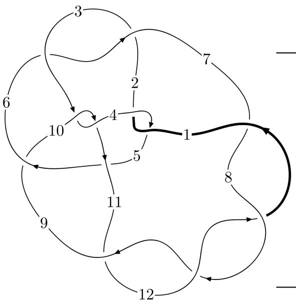
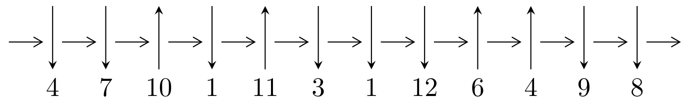
$12n_{0805}$ ($K12n_{0805}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -3u^{21} - 14u^{20} + \cdots + 2b - 6,\ -5u^{21} - 28u^{20} + \cdots + 4a - 36,\ u^{22} + 6u^{21} + \cdots + 22u + 4 \rangle \\
I_2^u &= \langle -7988u^7a^3 + 5153u^7a^2 + \cdots - 10905a + 11031,\ u^7a^2 + 4u^7a + \cdots - 2a + 7, \\
&\quad u^8 - u^7 + 5u^6 - 4u^5 + 7u^4 - 4u^3 + 2u^2 + 1 \rangle \\
I_3^u &= \langle -u^{11} + u^{10} - 8u^9 + 7u^8 - 23u^7 + 17u^6 - 29u^5 + 16u^4 - 16u^3 + 3u^2 + b - 3u - 1, \\
&\quad -u^{10} + 2u^9 - 9u^8 + 14u^7 - 29u^6 + 33u^5 - 40u^4 + 30u^3 - 22u^2 + a + 9u - 3, \\
&\quad u^{12} - u^{11} + 9u^{10} - 8u^9 + 30u^8 - 23u^7 + 45u^6 - 28u^5 + 30u^4 - 12u^3 + 9u^2 + 1 \rangle
\end{aligned}$$

* 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. $I^u_1 = \langle -3u^{21} - 14u^{20} + \cdots + 2b - 6,\ -5u^{21} - 28u^{20} + \cdots + 4a - 36,\ u^{22} + 6u^{21} + \cdots + 22u + 4 \rangle$

(i) Arc colorings

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{5}{4}u^{21} + 7u^{20} + \cdots + \frac{125}{4}u + 9 \\ \frac{3}{2}u^{21} + 7u^{20} + \cdots + \frac{29}{2}u + 3 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{1}{2}u^{21} - \frac{5}{2}u^{20} + \cdots - \frac{3}{2}u + \frac{5}{2} \\ -\frac{1}{2}u^{21} - 3u^{20} + \cdots - 20u^2 - \frac{11}{2}u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{5}{4}u^{21} + 7u^{20} + \cdots + \frac{109}{4}u + 7 \\ \frac{1}{2}u^{21} + 4u^{20} + \cdots + \frac{37}{2}u + 5 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -\frac{3}{4}u^{21} - 4u^{20} + \cdots - \frac{11}{4}u + 1 \\ -\frac{3}{2}u^{21} - 7u^{20} + \cdots - \frac{23}{2}u - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -\frac{1}{2}u^{21} - \frac{5}{2}u^{20} + \cdots - \frac{3}{2}u + \frac{1}{2} \\ \frac{1}{2}u^{21} + 3u^{20} + \cdots + \frac{37}{2}u + 4 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{1}{2}u^{20} + 3u^{19} + \cdots + 18u + \frac{13}{2} \\ -\frac{1}{2}u^{21} - 2u^{20} + \cdots - 6u^2 - \frac{3}{2}u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 5u^{21} + 27u^{20} + 137u^{19} + 457u^{18} + 1341u^{17} + 3187u^{16} + 6649u^{15} + 11918u^{14} + 18804u^{13} + 25932u^{12} + 31399u^{11} + 33139u^{10} + 30322u^9 + 23720u^8 + 15633u^7 + 8484u^6 + 3756u^5 + 1394u^4 + 536u^3 + 233u^2 + 84u + 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{22} - u^{21} + \cdots - 5u + 1$
c_2, c_6	$u^{22} + 17u^{21} + \cdots + 2816u + 256$
c_3, c_9, c_{10}	$u^{22} - u^{21} + \cdots - u + 1$
c_5	$u^{22} + 4u^{20} + \cdots - 4u + 1$
c_7, c_8, c_{11} c_{12}	$u^{22} - 6u^{21} + \cdots - 22u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{22} - 23y^{21} + \cdots + 13y + 1$
c_2, c_6	$y^{22} + 9y^{21} + \cdots + 393216y + 65536$
c_3, c_9, c_{10}	$y^{22} - 13y^{21} + \cdots - y + 1$
c_5	$y^{22} + 8y^{21} + \cdots + 12y + 1$
c_7, c_8, c_{11} c_{12}	$y^{22} + 26y^{21} + \cdots + 36y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.672231+0.669430I$ $a=-0.646053+0.197647I$ $b=-1.12221-1.29155I$	$1.57285+10.92870I$	$-0.09523-8.13846I$
$u=-0.672231-0.669430I$ $a=-0.646053-0.197647I$ $b=-1.12221+1.29155I$	$1.57285-10.92870I$	$-0.09523+8.13846I$
$u=-0.535508+0.711181I$ $a=0.314853+0.241466I$ $b=0.606532+1.248090I$	$-1.54704+3.14824I$	$0.77612-6.02980I$
$u=-0.535508-0.711181I$ $a=0.314853-0.241466I$ $b=0.606532-1.248090I$	$-1.54704-3.14824I$	$0.77612+6.02980I$
$u=-0.759597+0.320799I$ $a=-1.058800-0.555950I$ $b=0.598202-0.762166I$	$0.54148-6.16925I$	$-2.10987+3.70957I$
$u=-0.759597-0.320799I$ $a=-1.058800+0.555950I$ $b=0.598202+0.762166I$	$0.54148+6.16925I$	$-2.10987-3.70957I$
$u=-0.288943+1.232890I$ $a=0.412257+0.459691I$ $b=-0.222633-0.193104I$	$5.51465-2.42737I$	$0.51879+3.32610I$
$u=-0.288943-1.232890I$ $a=0.412257-0.459691I$ $b=-0.222633+0.193104I$	$5.51465+2.42737I$	$0.51879-3.32610I$
$u=0.068378+1.330140I$ $a=0.746060-0.076338I$ $b=0.327439-0.582001I$	$5.16986-2.20242I$	$0.58597+3.53079I$
$u=0.068378-1.330140I$ $a=0.746060+0.076338I$ $b=0.327439+0.582001I$	$5.16986+2.20242I$	$0.58597-3.53079I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.540881 + 0.284720I$		
$a = 1.42566 + 0.38957I$	$-2.84705 + 0.58927I$	$-4.02070 + 2.06270I$
$b = 0.256071 + 0.621077I$		
$u = -0.540881 - 0.284720I$		
$a = 1.42566 - 0.38957I$	$-2.84705 - 0.58927I$	$-4.02070 - 2.06270I$
$b = 0.256071 - 0.621077I$		
$u = -0.11745 + 1.45301I$		
$a = -1.65572 - 0.36277I$	$2.80552 + 2.73021I$	$-1.72854 - 0.56419I$
$b = -1.100210 - 0.121955I$		
$u = -0.11745 - 1.45301I$		
$a = -1.65572 + 0.36277I$	$2.80552 - 2.73021I$	$-1.72854 + 0.56419I$
$b = -1.100210 + 0.121955I$		
$u = 0.276614 + 0.310933I$		
$a = -0.535008 - 0.626026I$	$-0.116282 - 0.855526I$	$-2.84227 + 8.01769I$
$b = -0.121326 + 0.413923I$		
$u = 0.276614 - 0.310933I$		
$a = -0.535008 + 0.626026I$	$-0.116282 + 0.855526I$	$-2.84227 - 8.01769I$
$b = -0.121326 - 0.413923I$		
$u = -0.21959 + 1.59057I$		
$a = 1.99989 + 0.71251I$	$9.0925 + 14.2705I$	$2.92033 - 7.26786I$
$b = 1.71567 + 1.64082I$		
$u = -0.21959 - 1.59057I$		
$a = 1.99989 - 0.71251I$	$9.0925 - 14.2705I$	$2.92033 + 7.26786I$
$b = 1.71567 - 1.64082I$		
$u = -0.17706 + 1.62106I$		
$a = -1.41137 - 1.11105I$	$6.38360 + 5.88492I$	$3.26398 - 4.41155I$
$b = -1.29958 - 1.77102I$		
$u = -0.17706 - 1.62106I$		
$a = -1.41137 + 1.11105I$	$6.38360 - 5.88492I$	$3.26398 + 4.41155I$
$b = -1.29958 + 1.77102I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.03373 + 1.75344I$ $a = 0.158232 + 0.724477I$ $b = 0.362036 + 1.269890I$	$16.1982 - 1.4224I$	$-2.26858 + 6.72406I$
$u = -0.03373 - 1.75344I$ $a = 0.158232 - 0.724477I$ $b = 0.362036 - 1.269890I$	$16.1982 + 1.4224I$	$-2.26858 - 6.72406I$

II. $\boldsymbol{I^u_2 = \langle -7988u^7a^3 + 5153u^7a^2 + \cdots - 10905a + 11031,\ u^7a^2 + 4u^7a + \cdots - 2a + 7,\ u^8 - u^7 + 5u^6 - 4u^5 + 7u^4 - 4u^3 + 2u^2 + 1\rangle}$

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} a \\ 0.148683a^3u^7 - 0.0959144a^2u^7 + \cdots + 0.202978a - 0.205323 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.368581a^3u^7 + 0.700102a^2u^7 + \cdots - 0.361657a - 0.327110 \\ 0.140679a^3u^7 + 0.558902a^2u^7 + \cdots - 0.629502a + 0.738092 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.136194a^3u^7 + 0.0847278a^2u^7 + \cdots + 1.22531a + 0.554751 \\ 0.227231a^3u^7 - 0.0604560a^2u^7 + \cdots + 1.39283a - 0.244691 \end{pmatrix}$$

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

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

$$a_6 = \begin{pmatrix} -0.725305a^3u^7 - 0.681210a^2u^7 + \cdots + 0.801396a + 0.350005 \\ -0.361880a^3u^7 - 0.826394a^2u^7 + \cdots + 0.968916a - 0.449437 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.368581a^3u^7 - 0.700102a^2u^7 + \cdots + 0.361657a + 0.327110 \\ 0.0635458a^3u^7 - 0.209567a^2u^7 + \cdots + 0.980270a - 0.811875 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.463993a^3u^7 + 0.141796a^2u^7 + \cdots - 0.563611a + 0.158883 \\ -0.312611a^3u^7 - 0.467287a^2u^7 + \cdots + 0.616101a + 1.29158 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{6416}{7675}u^7a^3 - \frac{10404}{7675}u^7a^2 + \cdots + \frac{4668}{1535}a + \frac{12542}{7675}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{32} - 7u^{31} + \cdots - 110u + 37$
c_2, c_6	$(u^2 - u + 1)^{16}$
c_3, c_9, c_{10}	$u^{32} + u^{31} + \cdots + 300u + 343$
c_5	$u^{32} + u^{31} + \cdots - 2776u + 343$
c_7, c_8, c_{11} c_{12}	$(u^8 + u^7 + 5u^6 + 4u^5 + 7u^4 + 4u^3 + 2u^2 + 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{32} - 5y^{31} + \cdots - 28528y + 1369$
c_2, c_6	$(y^2 + y + 1)^{16}$
c_3, c_9, c_{10}	$y^{32} - 21y^{31} + \cdots - 1386540y + 117649$
c_5	$y^{32} - 13y^{31} + \cdots - 8932744y + 117649$
c_7, c_8, c_{11} c_{12}	$(y^8 + 9y^7 + 31y^6 + 50y^5 + 39y^4 + 22y^3 + 18y^2 + 4y + 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.647085 + 0.502738I$ $a = 0.592287 - 0.833358I$ $b = -0.453639 - 0.557953I$	$-1.67479 - 0.15547I$	$-1.58319 - 0.32355I$
$u = 0.647085 + 0.502738I$ $a = -1.270790 + 0.209688I$ $b = -0.057820 + 1.153500I$	$-1.67479 - 4.21524I$	$-1.58319 + 6.60465I$
$u = 0.647085 + 0.502738I$ $a = -0.630581 - 0.097668I$ $b = -0.355056 + 1.312410I$	$-1.67479 - 0.15547I$	$-1.58319 - 0.32355I$
$u = 0.647085 + 0.502738I$ $a = 0.483643 + 0.288989I$ $b = 1.115550 - 0.830375I$	$-1.67479 - 4.21524I$	$-1.58319 + 6.60465I$
$u = 0.647085 - 0.502738I$ $a = 0.592287 + 0.833358I$ $b = -0.453639 + 0.557953I$	$-1.67479 + 0.15547I$	$-1.58319 + 0.32355I$
$u = 0.647085 - 0.502738I$ $a = -1.270790 - 0.209688I$ $b = -0.057820 - 1.153500I$	$-1.67479 + 4.21524I$	$-1.58319 - 6.60465I$
$u = 0.647085 - 0.502738I$ $a = -0.630581 + 0.097668I$ $b = -0.355056 - 1.312410I$	$-1.67479 + 0.15547I$	$-1.58319 + 0.32355I$
$u = 0.647085 - 0.502738I$ $a = 0.483643 - 0.288989I$ $b = 1.115550 + 0.830375I$	$-1.67479 + 4.21524I$	$-1.58319 - 6.60465I$
$u = -0.283060 + 0.443755I$ $a = 0.498434 + 1.041700I$ $b = -0.57514 - 1.33218I$	$4.93480 + 3.07589I$	$2.00000 - 10.14955I$
$u = -0.283060 + 0.443755I$ $a = -0.537114 + 1.186060I$ $b = -1.91169 - 0.11910I$	$4.93480 - 0.98388I$	$2.00000 - 3.22135I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.283060 + 0.443755I$ $a = -1.55933 - 2.06959I$ $b = 0.389762 + 0.054060I$	$4.93480 - 0.98388I$	$2.00000 - 3.22135I$
$u = -0.283060 + 0.443755I$ $a = 1.31495 - 2.41550I$ $b = 1.392430 + 0.046674I$	$4.93480 + 3.07589I$	$2.00000 - 10.14955I$
$u = -0.283060 - 0.443755I$ $a = 0.498434 - 1.041700I$ $b = -0.57514 + 1.33218I$	$4.93480 - 3.07589I$	$2.00000 + 10.14955I$
$u = -0.283060 - 0.443755I$ $a = -0.537114 - 1.186060I$ $b = -1.91169 + 0.11910I$	$4.93480 + 0.98388I$	$2.00000 + 3.22135I$
$u = -0.283060 - 0.443755I$ $a = -1.55933 + 2.06959I$ $b = 0.389762 - 0.054060I$	$4.93480 + 0.98388I$	$2.00000 + 3.22135I$
$u = -0.283060 - 0.443755I$ $a = 1.31495 + 2.41550I$ $b = 1.392430 - 0.046674I$	$4.93480 - 3.07589I$	$2.00000 + 10.14955I$
$u = -0.06382 + 1.51723I$ $a = -0.112835 + 0.153959I$ $b = -0.343676 - 0.971058I$	$11.54440 + 0.15547I$	$5.58319 + 0.32355I$
$u = -0.06382 + 1.51723I$ $a = 0.82329 + 1.83665I$ $b = 0.76874 + 2.76112I$	$11.54440 + 4.21524I$	$5.58319 - 6.60465I$
$u = -0.06382 + 1.51723I$ $a = -2.24271 + 0.60948I$ $b = -1.65098 - 0.26388I$	$11.54440 + 4.21524I$	$5.58319 - 6.60465I$
$u = -0.06382 + 1.51723I$ $a = 2.94096 - 0.14777I$ $b = 2.94748 + 0.48648I$	$11.54440 + 0.15547I$	$5.58319 + 0.32355I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.06382 - 1.51723I$ $a = -0.112835 - 0.153959I$ $b = -0.343676 + 0.971058I$	$11.54440 - 0.15547I$	$5.58319 - 0.32355I$
$u = -0.06382 - 1.51723I$ $a = 0.82329 - 1.83665I$ $b = 0.76874 - 2.76112I$	$11.54440 - 4.21524I$	$5.58319 + 6.60465I$
$u = -0.06382 - 1.51723I$ $a = -2.24271 - 0.60948I$ $b = -1.65098 + 0.26388I$	$11.54440 - 4.21524I$	$5.58319 + 6.60465I$
$u = -0.06382 - 1.51723I$ $a = 2.94096 + 0.14777I$ $b = 2.94748 - 0.48648I$	$11.54440 - 0.15547I$	$5.58319 - 0.32355I$
$u = 0.19980 + 1.51366I$ $a = -0.413833 + 0.373606I$ $b = -0.166931 + 0.023712I$	$4.93480 - 3.20880I$	$2.00000 - 0.42152I$
$u = 0.19980 + 1.51366I$ $a = 1.37518 - 0.69793I$ $b = 0.87012 - 1.31414I$	$4.93480 - 3.20880I$	$2.00000 - 0.42152I$
$u = 0.19980 + 1.51366I$ $a = 1.34760 - 0.78701I$ $b = 0.439335 - 0.833174I$	$4.93480 - 7.26857I$	$2.00000 + 6.50668I$
$u = 0.19980 + 1.51366I$ $a = -2.10915 + 0.11662I$ $b = -1.90847 + 0.86941I$	$4.93480 - 7.26857I$	$2.00000 + 6.50668I$
$u = 0.19980 - 1.51366I$ $a = -0.413833 - 0.373606I$ $b = -0.166931 - 0.023712I$	$4.93480 + 3.20880I$	$2.00000 + 0.42152I$
$u = 0.19980 - 1.51366I$ $a = 1.37518 + 0.69793I$ $b = 0.87012 + 1.31414I$	$4.93480 + 3.20880I$	$2.00000 + 0.42152I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.19980 - 1.51366I$ $a = 1.34760 + 0.78701I$ $b = 0.439335 + 0.833174I$	$4.93480 + 7.26857I$	$2.00000 - 6.50668I$
$u = 0.19980 - 1.51366I$ $a = -2.10915 - 0.11662I$ $b = -1.90847 - 0.86941I$	$4.93480 + 7.26857I$	$2.00000 - 6.50668I$

III.

$$\boldsymbol{I_3^u = \langle -u^{11}+u^{10}+\cdots+b-1,\ -u^{10}+2u^9+\cdots+a-3,\ u^{12}-u^{11}+\cdots+9u^2+1\rangle}$$

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{10}-2u^9+9u^8-14u^7+29u^6-33u^5+40u^4-30u^3+22u^2-9u+3 \\ u^{11}-u^{10}+\cdots+3u+1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{11}+u^{10}-8u^9+6u^8-22u^7+11u^6-23u^5+5u^4-6u^3-4u^2-4 \\ -u^{11}+2u^{10}+\cdots-4u+1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^9+2u^8-8u^7+13u^6-22u^5+27u^4-24u^3+19u^2-9u+3 \\ u^{11}-2u^{10}+\cdots-9u^2+3u \end{pmatrix}$$

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

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

$$a_6 = \begin{pmatrix} u^{10}-2u^9+\cdots-10u+4 \\ u^{11}-u^{10}+\cdots+2u+1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{11}-u^{10}+\cdots+12u-4 \\ -u^9+u^8-7u^7+6u^6-16u^5+11u^4-13u^3+6u^2-3u-1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{11}-7u^9-u^8-16u^7-6u^6-11u^5-12u^4+3u^3-11u^2+2u-5 \\ -u^{11}+u^{10}+\cdots+6u^2-4u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^8+17u^6-u^5+29u^4-3u^3+14u^2-2u+7$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} - u^{11} - 4u^9 + 6u^8 - 2u^7 + 6u^6 - 9u^5 + 3u^4 - 4u^3 + 4u^2 + 1$
c_2	$u^{12} + 4u^{10} - 4u^9 + 3u^8 - 9u^7 + 6u^6 - 2u^5 + 6u^4 - 4u^3 - u + 1$
c_3, c_9	$u^{12} + u^{11} - 5u^{10} - 5u^9 + 10u^8 + 10u^7 - 8u^6 - 9u^5 + u^4 + 3u^3 + u^2 + 1$
c_4	$u^{12} + u^{11} + 4u^9 + 6u^8 + 2u^7 + 6u^6 + 9u^5 + 3u^4 + 4u^3 + 4u^2 + 1$
c_5	$u^{12} - u^{10} + \cdots + 15u + 37$
c_6	$u^{12} + 4u^{10} + 4u^9 + 3u^8 + 9u^7 + 6u^6 + 2u^5 + 6u^4 + 4u^3 + u + 1$
c_7, c_8	$u^{12} - u^{11} + \cdots + 9u^2 + 1$
c_{10}	$u^{12} - u^{11} - 5u^{10} + 5u^9 + 10u^8 - 10u^7 - 8u^6 + 9u^5 + u^4 - 3u^3 + u^2 + 1$
c_{11}, c_{12}	$u^{12} + u^{11} + \cdots + 9u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{12} - y^{11} + \cdots + 8y + 1$
c_2, c_6	$y^{12} + 8y^{11} + \cdots - y + 1$
c_3, c_9, c_{10}	$y^{12} - 11y^{11} + \cdots + 2y + 1$
c_5	$y^{12} - 2y^{11} + \cdots - 373y + 1369$
c_7, c_8, c_{11} c_{12}	$y^{12} + 17y^{11} + \cdots + 18y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.089013+0.906809I$ $a=-0.411424+0.831833I$ $b=-0.881210-0.394305I$	$7.14530-1.50712I$	$6.80370+0.78584I$
$u=-0.089013-0.906809I$ $a=-0.411424-0.831833I$ $b=-0.881210+0.394305I$	$7.14530+1.50712I$	$6.80370-0.78584I$
$u=\ \ 0.560380+0.536459I$ $a=-0.646516+0.336204I$ $b=-0.397396+0.941015I$	$-2.38168-1.90999I$	$-3.16998+3.64025I$
$u=\ \ 0.560380-0.536459I$ $a=-0.646516-0.336204I$ $b=-0.397396-0.941015I$	$-2.38168+1.90999I$	$-3.16998-3.64025I$
$u=-0.03756+1.51189I$ $a=-1.91798-0.42547I$ $b=-1.68049-1.38079I$	$11.54940+2.73635I$	$5.59363-1.06316I$
$u=-0.03756-1.51189I$ $a=-1.91798+0.42547I$ $b=-1.68049+1.38079I$	$11.54940-2.73635I$	$5.59363+1.06316I$
$u=\ \ 0.19341+1.55032I$ $a=\ \ 1.29683-0.61636I$ $b=\ \ 0.971343-0.961955I$	$4.61882-4.69602I$	$0.54451+4.43635I$
$u=\ \ 0.19341-1.55032I$ $a=\ \ 1.29683+0.61636I$ $b=\ \ 0.971343+0.961955I$	$4.61882+4.69602I$	$0.54451-4.43635I$
$u=-0.106406+0.331105I$ $a=\ \ 1.14337-3.27977I$ $b=\ \ 1.29750+0.61995I$	$5.16484+2.20517I$	$5.88472-1.20023I$
$u=-0.106406-0.331105I$ $a=\ \ 1.14337+3.27977I$ $b=\ \ 1.29750-0.61995I$	$5.16484-2.20517I$	$5.88472+1.20023I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.02080+1.72148I$ $a=\quad 0.535722+0.647392I$ $b=\quad 0.69025+1.26677I$	$16.6716-1.0667I$	$9.34342-1.65312I$
$u=-0.02080-1.72148I$ $a=\quad 0.535722-0.647392I$ $b=\quad 0.69025-1.26677I$	$16.6716+1.0667I$	$9.34342+1.65312I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{12} - u^{11} - 4u^9 + 6u^8 - 2u^7 + 6u^6 - 9u^5 + 3u^4 - 4u^3 + 4u^2 + 1)$ $\cdot (u^{22} - u^{21} + \cdots - 5u + 1)(u^{32} - 7u^{31} + \cdots - 110u + 37)$
c_2	$(u^2 - u + 1)^{16}$ $\cdot (u^{12} + 4u^{10} - 4u^9 + 3u^8 - 9u^7 + 6u^6 - 2u^5 + 6u^4 - 4u^3 - u + 1)$ $\cdot (u^{22} + 17u^{21} + \cdots + 2816u + 256)$
c_3, c_9	$(u^{12} + u^{11} - 5u^{10} - 5u^9 + 10u^8 + 10u^7 - 8u^6 - 9u^5 + u^4 + 3u^3 + u^2 + 1)$ $\cdot (u^{22} - u^{21} + \cdots - u + 1)(u^{32} + u^{31} + \cdots + 300u + 343)$
c_4	$(u^{12} + u^{11} + 4u^9 + 6u^8 + 2u^7 + 6u^6 + 9u^5 + 3u^4 + 4u^3 + 4u^2 + 1)$ $\cdot (u^{22} - u^{21} + \cdots - 5u + 1)(u^{32} - 7u^{31} + \cdots - 110u + 37)$
c_5	$(u^{12} - u^{10} + \cdots + 15u + 37)(u^{22} + 4u^{20} + \cdots - 4u + 1)$ $\cdot (u^{32} + u^{31} + \cdots - 2776u + 343)$
c_6	$(u^2 - u + 1)^{16}$ $\cdot (u^{12} + 4u^{10} + 4u^9 + 3u^8 + 9u^7 + 6u^6 + 2u^5 + 6u^4 + 4u^3 + u + 1)$ $\cdot (u^{22} + 17u^{21} + \cdots + 2816u + 256)$
c_7, c_8	$((u^8 + u^7 + \cdots + 2u^2 + 1)^4)(u^{12} - u^{11} + \cdots + 9u^2 + 1)$ $\cdot (u^{22} - 6u^{21} + \cdots - 22u + 4)$
c_{10}	$(u^{12} - u^{11} - 5u^{10} + 5u^9 + 10u^8 - 10u^7 - 8u^6 + 9u^5 + u^4 - 3u^3 + u^2 + 1)$ $\cdot (u^{22} - u^{21} + \cdots - u + 1)(u^{32} + u^{31} + \cdots + 300u + 343)$
c_{11}, c_{12}	$((u^8 + u^7 + \cdots + 2u^2 + 1)^4)(u^{12} + u^{11} + \cdots + 9u^2 + 1)$ $\cdot (u^{22} - 6u^{21} + \cdots - 22u + 4)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{12} - y^{11} + \cdots + 8y + 1)(y^{22} - 23y^{21} + \cdots + 13y + 1)$ $\cdot (y^{32} - 5y^{31} + \cdots - 28528y + 1369)$
c_2, c_6	$((y^2 + y + 1)^{16})(y^{12} + 8y^{11} + \cdots - y + 1)$ $\cdot (y^{22} + 9y^{21} + \cdots + 393216y + 65536)$
c_3, c_9, c_{10}	$(y^{12} - 11y^{11} + \cdots + 2y + 1)(y^{22} - 13y^{21} + \cdots - y + 1)$ $\cdot (y^{32} - 21y^{31} + \cdots - 1386540y + 117649)$
c_5	$(y^{12} - 2y^{11} + \cdots - 373y + 1369)(y^{22} + 8y^{21} + \cdots + 12y + 1)$ $\cdot (y^{32} - 13y^{31} + \cdots - 8932744y + 117649)$
c_7, c_8, c_{11} c_{12}	$(y^8 + 9y^7 + 31y^6 + 50y^5 + 39y^4 + 22y^3 + 18y^2 + 4y + 1)^4$ $\cdot (y^{12} + 17y^{11} + \cdots + 18y + 1)(y^{22} + 26y^{21} + \cdots + 36y + 16)$