49149+8.24229I$	$-3.01193-6.51979I$
$u=-1.41250-0.63054I$ $a=-0.194653+0.979163I$ $b=-1.296770-0.356378I$	$-4.49149-8.24229I$	$-3.01193+6.51979I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.662359 + 0.562280I$ $a = 1.00000$ $b = 0$	1.64493	6.00000
$u = 0.662359 - 0.562280I$ $a = 1.00000$ $b = 0$	1.64493	6.00000
$u = -1.32472$ $a = 1.00000$ $b = 0$	1.64493	6.00000

IV. $I_4^u = \langle b-1,\ a-u,\ u^3-u-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.662359 + 0.562280I$ $a = -0.662359 + 0.562280I$ $b = 1.00000$	-1.64493	-6.00000
$u = -0.662359 - 0.562280I$ $a = -0.662359 - 0.562280I$ $b = 1.00000$	-1.64493	-6.00000
$u = 1.32472$ $a = 1.32472$ $b = 1.00000$	-1.64493	-6.00000

V. $\boldsymbol{I_5^u = \langle a^2 + b + a,\ a^3 + 2a^2 + a + 1,\ u + 1 \rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00000$ $a=-0.122561+0.744862I$ $b=\quad 0.662359-0.562280I$	-1.64493	-6.00000
$u=-1.00000$ $a=-0.122561-0.744862I$ $b=\quad 0.662359+0.562280I$	-1.64493	-6.00000
$u=-1.00000$ $a=-1.75488$ $b=-1.32472$	-1.64493	-6.00000

VI. $I^u_6 = \langle ba + a - 1,\ u + 1\rangle$

(i) Arc colorings

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

(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_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \cdots$ $a = \cdots$ $b = \cdots$	0	0

VII. $I_7^u = \langle b - 1,\ u^2 a - au - 1 \rangle$

(i) Arc colorings

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

(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. $I_8^u = \langle b-1,\ u+1 \rangle$

(i) Arc colorings

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

(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_8^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=\cdots$ $a=\cdots$ $b=\cdots$	0	0

IX. $I_1^v = \langle a,\ b^3 - b - 1,\ v - 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 1.00000$ $a = 0$ $b = -0.662359 + 0.562280I$	1.64493	6.00000
$v = 1.00000$ $a = 0$ $b = -0.662359 - 0.562280I$	1.64493	6.00000
$v = 1.00000$ $a = 0$ $b = 1.32472$	1.64493	6.00000

X. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5 c_9	$3u^3(u+1)^3(u^3-u-1)(u^3-u+1)(u^8-3u^6+\cdots+2u-1)$ $\cdot\,(3u^{12}-12u^{11}+\cdots-62u+23)$
c_3	$2(u^3-u-1)^2(u^3+2u^2+u+1)^2(u^6+u^5+2u^4-u^3+2u^2+3)^2$ $\cdot\,(2u^8-10u^7+23u^6-22u^5-7u^4+37u^3-30u^2+8)$
c_4, c_6, c_7 c_{10}	$3u^3(u-1)^3(u^3-u-1)(u^3-u+1)(u^8-3u^6+\cdots-2u-1)$ $\cdot\,(3u^{12}+12u^{11}+\cdots+62u+23)$
c_8	$2(u^3-u+1)^2(u^3-2u^2+u-1)^2(u^6-u^5+2u^4+u^3+2u^2+3)^2$ $\cdot\,(2u^8+10u^7+23u^6+22u^5-7u^4-37u^3-30u^2+8)$

XI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5, c_6, c_7 c_9, c_{10}	$9y^3(y-1)^3(y^3-2y^2+y-1)^2$ $\cdot\,(y^8-6y^7+15y^6-14y^5-5y^4+14y^3+6y^2-8y+1)$ $\cdot\,(9y^{12}-60y^{11}+\cdots+572y+529)$
c_3, c_8	$4(y^3-2y^2-3y-1)^2(y^3-2y^2+y-1)^2$ $\cdot\,(y^6+3y^5+10y^4+13y^3+16y^2+12y+9)^2$ $\cdot\,(4y^8-8y^7+61y^6-186y^5+329y^4-581y^3+788y^2-480y+64)$