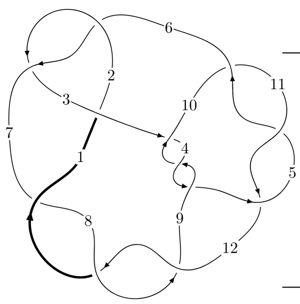
$12a_{0636}$ ($K12a_{0636}$)



A knot diagram[1]

Linearized knot diagam

$$\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow$$

3 7 10 9 11 2 1 12 4 6 5 8

Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -u^{25} - 2u^{24} + \cdots + b - 1,\ 7u^{25} + 15u^{24} + \cdots + 2a + 11,\ u^{26} + 3u^{25} + \cdots + 11u + 2\rangle \\
I_2^u &= \langle -u^{13}a - 8u^{14} + \cdots - a - 10,\ -2u^{13}a + 3u^{14} + \cdots + a - 2, \\
&\quad u^{15} - u^{14} - 4u^{13} + 5u^{12} + 6u^{11} - 10u^{10} + 7u^8 - 8u^7 + 4u^6 + 6u^5 - 8u^4 + 2u^3 + 2u^2 - 2u + 1\rangle \\
I_3^u &= \langle -u^9 + 2u^7 - u^5 - 2u^3 + b + u,\ -u^8 - u^7 + 3u^6 + 2u^5 - 3u^4 - u^3 - u^2 + a - u + 2, \\
&\quad u^{10} - 3u^8 + 4u^6 - u^4 - u^2 + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 66 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. $I_1^u = \langle -u^{25}-2u^{24}+\cdots+b-1,\ 7u^{25}+15u^{24}+\cdots+2a+11,\ u^{26}+3u^{25}+\cdots+11u+2\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5-u^3+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^6-u^4+1 \\ u^8-2u^6+2u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{7}{2}u^{25}-\frac{15}{2}u^{24}+\cdots-31u-\frac{11}{2} \\ u^{25}+2u^{24}+\cdots+8u+1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{1}{2}u^{25}-\frac{3}{2}u^{24}+\cdots-6u-\frac{1}{2} \\ -u^{24}-u^{23}+\cdots-5u-1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^9-2u^7+u^5+2u^3-u \\ u^{11}-3u^9+4u^7-u^5-u^3+u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -\frac{9}{2}u^{25}-\frac{19}{2}u^{24}+\cdots-39u-\frac{13}{2} \\ u^{25}+2u^{24}+\cdots+8u+1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -\frac{1}{2}u^{25}-\frac{1}{2}u^{24}+\cdots-2u-\frac{1}{2} \\ -u^{24}-u^{23}+\cdots-4u-1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{12}-3u^{10}+3u^8+2u^6-4u^4+u^2+1 \\ u^{14}-4u^{12}+7u^{10}-4u^8-2u^6+4u^4-u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2u^{25}-4u^{24}+12u^{23}+34u^{22}-22u^{21}-122u^{20}-30u^{19}+220u^{18}+202u^{17}-140u^{16}-356u^{15}-190u^{14}+202u^{13}+434u^{12}+198u^{11}-234u^{10}-362u^9-134u^8+126u^7+202u^6+86u^5-38u^4-78u^3-32u^2+4u+18$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{26} + 15u^{25} + \cdots + 17u + 4$
c_2, c_6	$u^{26} - 3u^{25} + \cdots - 11u + 2$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$u^{26} + 18u^{24} + \cdots - u + 1$
c_7, c_8, c_{12}	$u^{26} - 9u^{25} + \cdots - 215u + 26$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{26} - 7y^{25} + \cdots + 207y + 16$
c_2, c_6	$y^{26} - 15y^{25} + \cdots - 17y + 4$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$y^{26} + 36y^{25} + \cdots + 5y + 1$
c_7, c_8, c_{12}	$y^{26} + 29y^{25} + \cdots - 257y + 676$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.956817+0.396091I$ $a=-0.651697+0.991591I$ $b=\ \ 0.487266+0.268935I$	$-0.58961+3.47100I$	$5.92481-9.23773I$
$u=-0.956817-0.396091I$ $a=-0.651697-0.991591I$ $b=\ \ 0.487266-0.268935I$	$-0.58961-3.47100I$	$5.92481+9.23773I$
$u=-0.751125+0.602479I$ $a=-1.187320-0.581977I$ $b=\ \ 0.03078+1.53000I$	$-8.48939+2.35165I$	$0.61282-3.28103I$
$u=-0.751125-0.602479I$ $a=-1.187320+0.581977I$ $b=\ \ 0.03078-1.53000I$	$-8.48939-2.35165I$	$0.61282+3.28103I$
$u=\ \ 0.904845+0.273734I$ $a=\ \ 0.298839+0.531776I$ $b=\ \ 0.141020+0.376831I$	$-1.42636-1.11233I$	$0.498012+0.385891I$
$u=\ \ 0.904845-0.273734I$ $a=\ \ 0.298839-0.531776I$ $b=\ \ 0.141020-0.376831I$	$-1.42636+1.11233I$	$0.498012-0.385891I$
$u=-0.069667+0.918847I$ $a=\ \ 0.772660+0.797604I$ $b=-0.33361+1.64747I$	$-18.8709-8.2243I$	$-1.19263+3.34279I$
$u=-0.069667-0.918847I$ $a=\ \ 0.772660-0.797604I$ $b=-0.33361-1.64747I$	$-18.8709+8.2243I$	$-1.19263-3.34279I$
$u=-0.006971+0.822667I$ $a=-0.236714-0.504478I$ $b=\ \ 0.401873-0.547293I$	$-4.02599-1.44616I$	$4.11158+4.76185I$
$u=-0.006971-0.822667I$ $a=-0.236714+0.504478I$ $b=\ \ 0.401873+0.547293I$	$-4.02599+1.44616I$	$4.11158-4.76185I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.341936 + 0.725717I$ $a = -0.612752 + 0.286096I$ $b = 0.14424 - 1.56542I$	$-10.39290 - 4.06497I$	$0.32404 + 2.28928I$
$u = -0.341936 - 0.725717I$ $a = -0.612752 - 0.286096I$ $b = 0.14424 + 1.56542I$	$-10.39290 + 4.06497I$	$0.32404 - 2.28928I$
$u = -1.068130 + 0.547532I$ $a = 2.11393 - 1.03569I$ $b = -0.20016 - 1.55835I$	$-12.4889 + 8.8626I$	$-2.32670 - 6.75099I$
$u = -1.068130 - 0.547532I$ $a = 2.11393 + 1.03569I$ $b = -0.20016 + 1.55835I$	$-12.4889 - 8.8626I$	$-2.32670 + 6.75099I$
$u = 1.201580 + 0.188741I$ $a = -0.30204 - 2.23637I$ $b = -0.11408 - 1.65028I$	$-15.2170 + 1.3980I$	$-5.67569 - 0.13534I$
$u = 1.201580 - 0.188741I$ $a = -0.30204 + 2.23637I$ $b = -0.11408 + 1.65028I$	$-15.2170 - 1.3980I$	$-5.67569 + 0.13534I$
$u = 1.223020 + 0.456500I$ $a = -0.578173 - 0.689340I$ $b = -0.367731 - 0.587274I$	$-7.67362 - 3.10658I$	$0.75309 - 1.41288I$
$u = 1.223020 - 0.456500I$ $a = -0.578173 + 0.689340I$ $b = -0.367731 + 0.587274I$	$-7.67362 + 3.10658I$	$0.75309 + 1.41288I$
$u = -1.225690 + 0.460987I$ $a = 0.339499 - 1.317720I$ $b = -0.447158 - 0.574007I$	$-7.64611 + 6.04329I$	$0.84178 - 7.93478I$
$u = -1.225690 - 0.460987I$ $a = 0.339499 + 1.317720I$ $b = -0.447158 + 0.574007I$	$-7.64611 - 6.04329I$	$0.84178 + 7.93478I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.288060 + 0.430073I$ $a = 0.67479 + 2.08726I$ $b = 0.32678 + 1.67472I$	$16.3921 + 3.4886I$	$-4.76966 - 0.45734I$
$u = 1.288060 - 0.430073I$ $a = 0.67479 - 2.08726I$ $b = 0.32678 - 1.67472I$	$16.3921 - 3.4886I$	$-4.76966 + 0.45734I$
$u = -1.258780 + 0.509888I$ $a = -1.71248 + 2.27956I$ $b = 0.35659 + 1.64288I$	$16.9890 + 13.3492I$	$-4.07199 - 6.35165I$
$u = -1.258780 - 0.509888I$ $a = -1.71248 - 2.27956I$ $b = 0.35659 - 1.64288I$	$16.9890 - 13.3492I$	$-4.07199 + 6.35165I$
$u = -0.438383 + 0.308301I$ $a = 0.831459 - 0.008336I$ $b = -0.425812 + 0.076831I$	$0.801816 - 0.109645I$	$12.97054 + 1.47787I$
$u = -0.438383 - 0.308301I$ $a = 0.831459 + 0.008336I$ $b = -0.425812 - 0.076831I$	$0.801816 + 0.109645I$	$12.97054 - 1.47787I$

II. $I^u_2 =$
$\langle -u^{13}a - 8u^{14} + \cdots - a - 10,\ -2u^{13}a + 3u^{14} + \cdots + a - 2,\ u^{15} - u^{14} + \cdots - 2u + 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^6 - u^4 + 1 \\ u^8 - 2u^6 + 2u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a \\ 0.727273u^{14} + 0.0909091au^{13} + \cdots + 0.0909091a + 0.909091 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.272727au^{14} - 0.363636u^{14} + \cdots - 0.909091a + 0.727273 \\ -0.363636au^{14} - 0.181818au^{13} + \cdots - 0.181818a - 0.909091 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^9 - 2u^7 + u^5 + 2u^3 - u \\ u^{11} - 3u^9 + 4u^7 - u^5 - u^3 + u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.727273u^{14} - 0.0909091au^{13} + \cdots + 0.909091a - 0.909091 \\ 0.727273u^{14} + 0.0909091au^{13} + \cdots + 0.0909091a + 0.909091 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.727273au^{14} + 0.363636u^{14} + \cdots + 0.909091a - 0.727273 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^{12} - 3u^{10} + 3u^8 + 2u^6 - 4u^4 + u^2 + 1 \\ u^{14} - 4u^{12} + 7u^{10} - 4u^8 - 2u^6 + 4u^4 - u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= 4u^{13} - 16u^{11} + 4u^{10} + 28u^9 - 12u^8 - 12u^7 + 16u^6 - 16u^5 + 24u^3 - 8u^2 + 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{15}+9u^{14}+\cdots-4u^2+1)^2$
c_2, c_6	$(u^{15}+u^{14}+\cdots-2u-1)^2$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$u^{30}+u^{29}+\cdots+54u+17$
c_7, c_8, c_{12}	$(u^{15}+3u^{14}+\cdots+8u^2-1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{15} - 5y^{14} + \cdots + 8y - 1)^2$
c_2, c_6	$(y^{15} - 9y^{14} + \cdots + 4y^2 - 1)^2$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$y^{30} + 27y^{29} + \cdots + 4428y + 289$
c_7, c_8, c_{12}	$(y^{15} + 19y^{14} + \cdots + 16y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.023100 + 0.900040I$ $a = -0.360717 + 1.290430I$ $b = 0.10773 + 1.57610I$	$-11.31470 + 3.25615I$	$0.32867 - 2.40088I$
$u = 0.023100 + 0.900040I$ $a = 0.518581 - 0.298234I$ $b = -0.988185 - 0.651753I$	$-11.31470 + 3.25615I$	$0.32867 - 2.40088I$
$u = 0.023100 - 0.900040I$ $a = -0.360717 - 1.290430I$ $b = 0.10773 - 1.57610I$	$-11.31470 - 3.25615I$	$0.32867 + 2.40088I$
$u = 0.023100 - 0.900040I$ $a = 0.518581 + 0.298234I$ $b = -0.988185 + 0.651753I$	$-11.31470 - 3.25615I$	$0.32867 + 2.40088I$
$u = -0.863978$ $a = -1.75727 + 1.74904I$ $b = 0.234017 + 1.079020I$	-4.54552	-4.48380
$u = -0.863978$ $a = -1.75727 - 1.74904I$ $b = 0.234017 - 1.079020I$	-4.54552	-4.48380
$u = -1.093890 + 0.311098I$ $a = -0.115665 + 0.228205I$ $b = -0.603738 + 0.781085I$	$-6.68965 + 1.10849I$	$-3.51398 - 0.68443I$
$u = -1.093890 + 0.311098I$ $a = 0.99897 - 2.63611I$ $b = -0.061421 - 1.364080I$	$-6.68965 + 1.10849I$	$-3.51398 - 0.68443I$
$u = -1.093890 - 0.311098I$ $a = -0.115665 - 0.228205I$ $b = -0.603738 - 0.781085I$	$-6.68965 - 1.10849I$	$-3.51398 + 0.68443I$
$u = -1.093890 - 0.311098I$ $a = 0.99897 + 2.63611I$ $b = -0.061421 + 1.364080I$	$-6.68965 - 1.10849I$	$-3.51398 + 0.68443I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.747479+0.391613I$ $a = 1.293270-0.129521I$ $b = -0.046233+1.126590I$	$-2.04760-1.75942I$	$6.85085+5.01461I$
$u = 0.747479+0.391613I$ $a = -0.75255+1.32580I$ $b = 0.169565-0.296554I$	$-2.04760-1.75942I$	$6.85085+5.01461I$
$u = 0.747479-0.391613I$ $a = 1.293270+0.129521I$ $b = -0.046233-1.126590I$	$-2.04760+1.75942I$	$6.85085-5.01461I$
$u = 0.747479-0.391613I$ $a = -0.75255-1.32580I$ $b = 0.169565+0.296554I$	$-2.04760+1.75942I$	$6.85085-5.01461I$
$u = 1.070290+0.443484I$ $a = 0.982216+0.740855I$ $b = -0.692609+0.458051I$	$-5.70338-5.68434I$	$-0.20490+7.47679I$
$u = 1.070290+0.443484I$ $a = -1.93478-1.79741I$ $b = 0.133299-1.346070I$	$-5.70338-5.68434I$	$-0.20490+7.47679I$
$u = 1.070290-0.443484I$ $a = 0.982216-0.740855I$ $b = -0.692609-0.458051I$	$-5.70338+5.68434I$	$-0.20490-7.47679I$
$u = 1.070290-0.443484I$ $a = -1.93478+1.79741I$ $b = 0.133299+1.346070I$	$-5.70338+5.68434I$	$-0.20490-7.47679I$
$u = -1.268720+0.457284I$ $a = 0.836002-0.171074I$ $b = 1.000150-0.693082I$	$-15.2659+1.5494I$	$-3.09602-0.66420I$
$u = -1.268720+0.457284I$ $a = -0.92571+2.56606I$ $b = -0.08422+1.59670I$	$-15.2659+1.5494I$	$-3.09602-0.66420I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.268720 - 0.457284I$ $a = 0.836002 + 0.171074I$ $b = 1.000150 + 0.693082I$	$-15.2659 - 1.5494I$	$-3.09602 + 0.66420I$
$u = -1.268720 - 0.457284I$ $a = -0.92571 - 2.56606I$ $b = -0.08422 - 1.59670I$	$-15.2659 - 1.5494I$	$-3.09602 + 0.66420I$
$u = 1.260410 + 0.482704I$ $a = -0.16128 - 1.54115I$ $b = 1.020220 - 0.627490I$	$-15.0770 - 8.1923I$	$-2.69502 + 5.35870I$
$u = 1.260410 + 0.482704I$ $a = 1.45407 + 2.60668I$ $b = -0.13370 + 1.58929I$	$-15.0770 - 8.1923I$	$-2.69502 + 5.35870I$
$u = 1.260410 - 0.482704I$ $a = -0.16128 + 1.54115I$ $b = 1.020220 + 0.627490I$	$-15.0770 + 8.1923I$	$-2.69502 - 5.35870I$
$u = 1.260410 - 0.482704I$ $a = 1.45407 - 2.60668I$ $b = -0.13370 - 1.58929I$	$-15.0770 + 8.1923I$	$-2.69502 - 5.35870I$
$u = 0.193328 + 0.557909I$ $a = 0.736955 - 0.543574I$ $b = -0.057344 - 1.272060I$	$-3.31411 + 1.73642I$	$3.57231 - 4.08118I$
$u = 0.193328 + 0.557909I$ $a = -1.31209 - 0.67705I$ $b = 0.502458 + 0.520559I$	$-3.31411 + 1.73642I$	$3.57231 - 4.08118I$
$u = 0.193328 - 0.557909I$ $a = 0.736955 + 0.543574I$ $b = -0.057344 + 1.272060I$	$-3.31411 - 1.73642I$	$3.57231 + 4.08118I$
$u = 0.193328 - 0.557909I$ $a = -1.31209 + 0.67705I$ $b = 0.502458 - 0.520559I$	$-3.31411 - 1.73642I$	$3.57231 + 4.08118I$

III. $\boldsymbol{I_3^u =}$
$\boldsymbol{\langle -u^9+2u^7-u^5-2u^3+b+u,\ -u^8-u^7+\cdots+a+2,\ u^{10}-3u^8+4u^6-u^4-u^2+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^8-8u^6+8u^4+4u^2-4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.822375 + 0.339110I$ $a = -1.88547 - 1.25135I$ $b = 1.000000I$	$-3.61897 + 1.53058I$	$-0.51511 - 4.43065I$
$u = -0.822375 - 0.339110I$ $a = -1.88547 + 1.25135I$ $b = -1.000000I$	$-3.61897 - 1.53058I$	$-0.51511 + 4.43065I$
$u = 0.822375 + 0.339110I$ $a = 0.32986 + 1.50891I$ $b = 1.000000I$	$-3.61897 - 1.53058I$	$-0.51511 + 4.43065I$
$u = 0.822375 - 0.339110I$ $a = 0.32986 - 1.50891I$ $b = -1.000000I$	$-3.61897 + 1.53058I$	$-0.51511 - 4.43065I$
$u = 0.766826I$ $a = -0.821196 - 0.370286I$ $b = -1.000000I$	-5.69095	-1.48110
$u = -0.766826I$ $a = -0.821196 + 0.370286I$ $b = 1.000000I$	-5.69095	-1.48110
$u = -1.200150 + 0.455697I$ $a = 1.56305 - 1.07974I$ $b = -1.000000I$	$-9.16243 + 4.40083I$	$-4.74431 - 3.49859I$
$u = -1.200150 - 0.455697I$ $a = 1.56305 + 1.07974I$ $b = 1.000000I$	$-9.16243 - 4.40083I$	$-4.74431 + 3.49859I$
$u = 1.200150 + 0.455697I$ $a = -0.186244 - 1.292420I$ $b = -1.000000I$	$-9.16243 - 4.40083I$	$-4.74431 + 3.49859I$
$u = 1.200150 - 0.455697I$ $a = -0.186244 + 1.292420I$ $b = 1.000000I$	$-9.16243 + 4.40083I$	$-4.74431 - 3.49859I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^5-3u^4+4u^3-u^2-u+1)^2)(u^{15}+9u^{14}+\cdots-4u^2+1)^2$ $\cdot(u^{26}+15u^{25}+\cdots+17u+4)$
c_2, c_6	$(u^{10}-3u^8+4u^6-u^4-u^2+1)(u^{15}+u^{14}+\cdots-2u-1)^2$ $\cdot(u^{26}-3u^{25}+\cdots-11u+2)$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$((u^2+1)^5)(u^{26}+18u^{24}+\cdots-u+1)(u^{30}+u^{29}+\cdots+54u+17)$
c_7, c_8, c_{12}	$(u^{10}+5u^8+8u^6+3u^4-u^2+1)(u^{15}+3u^{14}+\cdots+8u^2-1)^2$ $\cdot(u^{26}-9u^{25}+\cdots-215u+26)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^2)(y^{15} - 5y^{14} + \cdots + 8y - 1)^2$ $\cdot\,(y^{26} - 7y^{25} + \cdots + 207y + 16)$
c_2, c_6	$((y^5 - 3y^4 + 4y^3 - y^2 - y + 1)^2)(y^{15} - 9y^{14} + \cdots + 4y^2 - 1)^2$ $\cdot\,(y^{26} - 15y^{25} + \cdots - 17y + 4)$
c_3, c_4, c_5 c_9, c_{10}, c_{11}	$((y+1)^{10})(y^{26} + 36y^{25} + \cdots + 5y + 1)$ $\cdot\,(y^{30} + 27y^{29} + \cdots + 4428y + 289)$
c_7, c_8, c_{12}	$((y^5 + 5y^4 + 8y^3 + 3y^2 - y + 1)^2)(y^{15} + 19y^{14} + \cdots + 16y - 1)^2$ $\cdot\,(y^{26} + 29y^{25} + \cdots - 257y + 676)$