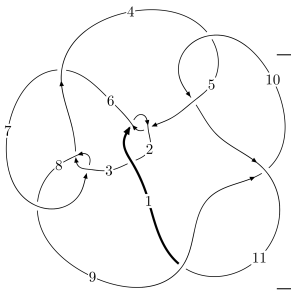
$11a_{104}$ ($K11a_{104}$)



A knot diagram[1]

Linearized knot diagam

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

6 1 8 10 2 4 3 7 11 5 9

Solving Sequence

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

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

$$\begin{aligned}
I^u_1 &= \langle -1.98593 \times 10^{23} u^{59} + 4.69641 \times 10^{23} u^{58} + \cdots + 1.04287 \times 10^{24} b + 1.61518 \times 10^{24}, \\
&\quad 3.87855 \times 10^{23} u^{59} - 6.98208 \times 10^{22} u^{58} + \cdots + 5.21436 \times 10^{23} a - 1.87163 \times 10^{24},\ u^{60} + u^{59} + \cdots + 2u + 1 \rangle \\
I^u_2 &= \langle b + u,\ -u^3 + u^2 + a + u - 1,\ u^4 - u^2 + 1 \rangle \\
I^u_3 &= \langle -u^7 + u^5 - 2u^3 + b + u,\ -u^5 + a - u,\ u^{10} - 2u^8 + 3u^6 - u^5 - 2u^4 + u^3 + u^2 - u + 1 \rangle \\
I^u_4 &= \langle u^3 + b - u,\ u^3 + u^2 + a - 1,\ u^4 - u^2 + 1 \rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 78 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.

$$\boldsymbol{I_1^u = \langle -1.99\times 10^{23}u^{59}+4.70\times 10^{23}u^{58}+\cdots+1.04\times 10^{24}b+1.62\times 10^{24},\ 3.88\times 10^{23}u^{59}-6.98\times 10^{22}u^{58}+\cdots+5.21\times 10^{23}a-1.87\times 10^{24},\ u^{60}+u^{59}+\cdots+2u+1\rangle}$$

(i) Arc colorings

$$a_4 = \begin{pmatrix}1\\0\end{pmatrix}$$

$$a_8 = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-0.743821u^{59} + 0.133901u^{58} + \cdots + 0.842070u + 3.58938\\ 0.190429u^{59} - 0.450334u^{58} + \cdots + 0.891441u - 1.54878\end{pmatrix}$$

$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$

$$a_2 = \begin{pmatrix}-1.04281u^{59} - 0.496774u^{58} + \cdots + 2.17071u + 3.63527\\ 1.12830u^{59} + 0.201741u^{58} + \cdots + 4.11950u - 0.780593\end{pmatrix}$$

$$a_7 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$

$$a_9 = \begin{pmatrix}u^3\\u^5-u^3+u\end{pmatrix}$$

$$a_6 = \begin{pmatrix}-u^3\\-u^3+u\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-0.108079u^{59} - 1.37479u^{58} + \cdots + 6.24741u - 2.70886\\ 1.06440u^{59} + 0.333999u^{58} + \cdots + 3.85330u - 0.118756\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-1.14257u^{59} - 0.131348u^{58} + \cdots + 0.640675u + 3.85388\\ 1.04542u^{59} + 0.113508u^{58} + \cdots + 3.47215u - 0.882378\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}0.423997u^{59} - 1.42113u^{58} + \cdots + 4.04661u - 5.47905\\ 0.233872u^{59} - 0.446189u^{58} + \cdots + 2.50575u + 0.581286\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}0.423997u^{59} - 1.42113u^{58} + \cdots + 4.04661u - 5.47905\\ 0.233872u^{59} - 0.446189u^{58} + \cdots + 2.50575u + 0.581286\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1243755023537317604710317}{521436085097447226945316}u^{59} - \frac{1133870742549128883763919}{260718042548723613472658}u^{58} + \cdots + \frac{5765858860985229173060379}{521436085097447226945316}u - \frac{629576893531561210869417}{130359021274361806736329}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{60} + 4u^{59} + \cdots + 20u + 4$
c_2	$u^{60} + 28u^{59} + \cdots + 136u + 16$
c_3, c_7	$u^{60} - u^{59} + \cdots - 2u + 1$
c_4, c_{10}	$u^{60} - u^{59} + \cdots + 8u + 1$
c_6	$u^{60} - 3u^{59} + \cdots - 628u + 261$
c_8	$u^{60} - 31u^{59} + \cdots - 6u + 1$
c_9, c_{11}	$u^{60} + 19u^{59} + \cdots + 54u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{60} + 28y^{59} + \cdots + 136y + 16$
c_2	$y^{60} + 12y^{59} + \cdots + 13024y + 256$
c_3, c_7	$y^{60} - 31y^{59} + \cdots - 6y + 1$
c_4, c_{10}	$y^{60} - 19y^{59} + \cdots - 54y + 1$
c_6	$y^{60} + 29y^{59} + \cdots - 446062y + 68121$
c_8	$y^{60} + y^{59} + \cdots + 38y + 1$
c_9, c_{11}	$y^{60} + 49y^{59} + \cdots - 562y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.903831 + 0.403972I$ $a = 1.269250 - 0.398175I$ $b = 1.057390 + 0.767924I$	$0.07179 + 4.23224I$	$2.32754 - 7.48197I$
$u = 0.903831 - 0.403972I$ $a = 1.269250 + 0.398175I$ $b = 1.057390 - 0.767924I$	$0.07179 - 4.23224I$	$2.32754 + 7.48197I$
$u = -0.711823 + 0.747660I$ $a = -0.406775 - 0.002759I$ $b = -0.634669 - 0.607886I$	$-0.59950 - 7.44517I$	$-1.81786 + 8.61499I$
$u = -0.711823 - 0.747660I$ $a = -0.406775 + 0.002759I$ $b = -0.634669 + 0.607886I$	$-0.59950 + 7.44517I$	$-1.81786 - 8.61499I$
$u = 0.804581 + 0.489615I$ $a = 0.265943 - 0.865672I$ $b = -0.177298 + 0.044040I$	$-1.74326 + 2.05593I$	$-4.38675 - 3.92763I$
$u = 0.804581 - 0.489615I$ $a = 0.265943 + 0.865672I$ $b = -0.177298 - 0.044040I$	$-1.74326 - 2.05593I$	$-4.38675 + 3.92763I$
$u = 0.859520 + 0.676363I$ $a = 0.964914 - 0.424298I$ $b = 0.480610 + 0.345118I$	$0.30698 + 3.25660I$	$0. - 2.79575I$
$u = 0.859520 - 0.676363I$ $a = 0.964914 + 0.424298I$ $b = 0.480610 - 0.345118I$	$0.30698 - 3.25660I$	$0. + 2.79575I$
$u = -0.311259 + 0.850032I$ $a = -0.321328 - 0.147611I$ $b = -0.73288 + 1.72138I$	$1.72838 + 10.40930I$	$-1.97334 - 6.85461I$
$u = -0.311259 - 0.850032I$ $a = -0.321328 + 0.147611I$ $b = -0.73288 - 1.72138I$	$1.72838 - 10.40930I$	$-1.97334 + 6.85461I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.865604 + 0.182246I$ $a = 0.606319 + 0.298940I$ $b = 0.748686 - 0.118582I$	$1.47274 - 0.43868I$	$6.40126 + 0.73626I$
$u = -0.865604 - 0.182246I$ $a = 0.606319 - 0.298940I$ $b = 0.748686 + 0.118582I$	$1.47274 + 0.43868I$	$6.40126 - 0.73626I$
$u = 0.272152 + 0.836204I$ $a = -0.196628 + 0.183823I$ $b = -0.68548 - 1.62535I$	$2.73192 - 4.52059I$	$-0.21234 + 2.21964I$
$u = 0.272152 - 0.836204I$ $a = -0.196628 - 0.183823I$ $b = -0.68548 + 1.62535I$	$2.73192 + 4.52059I$	$-0.21234 - 2.21964I$
$u = -0.568756 + 0.644224I$ $a = -0.676994 + 0.457932I$ $b = -0.717357 - 0.302413I$	$-5.04608 - 2.62544I$	$-9.38058 + 3.85437I$
$u = -0.568756 - 0.644224I$ $a = -0.676994 - 0.457932I$ $b = -0.717357 + 0.302413I$	$-5.04608 + 2.62544I$	$-9.38058 - 3.85437I$
$u = -0.993886 + 0.578329I$ $a = 0.955168 + 0.848146I$ $b = 0.415861 + 0.077795I$	$-3.79990 - 2.15619I$	0
$u = -0.993886 - 0.578329I$ $a = 0.955168 - 0.848146I$ $b = 0.415861 - 0.077795I$	$-3.79990 + 2.15619I$	0
$u = 1.054100 + 0.478696I$ $a = 1.15838 + 1.04975I$ $b = 0.14104 + 1.62136I$	$0.06948 + 4.64990I$	0
$u = 1.054100 - 0.478696I$ $a = 1.15838 - 1.04975I$ $b = 0.14104 - 1.62136I$	$0.06948 - 4.64990I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.080780 + 0.429889I$ $a = 0.96586 - 1.23049I$ $b = 0.319260 - 0.470303I$	$0.799952 + 0.856311I$	0
$u = 1.080780 - 0.429889I$ $a = 0.96586 + 1.23049I$ $b = 0.319260 + 0.470303I$	$0.799952 - 0.856311I$	0
$u = 0.210101 + 0.809324I$ $a = 0.740667 - 0.015178I$ $b = 0.105661 + 1.028970I$	$3.79462 - 4.80277I$	$0.86247 + 2.90071I$
$u = 0.210101 - 0.809324I$ $a = 0.740667 + 0.015178I$ $b = 0.105661 - 1.028970I$	$3.79462 + 4.80277I$	$0.86247 - 2.90071I$
$u = -1.116060 + 0.386772I$ $a = 1.21794 - 1.49474I$ $b = 0.00600 - 1.76185I$	$3.40701 - 1.33155I$	0
$u = -1.116060 - 0.386772I$ $a = 1.21794 + 1.49474I$ $b = 0.00600 + 1.76185I$	$3.40701 + 1.33155I$	0
$u = -0.144728 + 0.798733I$ $a = 0.670793 + 0.046459I$ $b = 0.000564 - 1.065940I$	$4.37725 - 1.04056I$	$1.90122 + 2.49141I$
$u = -0.144728 - 0.798733I$ $a = 0.670793 - 0.046459I$ $b = 0.000564 + 1.065940I$	$4.37725 + 1.04056I$	$1.90122 - 2.49141I$
$u = -1.094520 + 0.479352I$ $a = 1.03063 + 1.15150I$ $b = 0.414981 + 0.408719I$	$0.42302 - 6.32152I$	0
$u = -1.094520 - 0.479352I$ $a = 1.03063 - 1.15150I$ $b = 0.414981 - 0.408719I$	$0.42302 + 6.32152I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.339818+0.708730I$ $a=-0.355808-0.663857I$ $b=-1.06664+1.47014I$	$-4.04431+4.50698I$	$-7.28201-4.72365I$
$u=-0.339818-0.708730I$ $a=-0.355808+0.663857I$ $b=-1.06664-1.47014I$	$-4.04431-4.50698I$	$-7.28201+4.72365I$
$u=\ \ 1.128850+0.492143I$ $a=-0.52081-2.12283I$ $b=\ \ 1.32820-1.57388I$	$2.66218+6.38495I$	0
$u=\ \ 1.128850-0.492143I$ $a=-0.52081+2.12283I$ $b=\ \ 1.32820+1.57388I$	$2.66218-6.38495I$	0
$u=\ \ 1.216210+0.225171I$ $a=\ \ 1.10465+1.80874I$ $b=-0.02516+1.64383I$	$6.74362-7.16149I$	0
$u=\ \ 1.216210-0.225171I$ $a=\ \ 1.10465-1.80874I$ $b=-0.02516-1.64383I$	$6.74362+7.16149I$	0
$u=-1.112300+0.548551I$ $a=-0.84176+2.42145I$ $b=\ \ 1.34785+2.08020I$	$-1.78746-9.32372I$	0
$u=-1.112300-0.548551I$ $a=-0.84176-2.42145I$ $b=\ \ 1.34785-2.08020I$	$-1.78746+9.32372I$	0
$u=-1.212780+0.262306I$ $a=\ \ 1.10372-1.77604I$ $b=-0.02790-1.67922I$	$7.49647+1.10876I$	0
$u=-1.212780-0.262306I$ $a=\ \ 1.10372+1.77604I$ $b=-0.02790+1.67922I$	$7.49647-1.10876I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.207080 + 0.312500I$ $a = -0.432975 + 1.070400I$ $b = 0.694965 + 0.705252I$	$8.19036 + 1.16781I$	0
$u = -1.207080 - 0.312500I$ $a = -0.432975 - 1.070400I$ $b = 0.694965 - 0.705252I$	$8.19036 - 1.16781I$	0
$u = 1.207510 + 0.352417I$ $a = -0.476722 - 1.234610I$ $b = 0.746612 - 0.850988I$	$8.50343 + 4.91869I$	0
$u = 1.207510 - 0.352417I$ $a = -0.476722 + 1.234610I$ $b = 0.746612 + 0.850988I$	$8.50343 - 4.91869I$	0
$u = -1.179680 + 0.510060I$ $a = 0.83860 - 1.38186I$ $b = -0.05723 - 1.67219I$	$7.41896 - 3.74798I$	0
$u = -1.179680 - 0.510060I$ $a = 0.83860 + 1.38186I$ $b = -0.05723 + 1.67219I$	$7.41896 + 3.74798I$	0
$u = 1.173440 + 0.538194I$ $a = 0.77481 + 1.33580I$ $b = -0.07894 + 1.64826I$	$6.63935 + 9.77588I$	0
$u = 1.173440 - 0.538194I$ $a = 0.77481 - 1.33580I$ $b = -0.07894 - 1.64826I$	$6.63935 - 9.77588I$	0
$u = 1.169570 + 0.567517I$ $a = -1.03891 - 2.10766I$ $b = 0.89396 - 2.01477I$	$5.40914 + 9.70793I$	0
$u = 1.169570 - 0.567517I$ $a = -1.03891 + 2.10766I$ $b = 0.89396 + 2.01477I$	$5.40914 - 9.70793I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.163930 + 0.586363I$ $a = -1.12390 + 2.15224I$ $b = 0.86334 + 2.13698I$	$4.2834 - 15.7183I$	0
$u = -1.163930 - 0.586363I$ $a = -1.12390 - 2.15224I$ $b = 0.86334 - 2.13698I$	$4.2834 + 15.7183I$	0
$u = 0.429148 + 0.530188I$ $a = 0.903246 - 0.132373I$ $b = 0.249666 + 0.565526I$	$-1.72663 - 0.52634I$	$-4.33031 + 0.44248I$
$u = 0.429148 - 0.530188I$ $a = 0.903246 + 0.132373I$ $b = 0.249666 - 0.565526I$	$-1.72663 + 0.52634I$	$-4.33031 - 0.44248I$
$u = 0.637665 + 0.183912I$ $a = -0.11399 - 1.94899I$ $b = -0.738126 - 0.352707I$	$-1.24161 + 2.23775I$	$-0.61490 - 2.94515I$
$u = 0.637665 - 0.183912I$ $a = -0.11399 + 1.94899I$ $b = -0.738126 + 0.352707I$	$-1.24161 - 2.23775I$	$-0.61490 + 2.94515I$
$u = -0.362759 + 0.416974I$ $a = 0.17781 - 1.91746I$ $b = -1.45310 + 0.56258I$	$-2.02553 - 1.88873I$	$-4.74604 + 1.07620I$
$u = -0.362759 - 0.416974I$ $a = 0.17781 + 1.91746I$ $b = -1.45310 - 0.56258I$	$-2.02553 + 1.88873I$	$-4.74604 - 1.07620I$
$u = -0.262460 + 0.449731I$ $a = -1.74210 + 0.98505I$ $b = -0.919872 - 0.033488I$	$-1.87789 + 2.29756I$	$-4.03068 - 3.27403I$
$u = -0.262460 - 0.449731I$ $a = -1.74210 - 0.98505I$ $b = -0.919872 + 0.033488I$	$-1.87789 - 2.29756I$	$-4.03068 + 3.27403I$

II. $\boldsymbol{I^u_2 = \langle b+u,\ -u^3+u^2+a+u-1,\ u^4-u^2+1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.866025 + 0.500000I$ $a = -0.366025 - 0.366025I$ $b = -0.866025 - 0.500000I$	$-1.64493 + 4.05977I$	$-4.00000 - 6.92820I$
$u = 0.866025 - 0.500000I$ $a = -0.366025 + 0.366025I$ $b = -0.866025 + 0.500000I$	$-1.64493 - 4.05977I$	$-4.00000 + 6.92820I$
$u = -0.866025 + 0.500000I$ $a = 1.36603 + 1.36603I$ $b = 0.866025 - 0.500000I$	$-1.64493 - 4.05977I$	$-4.00000 + 6.92820I$
$u = -0.866025 - 0.500000I$ $a = 1.36603 - 1.36603I$ $b = 0.866025 + 0.500000I$	$-1.64493 + 4.05977I$	$-4.00000 - 6.92820I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$(u^2 - u + 1)^5$
c_2	$(u^2 + u + 1)^5$
c_3, c_4, c_7 c_{10}	$u^{10} - 2u^8 + 3u^6 + u^5 - 2u^4 - u^3 + u^2 + u + 1$
c_6	$u^{10} - 2u^8 + 2u^7 + u^6 + u^5 + 4u^4 + 3u^3 + 9u^2 + 3u + 3$
c_8	$u^{10} - 4u^9 + 10u^8 - 16u^7 + 19u^6 - 15u^5 + 8u^4 - u^3 - u^2 + u + 1$
c_9, c_{11}	$u^{10} + 4u^9 + 10u^8 + 16u^7 + 19u^6 + 15u^5 + 8u^4 + u^3 - u^2 - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$(y^2+y+1)^5$
c_3, c_4, c_7 c_{10}	$y^{10}-4y^9+10y^8-16y^7+19y^6-15y^5+8y^4-y^3-y^2+y+1$
c_6	$y^{10}-4y^9+6y^8-y^6-35y^5+4y^4+63y^3+87y^2+45y+9$
c_8, c_9, c_{11}	$y^{10}+4y^9+\cdots-3y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.756352 + 0.712044I$ $a = -0.217740 - 0.005024I$ $b = -0.508756 + 0.631168I$	$2.02988I$	$0. - 3.46410I$
$u = 0.756352 - 0.712044I$ $a = -0.217740 + 0.005024I$ $b = -0.508756 - 0.631168I$	$-2.02988I$	$0. + 3.46410I$
$u = 1.053350 + 0.290333I$ $a = 1.40235 + 1.80795I$ $b = -0.16807 + 1.84530I$	$-2.02988I$	$0. + 3.46410I$
$u = 1.053350 - 0.290333I$ $a = 1.40235 - 1.80795I$ $b = -0.16807 - 1.84530I$	$2.02988I$	$0. - 3.46410I$
$u = -0.913599 + 0.686557I$ $a = 1.029360 + 0.529489I$ $b = 0.538198 - 0.232909I$	$2.02988I$	$0. - 3.46410I$
$u = -0.913599 - 0.686557I$ $a = 1.029360 - 0.529489I$ $b = 0.538198 + 0.232909I$	$-2.02988I$	$0. + 3.46410I$
$u = -1.069540 + 0.472028I$ $a = -0.00856 + 2.38074I$ $b = 1.89598 + 1.33554I$	$-2.02988I$	$0. + 3.46410I$
$u = -1.069540 - 0.472028I$ $a = -0.00856 - 2.38074I$ $b = 1.89598 - 1.33554I$	$2.02988I$	$0. - 3.46410I$
$u = 0.173445 + 0.636239I$ $a = 0.294586 + 0.665896I$ $b = -0.757353 - 1.050530I$	$-2.02988I$	$0. + 3.46410I$
$u = 0.173445 - 0.636239I$ $a = 0.294586 - 0.665896I$ $b = -0.757353 + 1.050530I$	$2.02988I$	$0. - 3.46410I$

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

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^3 - u^2 + 1 \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^3 \\ 0 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^3 \\ -u^3 + u \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -u^2 - u + 1 \\ -u^3 + u \end{pmatrix}$$

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.866025 + 0.500000I$ $a = 0.50000 - 1.86603I$ $b = 0.866025 - 0.500000I$	-1.64493	-4.00000
$u = 0.866025 - 0.500000I$ $a = 0.50000 + 1.86603I$ $b = 0.866025 + 0.500000I$	-1.64493	-4.00000
$u = -0.866025 + 0.500000I$ $a = 0.500000 - 0.133975I$ $b = -0.866025 - 0.500000I$	-1.64493	-4.00000
$u = -0.866025 - 0.500000I$ $a = 0.500000 + 0.133975I$ $b = -0.866025 + 0.500000I$	-1.64493	-4.00000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$((u^2+1)^4)(u^2-u+1)^5(u^{60}+4u^{59}+\cdots+20u+4)$
c_2	$((u+1)^8)(u^2+u+1)^5(u^{60}+28u^{59}+\cdots+136u+16)$
c_3, c_7	$(u^4-u^2+1)^2(u^{10}-2u^8+3u^6+u^5-2u^4-u^3+u^2+u+1)$ $\cdot\,(u^{60}-u^{59}+\cdots-2u+1)$
c_4, c_{10}	$(u^4-u^2+1)^2(u^{10}-2u^8+3u^6+u^5-2u^4-u^3+u^2+u+1)$ $\cdot\,(u^{60}-u^{59}+\cdots+8u+1)$
c_6	$(u^4-u^2+1)^2(u^{10}-2u^8+2u^7+u^6+u^5+4u^4+3u^3+9u^2+3u+3)$ $\cdot\,(u^{60}-3u^{59}+\cdots-628u+261)$
c_8	$(u^2-u+1)^4$ $\cdot\,(u^{10}-4u^9+10u^8-16u^7+19u^6-15u^5+8u^4-u^3-u^2+u+1)$ $\cdot\,(u^{60}-31u^{59}+\cdots-6u+1)$
c_9	$(u^2-u+1)^4$ $\cdot\,(u^{10}+4u^9+10u^8+16u^7+19u^6+15u^5+8u^4+u^3-u^2-u+1)$ $\cdot\,(u^{60}+19u^{59}+\cdots+54u+1)$
c_{11}	$(u^2+u+1)^4$ $\cdot\,(u^{10}+4u^9+10u^8+16u^7+19u^6+15u^5+8u^4+u^3-u^2-u+1)$ $\cdot\,(u^{60}+19u^{59}+\cdots+54u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y+1)^8)(y^2+y+1)^5(y^{60}+28y^{59}+\cdots+136y+16)$
c_2	$((y-1)^8)(y^2+y+1)^5(y^{60}+12y^{59}+\cdots+13024y+256)$
c_3, c_7	$(y^2-y+1)^4$ $\cdot(y^{10}-4y^9+10y^8-16y^7+19y^6-15y^5+8y^4-y^3-y^2+y+1)$ $\cdot(y^{60}-31y^{59}+\cdots-6y+1)$
c_4, c_{10}	$(y^2-y+1)^4$ $\cdot(y^{10}-4y^9+10y^8-16y^7+19y^6-15y^5+8y^4-y^3-y^2+y+1)$ $\cdot(y^{60}-19y^{59}+\cdots-54y+1)$
c_6	$(y^2-y+1)^4$ $\cdot(y^{10}-4y^9+6y^8-y^6-35y^5+4y^4+63y^3+87y^2+45y+9)$ $\cdot(y^{60}+29y^{59}+\cdots-446062y+68121)$
c_8	$((y^2+y+1)^4)(y^{10}+4y^9+\cdots-3y+1)(y^{60}+y^{59}+\cdots+38y+1)$
c_9, c_{11}	$((y^2+y+1)^4)(y^{10}+4y^9+\cdots-3y+1)(y^{60}+49y^{59}+\cdots-562y+1)$