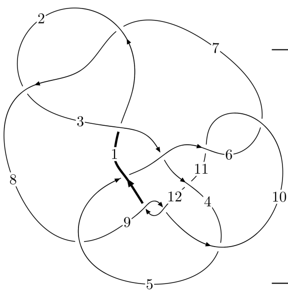
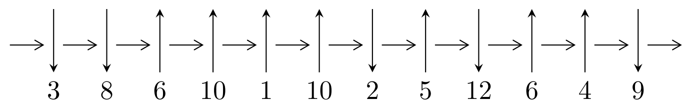
$12n_{0625}$ ($K12n_{0625}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -97u^{34} - 1164u^{33} + \cdots + 4b - 1732,\ -239u^{34} - 2674u^{33} + \cdots + 8a - 4156, \\
&\quad u^{35} + 12u^{34} + \cdots + 140u + 8\rangle \\
I_2^u &= \langle -3u^{24} + 20u^{23} + \cdots + b - 14,\ 14u^{25} - 83u^{24} + \cdots + 5a + 15,\ u^{26} - 7u^{25} + \cdots - 15u + 5\rangle \\
I_3^u &= \langle -38441817751a^5u^5 - 19856412660u^5a^4 + \cdots - 2635825958a - 179169756, \\
&\quad 4u^5a^4 + u^5a^3 + \cdots + 90a - 272,\ u^6 - u^5 + 3u^4 - 2u^3 + 2u^2 - u - 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 97 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. $\boldsymbol{I_1^u = \langle -97u^{34} - 1164u^{33} + \cdots + 4b - 1732,\ -239u^{34} - 2674u^{33} + \cdots + 8a - 4156,\ u^{35} + 12u^{34} + \cdots + 140u + 8 \rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} 29.8750u^{34} + 334.250u^{33} + \cdots + 7861.75u + 519.500 \\ \frac{97}{4}u^{34} + 291u^{33} + \cdots + 6625u + 433 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 29.8750u^{34} + 344.250u^{33} + \cdots + 10823.8u + 713.500 \\ \frac{97}{4}u^{34} + 281u^{33} + \cdots + 3663u + 239 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 15.6250u^{34} + 177.250u^{33} + \cdots + 4392.75u + 280.500 \\ \frac{85}{4}u^{34} + 243u^{33} + \cdots + 4779u + 321 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 7.37500u^{34} + 71.2500u^{33} + \cdots - 4744.25u - 354.500 \\ \frac{21}{4}u^{34} + 75u^{33} + \cdots + 4263u + 263 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{33}{8}u^{34} - \frac{191}{4}u^{33} + \cdots - \frac{3645}{4}u - 56 \\ -\frac{17}{4}u^{34} - \frac{97}{2}u^{33} + \cdots - \frac{2097}{2}u - 67 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{125}{8}u^{34} - \frac{727}{4}u^{33} + \cdots - \frac{28857}{4}u - 491 \\ -\frac{15}{4}u^{34} - \frac{93}{2}u^{33} + \cdots + \frac{313}{2}u + 7 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -40.1250u^{34} - 460.250u^{33} + \cdots - 12730.8u - 838.500 \\ -\frac{89}{4}u^{34} - 265u^{33} + \cdots - 4561u - 295 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{5}{8}u^{34} + \frac{27}{4}u^{33} + \cdots + \frac{233}{4}u + 4 \\ -\frac{1}{4}u^{34} - \frac{5}{2}u^{33} + \cdots + \frac{33}{2}u + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -u^{34} - 40u^{33} + \cdots - 3016u - 210$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{35} + 17u^{34} + \cdots - 3072u + 4096$
c_2, c_7	$u^{35} - 13u^{34} + \cdots - 544u + 64$
c_3	$u^{35} + 19u^{34} + \cdots + 20188u + 1960$
c_4	$u^{35} - 19u^{33} + \cdots + 270u - 193$
c_5, c_8	$u^{35} - 12u^{33} + \cdots + 10u - 1$
c_6, c_{10}, c_{11}	$u^{35} - u^{34} + \cdots - 16u^2 + 1$
c_9, c_{12}	$u^{35} - 12u^{34} + \cdots + 140u - 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{35} + 3y^{34} + \cdots - 250609664y - 16777216$
c_2, c_7	$y^{35} - 17y^{34} + \cdots - 3072y - 4096$
c_3	$y^{35} - 45y^{34} + \cdots + 57342544y - 3841600$
c_4	$y^{35} - 38y^{34} + \cdots - 208108y - 37249$
c_5, c_8	$y^{35} - 24y^{34} + \cdots + 34y - 1$
c_6, c_{10}, c_{11}	$y^{35} - 55y^{34} + \cdots + 32y - 1$
c_9, c_{12}	$y^{35} + 24y^{34} + \cdots + 912y - 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.099980 + 0.143930I$ $a = 0.230693 - 0.044757I$ $b = -1.19145 - 0.89068I$	$8.07701 + 10.47920I$	0
$u = -1.099980 - 0.143930I$ $a = 0.230693 + 0.044757I$ $b = -1.19145 + 0.89068I$	$8.07701 - 10.47920I$	0
$u = -0.176786 + 1.110160I$ $a = -1.50400 - 0.06191I$ $b = 0.819836 + 0.909342I$	$-0.154709 + 0.705431I$	0
$u = -0.176786 - 1.110160I$ $a = -1.50400 + 0.06191I$ $b = 0.819836 - 0.909342I$	$-0.154709 - 0.705431I$	0
$u = -1.148150 + 0.105837I$ $a = -0.218382 + 0.022702I$ $b = 1.266830 + 0.573062I$	$9.98543 + 3.73790I$	0
$u = -1.148150 - 0.105837I$ $a = -0.218382 - 0.022702I$ $b = 1.266830 - 0.573062I$	$9.98543 - 3.73790I$	0
$u = -0.156742 + 1.187670I$ $a = 1.74113 - 0.29318I$ $b = -1.21323 - 0.79801I$	$4.43767 + 2.72692I$	0
$u = -0.156742 - 1.187670I$ $a = 1.74113 + 0.29318I$ $b = -1.21323 + 0.79801I$	$4.43767 - 2.72692I$	0
$u = -0.080256 + 1.203320I$ $a = 1.32268 - 0.52185I$ $b = -1.066100 - 0.381230I$	$5.03943 + 0.52910I$	0
$u = -0.080256 - 1.203320I$ $a = 1.32268 + 0.52185I$ $b = -1.066100 + 0.381230I$	$5.03943 - 0.52910I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.180648+1.194610I$ $a=-1.91566+0.20321I$ $b=\ 1.28335+0.96670I$	$2.44479+7.71496I$	0
$u=-0.180648-1.194610I$ $a=-1.91566-0.20321I$ $b=\ 1.28335-0.96670I$	$2.44479-7.71496I$	0
$u=-0.027618+1.240640I$ $a=-1.043420+0.623249I$ $b=\ 0.946278+0.141646I$	$3.62037-4.19606I$	0
$u=-0.027618-1.240640I$ $a=-1.043420-0.623249I$ $b=\ 0.946278-0.141646I$	$3.62037+4.19606I$	0
$u=\ 0.393608+0.616666I$ $a=-0.541312-0.331797I$ $b=\ 0.128387+0.276430I$	$0.073195-1.283670I$	$0.53283+5.86961I$
$u=\ 0.393608-0.616666I$ $a=-0.541312+0.331797I$ $b=\ 0.128387-0.276430I$	$0.073195+1.283670I$	$0.53283-5.86961I$
$u=-1.33744$ $a=\ 0.212540$ $b=-0.842391$	1.80982	0
$u=-0.382949+0.400086I$ $a=\ 1.077350+0.149282I$ $b=\ 0.262290-0.775953I$	$-2.26874+1.67313I$	$1.23489-1.13105I$
$u=-0.382949-0.400086I$ $a=\ 1.077350-0.149282I$ $b=\ 0.262290+0.775953I$	$-2.26874-1.67313I$	$1.23489+1.13105I$
$u=-0.48137+1.41511I$ $a=\ 1.87041-0.11510I$ $b=-1.51506-1.07641I$	$12.9957+16.0498I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.48137 - 1.41511I$ $a = 1.87041 + 0.11510I$ $b = -1.51506 + 1.07641I$	$12.9957 - 16.0498I$	0
$u = -0.50191 + 1.42077I$ $a = -1.72676 + 0.32922I$ $b = 1.55368 + 0.82547I$	$14.8329 + 9.5367I$	0
$u = -0.50191 - 1.42077I$ $a = -1.72676 - 0.32922I$ $b = 1.55368 - 0.82547I$	$14.8329 - 9.5367I$	0
$u = 1.08815 + 1.05620I$ $a = 0.209018 + 0.062343I$ $b = -0.1172880 - 0.0788852I$	$-5.12951 - 4.01720I$	0
$u = 1.08815 - 1.05620I$ $a = 0.209018 - 0.062343I$ $b = -0.1172880 + 0.0788852I$	$-5.12951 + 4.01720I$	0
$u = -0.67357 + 1.36899I$ $a = 0.486870 - 0.931148I$ $b = -1.050210 + 0.441181I$	$11.70210 - 4.12793I$	0
$u = -0.67357 - 1.36899I$ $a = 0.486870 + 0.931148I$ $b = -1.050210 - 0.441181I$	$11.70210 + 4.12793I$	0
$u = -0.61726 + 1.41428I$ $a = -0.858106 + 0.838071I$ $b = 1.257250 - 0.123309I$	$14.0234 + 2.6592I$	0
$u = -0.61726 - 1.41428I$ $a = -0.858106 - 0.838071I$ $b = 1.257250 + 0.123309I$	$14.0234 - 2.6592I$	0
$u = -0.412094 + 0.136239I$ $a = 1.48498 - 0.11016I$ $b = 0.870960 - 0.623172I$	$-0.69807 - 5.41461I$	$4.99900 + 9.86847I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.412094 - 0.136239I$ $a = 1.48498 + 0.11016I$ $b = 0.870960 + 0.623172I$	$-0.69807 + 5.41461I$	$4.99900 - 9.86847I$
$u = -0.53677 + 1.49180I$ $a = 1.111360 - 0.251453I$ $b = -1.054110 - 0.475748I$	$6.80622 + 6.65686I$	0
$u = -0.53677 - 1.49180I$ $a = 1.111360 + 0.251453I$ $b = -1.054110 + 0.475748I$	$6.80622 - 6.65686I$	0
$u = -0.336936 + 0.095632I$ $a = -1.58311 - 0.02068I$ $b = -0.760213 + 0.327462I$	$1.31189 - 0.75210I$	$6.86398 + 3.34403I$
$u = -0.336936 - 0.095632I$ $a = -1.58311 + 0.02068I$ $b = -0.760213 - 0.327462I$	$1.31189 + 0.75210I$	$6.86398 - 3.34403I$

II. $\boldsymbol{I_2^u = \langle -3u^{24} + 20u^{23} + \cdots + b - 14,\ 14u^{25} - 83u^{24} + \cdots + 5a + 15,\ u^{26} - 7u^{25} + \cdots - 15u + 5\rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{14}{5}u^{25} + \frac{83}{5}u^{24} + \cdots + \frac{1}{5}u - 3 \\ 3u^{24} - 20u^{23} + \cdots - 31u + 14 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{1}{5}u^{25} - \frac{17}{5}u^{24} + \cdots + \frac{71}{5}u - 3 \\ -3u^{25} + 23u^{24} + \cdots - 45u + 14 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -\frac{4}{5}u^{25} + \frac{28}{5}u^{24} + \cdots + \frac{1}{5}u - 2 \\ -2u^{22} + 11u^{21} + \cdots + 4u - 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{21}{5}u^{25} + \frac{152}{5}u^{24} + \cdots - \frac{181}{5}u + 5 \\ 8u^{25} - 54u^{24} + \cdots + 50u - 9 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{9}{5}u^{25} - \frac{53}{5}u^{24} + \cdots - \frac{11}{5}u + 5 \\ u^{25} - 8u^{24} + \cdots + 32u - 14 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{9}{5}u^{25} + \frac{93}{5}u^{24} + \cdots - \frac{259}{5}u + 17 \\ 6u^{25} - 47u^{24} + \cdots + 88u - 26 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} \frac{1}{5}u^{25} - \frac{7}{5}u^{24} + \cdots + \frac{1}{5}u + 1 \\ 2u^{24} - 13u^{23} + \cdots - 15u + 4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} \frac{6}{5}u^{25} - \frac{42}{5}u^{24} + \cdots + \frac{11}{5}u - 1 \\ -u^{25} + 6u^{24} + \cdots + 11u - 6 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= 2u^{25} + 9u^{24} - 77u^{23} + 407u^{22} - 1373u^{21} + 3767u^{20} - 8362u^{19} + 15938u^{18} - 25873u^{17} + 36425u^{16} - 43673u^{15} + 43799u^{14} - 33927u^{13} + 14898u^{12} + 8887u^{11} - 30580u^{10} + 44036u^9 - 46418u^8 + 39264u^7 - 27167u^6 + 15123u^5 - 6437u^4 + 1785u^3 - 99u^2 - 150u + 45$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{26} - 16u^{25} + \cdots - 115u + 9$
c_2	$u^{26} - 8u^{24} + \cdots + 5u + 3$
c_3	$u^{26} + 22u^{25} + \cdots + 3110u + 473$
c_4	$u^{26} - 9u^{24} + \cdots - u - 3$
c_5, c_8	$u^{26} + 2u^{24} + \cdots - 7u - 1$
c_6, c_{11}	$u^{26} - u^{25} + \cdots + u - 1$
c_7	$u^{26} - 8u^{24} + \cdots - 5u + 3$
c_9	$u^{26} - 7u^{25} + \cdots - 15u + 5$
c_{10}	$u^{26} + u^{25} + \cdots - u - 1$
c_{12}	$u^{26} + 7u^{25} + \cdots + 15u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{26} - 4y^{24} + \cdots - 211y + 81$
c_2, c_7	$y^{26} - 16y^{25} + \cdots - 115y + 9$
c_3	$y^{26} - 34y^{25} + \cdots - 2510880y + 223729$
c_4	$y^{26} - 18y^{25} + \cdots + 47y + 9$
c_5, c_8	$y^{26} + 4y^{25} + \cdots - 27y + 1$
c_6, c_{10}, c_{11}	$y^{26} - 19y^{25} + \cdots + 15y + 1$
c_9, c_{12}	$y^{26} + 19y^{25} + \cdots - 365y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.994612$ $a = 0.638284$ $b = -0.318280$	0.856397	-2.32000
$u = -0.212241 + 1.020190I$ $a = 1.23563 - 1.37216I$ $b = -0.081295 + 1.211700I$	$9.42472 - 2.04416I$	$6.12450 + 2.23947I$
$u = -0.212241 - 1.020190I$ $a = 1.23563 + 1.37216I$ $b = -0.081295 - 1.211700I$	$9.42472 + 2.04416I$	$6.12450 - 2.23947I$
$u = 0.690336 + 0.610624I$ $a = 0.076479 - 0.614284I$ $b = 0.774243 + 0.308106I$	$1.035900 - 0.601010I$	$6.74042 + 0.76556I$
$u = 0.690336 - 0.610624I$ $a = 0.076479 + 0.614284I$ $b = 0.774243 - 0.308106I$	$1.035900 + 0.601010I$	$6.74042 - 0.76556I$
$u = -0.149267 + 1.091680I$ $a = -1.79375 + 0.98935I$ $b = 0.54342 - 1.31617I$	$9.80770 + 3.58067I$	$6.57697 - 2.52937I$
$u = -0.149267 - 1.091680I$ $a = -1.79375 - 0.98935I$ $b = 0.54342 + 1.31617I$	$9.80770 - 3.58067I$	$6.57697 + 2.52937I$
$u = 0.389539 + 1.134620I$ $a = -1.302210 - 0.416528I$ $b = 1.108030 - 0.626702I$	$2.91227 - 3.60504I$	$3.99685 + 3.76042I$
$u = 0.389539 - 1.134620I$ $a = -1.302210 + 0.416528I$ $b = 1.108030 + 0.626702I$	$2.91227 + 3.60504I$	$3.99685 - 3.76042I$
$u = 0.797638 + 0.055469I$ $a = -0.141851 - 0.260115I$ $b = -0.182422 - 1.114170I$	$-3.82284 - 1.29938I$	$-2.97334 + 4.45756I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.797638 - 0.055469I$ $a = -0.141851 + 0.260115I$ $b = -0.182422 + 1.114170I$	$-3.82284 + 1.29938I$	$-2.97334 - 4.45756I$
$u = 0.332677 + 1.187440I$ $a = 1.67027 + 0.23671I$ $b = -1.22101 + 0.91742I$	$1.60214 - 8.49569I$	$1.29011 + 9.18149I$
$u = 0.332677 - 1.187440I$ $a = 1.67027 - 0.23671I$ $b = -1.22101 - 0.91742I$	$1.60214 + 8.49569I$	$1.29011 - 9.18149I$
$u = 0.663432 + 0.362819I$ $a = -0.524336 + 0.422708I$ $b = -0.822418 - 0.618568I$	$-1.08880 + 4.74486I$	$-0.32078 - 1.84995I$
$u = 0.663432 - 0.362819I$ $a = -0.524336 - 0.422708I$ $b = -0.822418 + 0.618568I$	$-1.08880 - 4.74486I$	$-0.32078 + 1.84995I$
$u = -0.084221 + 1.248750I$ $a = -1.63024 - 0.11402I$ $b = 1.036010 - 0.675543I$	$7.45067 + 1.13341I$	$10.54209 + 2.52582I$
$u = -0.084221 - 1.248750I$ $a = -1.63024 + 0.11402I$ $b = 1.036010 + 0.675543I$	$7.45067 - 1.13341I$	$10.54209 - 2.52582I$
$u = 0.352829 + 1.277260I$ $a = 1.49620 - 0.38804I$ $b = -0.78216 + 1.19766I$	$0.00872 - 2.80461I$	$3.16243 + 0.29385I$
$u = 0.352829 - 1.277260I$ $a = 1.49620 + 0.38804I$ $b = -0.78216 - 1.19766I$	$0.00872 + 2.80461I$	$3.16243 - 0.29385I$
$u = -0.158743 + 1.367070I$ $a = 1.055280 + 0.122047I$ $b = -0.726480 + 0.371188I$	$6.12252 + 3.91786I$	$6.46603 - 4.94923I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.158743 - 1.367070I$ $a = 1.055280 - 0.122047I$ $b = -0.726480 - 0.371188I$	$6.12252 - 3.91786I$	$6.46603 + 4.94923I$
$u = 0.391414 + 1.325100I$ $a = -1.115120 + 0.491333I$ $b = 0.489745 - 1.045650I$	$0.54950 - 5.62615I$	$3.66832 + 10.11722I$
$u = 0.391414 - 1.325100I$ $a = -1.115120 - 0.491333I$ $b = 0.489745 + 1.045650I$	$0.54950 + 5.62615I$	$3.66832 - 10.11722I$
$u = 1.10193 + 1.08460I$ $a = 0.207377 + 0.156851I$ $b = -0.368539 + 0.019205I$	$-4.99593 - 4.04910I$	$27.6398 + 11.5463I$
$u = 1.10193 - 1.08460I$ $a = 0.207377 - 0.156851I$ $b = -0.368539 - 0.019205I$	$-4.99593 + 4.04910I$	$27.6398 - 11.5463I$
$u = -0.236035$ $a = -4.10573$ $b = 0.784035$	3.63799	13.4930

III. $\boldsymbol{I_3^u = \langle -3.84\times 10^{10}a^5u^5 - 1.99\times 10^{10}a^4u^5 + \cdots - 2.64\times 10^9 a - 1.79\times 10^8,\ 4u^5a^4 + u^5a^3 + \cdots + 90a - 272,\ u^6 - u^5 + 3u^4 - 2u^3 + 2u^2 - u - 1\rangle}$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} a \\ 22.7375a^5u^5 + 11.7446a^4u^5 + \cdots + 1.55903a + 0.105975 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 17.4024a^5u^5 + 8.90807a^4u^5 + \cdots + 2.70752a - 0.0801194 \\ 5.33502a^5u^5 + 2.83654a^4u^5 + \cdots - 0.148487a + 0.186094 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -22.7375a^5u^5 - 11.7446a^4u^5 + \cdots - 0.559030a - 0.105975 \\ 5.33502a^5u^5 + 2.83654a^4u^5 + \cdots - 0.148487a + 0.186094 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -16.3123a^5u^5 - 8.46656a^4u^5 + \cdots - 1.43971a + 0.213592 \\ 7.29620a^5u^5 + 3.87826a^4u^5 + \cdots + 1.28149a + 0.523558 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -6.24783a^5u^5 - 6.05457a^4u^5 + \cdots - 0.986241a + 0.330441 \\ -4.85306a^5u^5 - 4.50211a^4u^5 + \cdots - 1.02272a + 0.683110 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -14.6689a^5u^5 - 14.1906a^4u^5 + \cdots - 2.29063a + 0.459585 \\ 3.56796a^5u^5 + 3.63393a^4u^5 + \cdots + 0.281670a + 0.553965 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -9.54626a^5u^5 - 4.90520a^4u^5 + \cdots - 1.28745a + 0.352817 \\ 0.530130a^5u^5 + 0.316901a^4u^5 + \cdots + 1.12923a + 0.384333 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -15.2075a^5u^5 - 14.4298a^4u^5 + \cdots - 2.17959a + 0.280254 \\ -1.77366a^5u^5 - 1.96756a^4u^5 + \cdots - 0.0617525a - 0.267275 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{12578180552}{1690682787}a^5u^5 - \frac{35048362616}{1690682787}u^5a^4 + \cdots - \frac{6976030156}{1690682787}a - \frac{3021249058}{1690682787}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^3+u^2+2u+1)^{12}$
c_2, c_7	$(u^3+u^2-1)^{12}$
c_3	$(u^6-5u^5+7u^4-2u^2-3u-1)^6$
c_4	$u^{36}+u^{35}+\cdots-1508790u-544009$
c_5, c_8	$u^{36}-5u^{35}+\cdots-4368u-383$
c_6, c_{10}, c_{11}	$u^{36}-u^{35}+\cdots+36176u-62927$
c_9, c_{12}	$(u^6+u^5+3u^4+2u^3+2u^2+u-1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^3+3y^2+2y-1)^{12}$
c_2, c_7	$(y^3-y^2+2y-1)^{12}$
c_3	$(y^6-11y^5+45y^4-60y^3-10y^2-5y+1)^6$
c_4	$y^{36}-33y^{35}+\cdots-2168864044260y+295945792081$
c_5, c_8	$y^{36}+3y^{35}+\cdots-23130032y+146689$
c_6, c_{10}, c_{11}	$y^{36}-45y^{35}+\cdots-4582417224y+3959807329$
c_9, c_{12}	$(y^6+5y^5+9y^4+4y^3-6y^2-5y+1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.873214$ $a = 0.046621 + 0.560350I$ $b = 0.946484 + 0.058547I$	$0.29884 + 2.82812I$	$3.24026 - 2.97945I$
$u = 0.873214$ $a = 0.046621 - 0.560350I$ $b = 0.946484 - 0.058547I$	$0.29884 - 2.82812I$	$3.24026 + 2.97945I$
$u = 0.873214$ $a = -0.216714 + 0.473383I$ $b = -0.867194 - 0.540430I$	$0.29884 + 2.82812I$	$3.24026 - 2.97945I$
$u = 0.873214$ $a = -0.216714 - 0.473383I$ $b = -0.867194 + 0.540430I$	$0.29884 - 2.82812I$	$3.24026 + 2.97945I$
$u = 0.873214$ $a = -0.225325 + 0.158182I$ $b = 0.105037 + 1.089450I$	-3.83874	$-3.28901 + 0.I$
$u = 0.873214$ $a = -0.225325 - 0.158182I$ $b = 0.105037 - 1.089450I$	-3.83874	$-3.28901 + 0.I$
$u = -0.138835 + 1.234450I$ $a = -0.710924 - 0.211504I$ $b = 0.177665 - 0.836176I$	$6.78159 + 1.97241I$	$4.40477 - 3.68478I$
$u = -0.138835 + 1.234450I$ $a = -0.96909 + 1.81374I$ $b = 1.14994 - 2.52852I$	$10.91920 - 0.85571I$	$10.93403 - 0.70533I$
$u = -0.138835 + 1.234450I$ $a = 2.05223 - 0.44593I$ $b = -1.36734 + 0.51282I$	$6.78159 + 1.97241I$	$4.40477 - 3.68478I$
$u = -0.138835 + 1.234450I$ $a = 1.53377 - 1.76635I$ $b = -1.76314 + 2.25582I$	$10.91920 + 4.80053I$	$10.93403 - 6.66423I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.138835+1.234450I$ $a=-2.53558-1.55858I$ $b=\ \ 0.572383+0.351094I$	$10.91920+4.80053I$	$10.93403-6.66423I$
$u=-0.138835+1.234450I$ $a=\ \ 2.98342+1.01491I$ $b=-0.857247-0.322484I$	$10.91920-0.85571I$	$10.93403-0.70533I$
$u=-0.138835-1.234450I$ $a=-0.710924+0.211504I$ $b=\ \ 0.177665+0.836176I$	$6.78159-1.97241I$	$4.40477+3.68478I$
$u=-0.138835-1.234450I$ $a=-0.96909-1.81374I$ $b=\ \ 1.14994+2.52852I$	$10.91920+0.85571I$	$10.93403+0.70533I$
$u=-0.138835-1.234450I$ $a=\ \ 2.05223+0.44593I$ $b=-1.36734-0.51282I$	$6.78159-1.97241I$	$4.40477+3.68478I$
$u=-0.138835-1.234450I$ $a=\ \ 1.53377+1.76635I$ $b=-1.76314-2.25582I$	$10.91920-4.80053I$	$10.93403+6.66423I$
$u=-0.138835-1.234450I$ $a=-2.53558+1.55858I$ $b=\ \ 0.572383-0.351094I$	$10.91920-4.80053I$	$10.93403+6.66423I$
$u=-0.138835-1.234450I$ $a=\ \ 2.98342-1.01491I$ $b=-0.857247+0.322484I$	$10.91920+0.85571I$	$10.93403+0.70533I$
$u=\ \ 0.408802+1.276380I$ $a=\ \ 1.006520-0.502701I$ $b=-0.515095+1.191540I$	$0.12577-4.59213I$	$0.39935+3.20482I$
$u=\ \ 0.408802+1.276380I$ $a=\ \ 0.833561+1.021450I$ $b=-0.858564+0.199511I$	$4.26335-1.76400I$	$6.92862+0.22537I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.408802 + 1.276380I$ $a = -1.40776 + 0.27165I$ $b = 0.678316 - 0.908842I$	$0.12577 - 4.59213I$	$0.39935 + 3.20482I$
$u = 0.408802 + 1.276380I$ $a = -1.51500 - 0.18826I$ $b = 1.56863 - 0.46722I$	$4.26335 - 1.76400I$	$6.92862 + 0.22537I$
$u = 0.408802 + 1.276380I$ $a = -1.37419 - 0.89571I$ $b = 1.055710 - 0.493186I$	$4.26335 - 7.42025I$	$6.92862 + 6.18427I$
$u = 0.408802 + 1.276380I$ $a = 1.75274 - 0.11189I$ $b = -1.64256 + 0.97429I$	$4.26335 - 7.42025I$	$6.92862 + 6.18427I$
$u = 0.408802 - 1.276380I$ $a = 1.006520 + 0.502701I$ $b = -0.515095 - 1.191540I$	$0.12577 + 4.59213I$	$0.39935 - 3.20482I$
$u = 0.408802 - 1.276380I$ $a = 0.833561 - 1.021450I$ $b = -0.858564 - 0.199511I$	$4.26335 + 1.76400I$	$6.92862 - 0.22537I$
$u = 0.408802 - 1.276380I$ $a = -1.40776 - 0.27165I$ $b = 0.678316 + 0.908842I$	$0.12577 + 4.59213I$	$0.39935 - 3.20482I$
$u = 0.408802 - 1.276380I$ $a = -1.51500 + 0.18826I$ $b = 1.56863 + 0.46722I$	$4.26335 + 1.76400I$	$6.92862 - 0.22537I$
$u = 0.408802 - 1.276380I$ $a = -1.37419 + 0.89571I$ $b = 1.055710 + 0.493186I$	$4.26335 + 7.42025I$	$6.92862 - 6.18427I$
$u = 0.408802 - 1.276380I$ $a = 1.75274 + 0.11189I$ $b = -1.64256 - 0.97429I$	$4.26335 + 7.42025I$	$6.92862 - 6.18427I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.413150$ $a = \quad 1.28447$ $b = -1.08768$	3.08250	-4.43630
$u = -0.413150$ $a = -2.71395$ $b = \quad 0.0813039$	3.08250	-4.43630
$u = -0.413150$ $a = \quad 2.75916 + 1.87870I$ $b = -1.07546 + 1.08432I$	$7.22008 + 2.82812I$	$2.09298 - 2.97945I$
$u = -0.413150$ $a = \quad 2.75916 - 1.87870I$ $b = -1.07546 - 1.08432I$	$7.22008 - 2.82812I$	$2.09298 + 2.97945I$
$u = -0.413150$ $a = -3.29870 + 1.40034I$ $b = \quad 0.695621 + 1.224170I$	$7.22008 + 2.82812I$	$2.09298 - 2.97945I$
$u = -0.413150$ $a = -3.29870 - 1.40034I$ $b = \quad 0.695621 - 1.224170I$	$7.22008 - 2.82812I$	$2.09298 + 2.97945I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^3+u^2+2u+1)^{12})(u^{26}-16u^{25}+\cdots-115u+9)$ $\cdot(u^{35}+17u^{34}+\cdots-3072u+4096)$
c_2	$((u^3+u^2-1)^{12})(u^{26}-8u^{24}+\cdots+5u+3)$ $\cdot(u^{35}-13u^{34}+\cdots-544u+64)$
c_3	$((u^6-5u^5+7u^4-2u^2-3u-1)^6)(u^{26}+22u^{25}+\cdots+3110u+473)$ $\cdot(u^{35}+19u^{34}+\cdots+20188u+1960)$
c_4	$(u^{26}-9u^{24}+\cdots-u-3)(u^{35}-19u^{33}+\cdots+270u-193)$ $\cdot(u^{36}+u^{35}+\cdots-1508790u-544009)$
c_5, c_8	$(u^{26}+2u^{24}+\cdots-7u-1)(u^{35}-12u^{33}+\cdots+10u-1)$ $\cdot(u^{36}-5u^{35}+\cdots-4368u-383)$
c_6, c_{11}	$(u^{26}-u^{25}+\cdots+u-1)(u^{35}-u^{34}+\cdots-16u^2+1)$ $\cdot(u^{36}-u^{35}+\cdots+36176u-62927)$
c_7	$((u^3+u^2-1)^{12})(u^{26}-8u^{24}+\cdots-5u+3)$ $\cdot(u^{35}-13u^{34}+\cdots-544u+64)$
c_9	$((u^6+u^5+3u^4+2u^3+2u^2+u-1)^6)(u^{26}-7u^{25}+\cdots-15u+5)$ $\cdot(u^{35}-12u^{34}+\cdots+140u-8)$
c_{10}	$(u^{26}+u^{25}+\cdots-u-1)(u^{35}-u^{34}+\cdots-16u^2+1)$ $\cdot(u^{36}-u^{35}+\cdots+36176u-62927)$
c_{12}	$((u^6+u^5+3u^4+2u^3+2u^2+u-1)^6)(u^{26}+7u^{25}+\cdots+15u+5)$ $\cdot(u^{35}-12u^{34}+\cdots+140u-8)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^3+3y^2+2y-1)^{12})(y^{26}-4y^{24}+\cdots-211y+81)$ $\cdot\,(y^{35}+3y^{34}+\cdots-250609664y-16777216)$
c_2, c_7	$((y^3-y^2+2y-1)^{12})(y^{26}-16y^{25}+\cdots-115y+9)$ $\cdot\,(y^{35}-17y^{34}+\cdots-3072y-4096)$
c_3	$(y^6-11y^5+45y^4-60y^3-10y^2-5y+1)^6$ $\cdot\,(y^{26}-34y^{25}+\cdots-2510880y+223729)$ $\cdot\,(y^{35}-45y^{34}+\cdots+57342544y-3841600)$
c_4	$(y^{26}-18y^{25}+\cdots+47y+9)(y^{35}-38y^{34}+\cdots-208108y-37249)$ $\cdot\,(y^{36}-33y^{35}+\cdots-2168864044260y+295945792081)$
c_5, c_8	$(y^{26}+4y^{25}+\cdots-27y+1)(y^{35}-24y^{34}+\cdots+34y-1)$ $\cdot\,(y^{36}+3y^{35}+\cdots-23130032y+146689)$
c_6, c_{10}, c_{11}	$(y^{26}-19y^{25}+\cdots+15y+1)(y^{35}-55y^{34}+\cdots+32y-1)$ $\cdot\,(y^{36}-45y^{35}+\cdots-4582417224y+3959807329)$
c_9, c_{12}	$(y^6+5y^5+9y^4+4y^3-6y^2-5y+1)^6$ $\cdot\,(y^{26}+19y^{25}+\cdots-365y+25)(y^{35}+24y^{34}+\cdots+912y-64)$