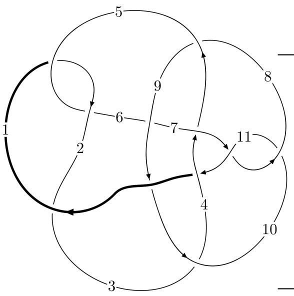
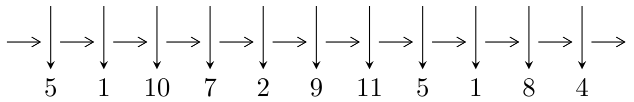
$11n_{126}$ ($K11n_{126}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle b+u,\ a-u-1,\ u^5+2u^4+4u^3+2u^2+2u-1\rangle$$
$$I_2^u = \langle b+u,\ a-u+1,\ u^4-u^3+u^2+u-1\rangle$$
$$I_3^u = \langle b+u,\ u^5+u^3+u^2+a,\ u^6-u^5+2u^4-u^3+2u^2-2u+1\rangle$$
$$I_4^u = \langle -u^5-3u^4-4u^3-3u^2+b-3u-1,\ u^5+4u^4+7u^3+7u^2+2a+6u+4,\ u^6+4u^5+7u^4+7u^3+6u^2+4u+2\rangle$$
$$I_5^u = \langle -u^5+u^4-2u^3+u^2+b-2u+1,\ u^5-u^4+2u^3-u^2+a+2u-2,\ u^6-u^5+2u^4-u^3+2u^2-2u+1\rangle$$
$$I_6^u = \langle b-u+1,\ a+u,\ u^2+1\rangle$$
$$I_7^u = \langle b-u+1,\ 2a+u-2,\ u^2-2u+2\rangle$$
$$I_8^u = \langle b+u,\ a-2u-1,\ u^2+1\rangle$$

* 8 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 33 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. $\boldsymbol{I_1^u = \langle b+u,\ a-u-1,\ u^5+2u^4+4u^3+2u^2+2u-1\rangle}$

(i) Arc colorings

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

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

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

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

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

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

$$a_{10} = \begin{pmatrix} u^2+u+1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^3-u+1 \\ u^4+3u^3+2u^2+3u-1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^4-u^3-u^2+1 \\ -2u^3-2u+1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2u^4+2u^3+2u^2-1 \\ 5u^3+2u^2+6u-2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^4-u^3-u^2+u+1 \\ -2u^3-u^2-3u+1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^4-u^3-u^2+u+1 \\ -2u^3-u^2-3u+1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -3u^4-9u^3-12u^2-9u-9$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_5 c_8	$u^5 + 4u^4 + 3u^3 - 2u^2 + u + 1$
c_2	$u^5 + 10u^4 + 27u^3 + 6u^2 + 5u + 1$
c_4, c_7, c_{10} c_{11}	$u^5 - 2u^4 + 4u^3 - 2u^2 + 2u + 1$
c_6, c_9	$u^5 - 6u^4 + 12u^3 - 9u^2 + 5u + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_8	$y^5 - 10y^4 + 27y^3 - 6y^2 + 5y - 1$
c_2	$y^5 - 46y^4 + 619y^3 + 214y^2 + 13y - 1$
c_4, c_7, c_{10} c_{11}	$y^5 + 4y^4 + 12y^3 + 16y^2 + 8y - 1$
c_6, c_9	$y^5 - 12y^4 + 46y^3 + 63y^2 + 61y - 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.260956 + 1.064160I$ $a = 0.739044 + 1.064160I$ $b = 0.260956 - 1.064160I$	$4.11394 - 0.50358I$	$-4.17139 + 2.42983I$
$u = -0.260956 - 1.064160I$ $a = 0.739044 - 1.064160I$ $b = 0.260956 + 1.064160I$	$4.11394 + 0.50358I$	$-4.17139 - 2.42983I$
$u = -0.89902 + 1.33981I$ $a = 0.100977 + 1.339810I$ $b = 0.89902 - 1.33981I$	$-11.1448 + 10.7639I$	$-11.61144 - 5.00628I$
$u = -0.89902 - 1.33981I$ $a = 0.100977 - 1.339810I$ $b = 0.89902 + 1.33981I$	$-11.1448 - 10.7639I$	$-11.61144 + 5.00628I$
$u = 0.319959$ $a = 1.31996$ $b = -0.319959$	-0.742760	-13.4340

II. $I_2^u = \langle b + u,\ a - u + 1,\ u^4 - u^3 + u^2 + u - 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6u^3 + 3u^2 - 18$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_8	$y^4 - 5y^3 + 2y^2 - 4y + 1$
c_2	$y^4 - 21y^3 - 34y^2 - 12y + 1$
c_4, c_7, c_{10} c_{11}	$y^4 + y^3 + y^2 - 3y + 1$
c_6, c_9	$y^4 - 8y^3 + 10y^2 - 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.848375$ $a = -1.84837$ $b = 0.848375$	-13.8089	-12.1770
$u = 0.593691 + 1.196160I$ $a = -0.406309 + 1.196160I$ $b = -0.593691 - 1.196160I$	$3.04056 - 6.31855I$	$-7.20042 + 6.94067I$
$u = 0.593691 - 1.196160I$ $a = -0.406309 - 1.196160I$ $b = -0.593691 + 1.196160I$	$3.04056 + 6.31855I$	$-7.20042 - 6.94067I$
$u = 0.660993$ $a = -0.339007$ $b = -0.660993$	-2.14179	-18.4220

III. $I_3^u = \langle b+u,\ u^5+u^3+u^2+a,\ u^6-u^5+2u^4-u^3+2u^2-2u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2u^5-2u^4+2u^3+2u-14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5, c_8	$y^6 - 9y^5 + 22y^4 - 7y^3 + 4y^2 + 4y + 1$
c_2	$y^6 - 37y^5 + 366y^4 + 201y^3 + 116y^2 - 8y + 1$
c_3	$y^6 - 14y^5 + 73y^4 - 189y^3 + 308y^2 - 256y + 100$
c_4	$y^6 - 2y^5 + 5y^4 + 7y^3 + 8y^2 + 8y + 4$
c_6	$y^6 - 14y^5 + 43y^4 + 40y^3 + 163y^2 + 22y + 1$
c_7, c_{10}, c_{11}	$y^6 + 3y^5 + 6y^4 + 5y^3 + 4y^2 + 1$
c_9	$y^6 - 7y^5 + 27y^4 - 9y^3 + 40y^2 - 16y + 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.601492+0.919611I$ $a=-0.43524+2.43997I$ $b=\ \ 0.601492-0.919611I$	$-13.38990+2.37783I$	$-11.38532-2.96944I$
$u=-0.601492-0.919611I$ $a=-0.43524-2.43997I$ $b=\ \ 0.601492+0.919611I$	$-13.38990-2.37783I$	$-11.38532+2.96944I$
$u=\ \ 0.560586+0.395699I$ $a=\ \ 0.081238-0.765128I$ $b=-0.560586-0.395699I$	$-0.389538-0.233200I$	$-13.01274+1.15455I$
$u=\ \ 0.560586-0.395699I$ $a=\ \ 0.081238+0.765128I$ $b=-0.560586+0.395699I$	$-0.389538+0.233200I$	$-13.01274-1.15455I$
$u=\ \ 0.540906+1.210940I$ $a=-0.14600+1.47596I$ $b=-0.540906-1.210940I$	$2.26485-4.47692I$	$-9.60193+3.00061I$
$u=\ \ 0.540906-1.210940I$ $a=-0.14600-1.47596I$ $b=-0.540906+1.210940I$	$2.26485+4.47692I$	$-9.60193-3.00061I$

IV. $\boldsymbol{I_4^u = \langle -u^5 - 3u^4 - 4u^3 - 3u^2 + b - 3u - 1,\ u^5 + 4u^4 + 7u^3 + 7u^2 + 2a + 6u + 4,\ u^6 + 4u^5 + 7u^4 + 7u^3 + 6u^2 + 4u + 2\rangle}$

(i) Arc colorings

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

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

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

$$a_8 = \begin{pmatrix} -\frac{1}{2}u^5 - 2u^4 - \frac{7}{2}u^3 - \frac{7}{2}u^2 - 3u - 2 \\ u^5 + 3u^4 + 4u^3 + 3u^2 + 3u + 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{2}u^5 + u^4 + \frac{1}{2}u^3 - \frac{1}{2}u^2 - 1 \\ u^5 + 3u^4 + 4u^3 + 3u^2 + 3u + 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{3}{2}u^5 - 5u^4 - \frac{13}{2}u^3 - \frac{9}{2}u^2 - 4u - 2 \\ -u^5 - 4u^4 - 6u^3 - 5u^2 - 3u - 3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{1}{2}u^5 + u^4 + \frac{1}{2}u^3 - \frac{1}{2}u^2 \\ u^5 + 4u^4 + 6u^3 + 5u^2 + 4u + 3 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} \frac{1}{2}u^5 + u^4 + \frac{1}{2}u^3 + \frac{1}{2}u^2 + u + 1 \\ 2u^5 + 6u^4 + 7u^3 + 7u^2 + 5u + 3 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^4 - 2u^3 - u^2 - 2u - 1 \\ 3u^5 + 7u^4 + 5u^3 + 5u^2 + 4u + 2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{2}u^5 + 2u^4 + \frac{5}{2}u^3 + \frac{1}{2}u^2 + u + 1 \\ -u^5 - 2u^4 + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{2}u^5 + 2u^4 + \frac{5}{2}u^3 + \frac{1}{2}u^2 + u + 1 \\ -u^5 - 2u^4 + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2u^5 - 6u^4 - 6u^3 - 4u^2 - 6u - 14$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5	$y^6 - 9y^5 + 22y^4 - 7y^3 + 4y^2 + 4y + 1$
c_2	$y^6 - 37y^5 + 366y^4 + 201y^3 + 116y^2 - 8y + 1$
c_4, c_7, c_{10}	$y^6 + 3y^5 + 6y^4 + 5y^3 + 4y^2 + 1$
c_6	$y^6 - 7y^5 + 27y^4 - 9y^3 + 40y^2 - 16y + 64$
c_8	$y^6 - 14y^5 + 73y^4 - 189y^3 + 308y^2 - 256y + 100$
c_9	$y^6 - 14y^5 + 43y^4 + 40y^3 + 163y^2 + 22y + 1$
c_{11}	$y^6 - 2y^5 + 5y^4 + 7y^3 + 8y^2 + 8y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.692483 + 0.688444I$ $a = -0.726263 - 0.722027I$ $b = -0.540906 + 1.210940I$	$2.26485 + 4.47692I$	$-9.60193 - 3.00061I$
$u = -0.692483 - 0.688444I$ $a = -0.726263 + 0.722027I$ $b = -0.540906 - 1.210940I$	$2.26485 - 4.47692I$	$-9.60193 + 3.00061I$
$u = 0.190623 + 0.840421I$ $a = 0.256681 - 1.131660I$ $b = -0.560586 + 0.395699I$	$-0.389538 + 0.233200I$	$-13.01274 - 1.15455I$
$u = 0.190623 - 0.840421I$ $a = 0.256681 + 1.131660I$ $b = -0.560586 - 0.395699I$	$-0.389538 - 0.233200I$	$-13.01274 + 1.15455I$
$u = -1.49814 + 0.76160I$ $a = -0.530418 - 0.269644I$ $b = 0.601492 + 0.919611I$	$-13.38990 - 2.37783I$	$-11.38532 + 2.96944I$
$u = -1.49814 - 0.76160I$ $a = -0.530418 + 0.269644I$ $b = 0.601492 - 0.919611I$	$-13.38990 + 2.37783I$	$-11.38532 - 2.96944I$

V. $\boldsymbol{I^u_5 = \langle -u^5+u^4-2u^3+u^2+b-2u+1,\ u^5-u^4+2u^3-u^2+a+2u-2,\ u^6-u^5+2u^4-u^3+2u^2-2u+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2u^5-2u^4+2u^3+2u-14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^6 + 4u^5 + u^4 - 9u^3 + 16u + 10$
c_2	$u^6 + 14u^5 + 73u^4 + 189u^3 + 308u^2 + 256u + 100$
c_3, c_8	$u^6 - 3u^5 + 3u^3 + 2u^2 + 1$
c_4, c_{11}	$u^6 + u^5 + 2u^4 + u^3 + 2u^2 + 2u + 1$
c_6, c_9	$u^6 + 4u^5 + u^4 - 2u^3 + 13u^2 - 2u + 1$
c_7, c_{10}	$u^6 - 4u^5 + 7u^4 - 7u^3 + 6u^2 - 4u + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^6 - 14y^5 + 73y^4 - 189y^3 + 308y^2 - 256y + 100$
c_2	$y^6 - 50y^5 + 653y^4 + 2279y^3 + 12696y^2 - 3936y + 10000$
c_3, c_8	$y^6 - 9y^5 + 22y^4 - 7y^3 + 4y^2 + 4y + 1$
c_4, c_{11}	$y^6 + 3y^5 + 6y^4 + 5y^3 + 4y^2 + 1$
c_6, c_9	$y^6 - 14y^5 + 43y^4 + 40y^3 + 163y^2 + 22y + 1$
c_7, c_{10}	$y^6 - 2y^5 + 5y^4 + 7y^3 + 8y^2 + 8y + 4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.601492+0.919611I$ $a=-0.498140-0.761597I$ $b=\ \ 1.49814+0.76160I$	$-13.38990+2.37783I$	$-11.38532-2.96944I$
$u=-0.601492-0.919611I$ $a=-0.498140+0.761597I$ $b=\ \ 1.49814-0.76160I$	$-13.38990-2.37783I$	$-11.38532+2.96944I$
$u=\ \ 0.560586+0.395699I$ $a=\ \ 1.19062-0.84042I$ $b=-0.190623+0.840421I$	$-0.389538-0.233200I$	$-13.01274+1.15455I$
$u=\ \ 0.560586-0.395699I$ $a=\ \ 1.19062+0.84042I$ $b=-0.190623-0.840421I$	$-0.389538+0.233200I$	$-13.01274-1.15455I$
$u=\ \ 0.540906+1.210940I$ $a=\ \ 0.307517-0.688444I$ $b=\ \ 0.692483+0.688444I$	$2.26485-4.47692I$	$-9.60193+3.00061I$
$u=\ \ 0.540906-1.210940I$ $a=\ \ 0.307517+0.688444I$ $b=\ \ 0.692483-0.688444I$	$2.26485+4.47692I$	$-9.60193-3.00061I$

VI. $\boldsymbol{I_6^u = \langle b - u + 1,\ a + u,\ u^2 + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -u \\ u - 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1 \\ u - 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ -1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u \\ 2u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ 3u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -1 \\ u - 2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_6	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -1.000000I$ $b = -1.00000 + 1.00000I$	1.64493	−8.00000
$u = -1.000000I$ $a = 1.000000I$ $b = -1.00000 - 1.00000I$	1.64493	−8.00000

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

(i) Arc colorings

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

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

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

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

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

$$a_5 = \begin{pmatrix} -\frac{1}{2}u + 1 \\ u + 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{2}u + 1 \\ 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{1}{2}u + 1 \\ u + 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{2}u + 2 \\ 3u - 1 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -\frac{3}{2}u + 2 \\ 3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{3}{2}u + 2 \\ 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_7^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.00000 + 1.00000I$		
$a =$	$0.500000 - 0.500000I$	1.64493	-8.00000
$b =$	$1.000000I$		
$u =$	$1.00000 - 1.00000I$		
$a =$	$0.500000 + 0.500000I$	1.64493	-8.00000
$b =$	$-1.000000I$		

VIII. $I_8^u = \langle b + u,\ a - 2u - 1,\ u^2 + 1\rangle$

(i) Arc colorings

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

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

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

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

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

$$a_5 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} 2u - 1 \\ -u + 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2u - 1 \\ -u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_8^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.000000I$		
$a =$	$1.00000 + 2.00000I$	1.64493	-8.00000
$b =$	$-1.000000I$		
$u =$	$-1.000000I$		
$a =$	$1.00000 - 2.00000I$	1.64493	-8.00000
$b =$	$1.000000I$		

IX. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^4)(u^2+2u+2)(u^4+3u^3+2u^2-1)(u^5+4u^4+\cdots+u+1)$ $\cdot(u^6-3u^5+3u^3+2u^2+1)^2(u^6+4u^5+u^4-9u^3+16u+10)$
c_2	$(u+1)^4(u^2+4)(u^4+5u^3+2u^2+4u+1)$ $\cdot(u^5+10u^4+27u^3+6u^2+5u+1)$ $\cdot(u^6+9u^5+22u^4+7u^3+4u^2-4u+1)^2$ $\cdot(u^6+14u^5+73u^4+189u^3+308u^2+256u+100)$
c_3, c_5, c_8	$((u+1)^4)(u^2-2u+2)(u^4-3u^3+2u^2-1)(u^5+4u^4+\cdots+u+1)$ $\cdot(u^6-3u^5+3u^3+2u^2+1)^2(u^6+4u^5+u^4-9u^3+16u+10)$
c_4, c_7, c_{11}	$(u^2+1)^2(u^2-2u+2)(u^4-u^3+u^2+u-1)$ $\cdot(u^5-2u^4+4u^3-2u^2+2u+1)(u^6-4u^5+\cdots-4u+2)$ $\cdot(u^6+u^5+2u^4+u^3+2u^2+2u+1)^2$
c_6, c_9	$(u^2+1)^3(u^4-2u^3-2u^2+u+1)(u^5-6u^4+12u^3-9u^2+5u+2)$ $\cdot(u^6-5u^5+9u^4-7u^3+8u^2-12u+8)$ $\cdot(u^6+4u^5+u^4-2u^3+13u^2-2u+1)^2$
c_{10}	$(u^2+1)^2(u^2+2u+2)(u^4+u^3+u^2-u-1)$ $\cdot(u^5-2u^4+4u^3-2u^2+2u+1)(u^6-4u^5+\cdots-4u+2)$ $\cdot(u^6+u^5+2u^4+u^3+2u^2+2u+1)^2$

X. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_8	$(y-1)^4(y^2+4)(y^4-5y^3+2y^2-4y+1)$ $\cdot\,(y^5-10y^4+27y^3-6y^2+5y-1)$ $\cdot\,(y^6-14y^5+73y^4-189y^3+308y^2-256y+100)$ $\cdot\,(y^6-9y^5+22y^4-7y^3+4y^2+4y+1)^2$
c_2	$(y-1)^4(y+4)^2(y^4-21y^3-34y^2-12y+1)$ $\cdot\,(y^5-46y^4+619y^3+214y^2+13y-1)$ $\cdot\,(y^6-50y^5+653y^4+2279y^3+12696y^2-3936y+10000)$ $\cdot\,(y^6-37y^5+366y^4+201y^3+116y^2-8y+1)^2$
c_4, c_7, c_{10} c_{11}	$((y+1)^4)(y^2+4)(y^4+y^3+\cdots-3y+1)(y^5+4y^4+\cdots+8y-1)$ $\cdot\,(y^6-2y^5+\cdots+8y+4)(y^6+3y^5+6y^4+5y^3+4y^2+1)^2$
c_6, c_9	$((y+1)^6)(y^4-8y^3+\cdots-5y+1)(y^5-12y^4+\cdots+61y-4)$ $\cdot\,(y^6-14y^5+43y^4+40y^3+163y^2+22y+1)^2$ $\cdot\,(y^6-7y^5+27y^4-9y^3+40y^2-16y+64)$