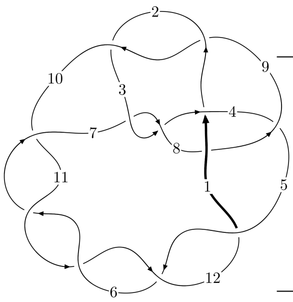
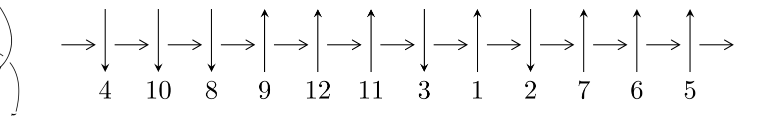
$12a_{1179}$ ($K12a_{1179}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -3u^{21} - 20u^{20} + \cdots + 2b - 36,\ 3u^{21} + 17u^{20} + \cdots + 4a - 10,\ u^{22} + 7u^{21} + \cdots + 88u + 8\rangle$$

$$I_2^u = \langle -1208412097a^5u^5 + 1863706926u^5a^4 + \cdots + 88241195076a - 13422878124,$$
$$6a^5u^5 + 4u^5a^4 + \cdots - 38a - 32,\ u^6 - u^5 + 5u^4 - 4u^3 + 6u^2 - 3u + 1\rangle$$

$$I_3^u = \langle -u^{12} - 9u^{10} - 30u^8 - 45u^6 - 29u^4 + u^3 - 6u^2 + b + 2u,$$
$$-u^{12} - u^{11} - 9u^{10} - 9u^9 - 30u^8 - 30u^7 - 45u^6 - 45u^5 - 29u^4 - 28u^3 - 5u^2 + a - 4u + 2,$$
$$u^{13} + 10u^{11} + 38u^9 + 68u^7 + 57u^5 - u^4 + 18u^3 - 3u^2 - 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 71 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. $I_1^u = \langle -3u^{21} - 20u^{20} + \cdots + 2b - 36,\ 3u^{21} + 17u^{20} + \cdots + 4a - 10,\ u^{22} + 7u^{21} + \cdots + 88u + 8\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -\frac{3}{4}u^{21} - \frac{17}{4}u^{20} + \cdots + 8u + \frac{5}{2} \\ \frac{3}{2}u^{21} + 10u^{20} + \cdots + \frac{365}{2}u + 18 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{1}{2}u^{21} + \frac{15}{4}u^{20} + \cdots + \frac{461}{4}u + 13 \\ -\frac{1}{4}u^{21} - \frac{5}{4}u^{20} + \cdots - 48u - 6 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{3}{8}u^{21} + \frac{19}{8}u^{20} + \cdots + \frac{115}{2}u + \frac{13}{2} \\ \frac{1}{4}u^{21} + \frac{7}{4}u^{20} + \cdots + \frac{23}{2}u + 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -\frac{5}{4}u^{21} - \frac{31}{4}u^{20} + \cdots - 106u - \frac{19}{2} \\ u^{21} + \frac{13}{2}u^{20} + \cdots + \frac{137}{2}u + 6 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{3}{8}u^{21} - \frac{19}{8}u^{20} + \cdots - \frac{55}{2}u - \frac{5}{2} \\ -\frac{1}{4}u^{21} - \frac{7}{4}u^{20} + \cdots - \frac{53}{2}u - 3 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -u^3 - 2u \\ u^5 + 3u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= u^{20} + 6u^{19} + 32u^{18} + 116u^{17} + 363u^{16} + 934u^{15} + 2100u^{14} + 4092u^{13} + 7035u^{12} + 10658u^{11} + 14285u^{10} + 16890u^9 + 17584u^8 + 15990u^7 + 12628u^6 + 8526u^5 + 4861u^4 + 2276u^3 + 846u^2 + 236u + 42$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22} - 19u^{21} + \cdots - 800u + 64$
c_2, c_3, c_7 c_9	$u^{22} - u^{21} + \cdots + 6u^2 + 1$
c_4, c_8	$u^{22} + 6u^{20} + \cdots - u + 1$
c_5, c_6, c_{10} c_{11}, c_{12}	$u^{22} - 7u^{21} + \cdots - 88u + 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} - y^{21} + \cdots - 1024y + 4096$
c_2, c_3, c_7 c_9	$y^{22} - 25y^{21} + \cdots + 12y + 1$
c_4, c_8	$y^{22} + 12y^{21} + \cdots - 7y + 1$
c_5, c_6, c_{10} c_{11}, c_{12}	$y^{22} + 29y^{21} + \cdots + 32y + 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.214951 + 0.955332I$ $a = -0.39803 - 1.38319I$ $b = 0.670593 - 0.921685I$	$-2.60701 - 2.88422I$	$-0.19154 + 3.17334I$
$u = -0.214951 - 0.955332I$ $a = -0.39803 + 1.38319I$ $b = 0.670593 + 0.921685I$	$-2.60701 + 2.88422I$	$-0.19154 - 3.17334I$
$u = -0.813603 + 0.334821I$ $a = -0.391314 + 0.249585I$ $b = -0.463678 - 0.959425I$	$-6.77494 + 2.66525I$	$-5.93834 - 2.44908I$
$u = -0.813603 - 0.334821I$ $a = -0.391314 - 0.249585I$ $b = -0.463678 + 0.959425I$	$-6.77494 - 2.66525I$	$-5.93834 + 2.44908I$
$u = -0.722432 + 0.499538I$ $a = -0.667442 - 0.524436I$ $b = 0.702002 - 1.099620I$	$-7.31468 - 7.59742I$	$-4.88198 + 6.88559I$
$u = -0.722432 - 0.499538I$ $a = -0.667442 + 0.524436I$ $b = 0.702002 + 1.099620I$	$-7.31468 + 7.59742I$	$-4.88198 - 6.88559I$
$u = -0.386869 + 1.238110I$ $a = 0.29217 + 1.62873I$ $b = -0.85810 + 1.29508I$	$-12.8000 - 11.4299I$	$-6.89165 + 6.89710I$
$u = -0.386869 - 1.238110I$ $a = 0.29217 - 1.62873I$ $b = -0.85810 - 1.29508I$	$-12.8000 + 11.4299I$	$-6.89165 - 6.89710I$
$u = -0.518713 + 1.209380I$ $a = 0.749140 + 0.553517I$ $b = 0.141219 + 0.931028I$	$-11.52230 - 1.93620I$	$-10.29123 + 1.11937I$
$u = -0.518713 - 1.209380I$ $a = 0.749140 - 0.553517I$ $b = 0.141219 - 0.931028I$	$-11.52230 + 1.93620I$	$-10.29123 - 1.11937I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.188904 + 0.563822I$ $a = 0.341201 - 0.743824I$ $b = 0.487380 + 0.071622I$	$-0.321406 - 1.315600I$	$0.42346 + 6.52764I$
$u = -0.188904 - 0.563822I$ $a = 0.341201 + 0.743824I$ $b = 0.487380 - 0.071622I$	$-0.321406 + 1.315600I$	$0.42346 - 6.52764I$
$u = 0.03206 + 1.53855I$ $a = -0.320508 + 0.481993I$ $b = -0.440190 + 0.193391I$	$-7.43727 - 1.58134I$	$0.15073 + 4.91907I$
$u = 0.03206 - 1.53855I$ $a = -0.320508 - 0.481993I$ $b = -0.440190 - 0.193391I$	$-7.43727 + 1.58134I$	$0.15073 - 4.91907I$
$u = -0.398382 + 0.163640I$ $a = 1.041370 - 0.104922I$ $b = -0.526173 + 0.495850I$	$0.836027 - 0.793326I$	$6.74273 + 3.41727I$
$u = -0.398382 - 0.163640I$ $a = 1.041370 + 0.104922I$ $b = -0.526173 - 0.495850I$	$0.836027 + 0.793326I$	$6.74273 - 3.41727I$
$u = -0.05207 + 1.70520I$ $a = -0.13197 + 1.64255I$ $b = -0.83496 + 1.17436I$	$-12.05740 - 3.92251I$	$0.689774 + 0.408842I$
$u = -0.05207 - 1.70520I$ $a = -0.13197 - 1.64255I$ $b = -0.83496 - 1.17436I$	$-12.05740 + 3.92251I$	$0.689774 - 0.408842I$
$u = -0.10228 + 1.79386I$ $a = 0.12610 - 1.92859I$ $b = 0.95775 - 1.44210I$	$15.7405 - 13.6253I$	$-7.26879 + 5.92995I$
$u = -0.10228 - 1.79386I$ $a = 0.12610 + 1.92859I$ $b = 0.95775 + 1.44210I$	$15.7405 + 13.6253I$	$-7.26879 - 5.92995I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.13386 + 1.80777I$ $a = -0.390730 - 1.046170I$ $b = 0.164157 - 0.996452I$	$17.1171 - 4.8585I$	$-9.54317 + 2.73303I$
$u = -0.13386 - 1.80777I$ $a = -0.390730 + 1.046170I$ $b = 0.164157 + 0.996452I$	$17.1171 + 4.8585I$	$-9.54317 - 2.73303I$

II. $I_2^u = \langle -1.21\times 10^{9}a^5u^5 + 1.86\times 10^{9}a^4u^5 + \cdots + 8.82\times 10^{10}a - 1.34\times 10^{10},\ 6a^5u^5 + 4u^5a^4 + \cdots - 38a - 32,\ u^6 - u^5 + 5u^4 - 4u^3 + 6u^2 - 3u + 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_9 = \begin{pmatrix}a\\0.372194a^5u^5 - 0.574026a^4u^5 + \cdots - 27.1785a + 4.13428\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-0.145773a^5u^5 + 2.18213a^4u^5 + \cdots + 17.8628a - 21.1907\\0.312265a^5u^5 - 1.60138a^4u^5 + \cdots - 34.5790a + 1.77561\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.206418a^5u^5 - 2.57431a^4u^5 + \cdots - 10.7722a + 16.8693\\0.110381a^5u^5 - 0.378957a^4u^5 + \cdots - 20.5376a - 6.45733\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0.132970a^5u^5 + 1.05447a^4u^5 + \cdots + 1.43345a - 5.94094\\0.505164a^5u^5 + 0.480448a^4u^5 + \cdots - 26.7451a - 1.80666\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.0660601a^5u^5 + 1.04617a^4u^5 + \cdots + 12.8011a - 4.58028\\-0.295252a^5u^5 + 0.333319a^4u^5 + \cdots + 13.4971a + 1.63976\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u\\u^3 + u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u^2 + 1\\-u^4 - 2u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-u^3 - 2u\\u^5 + 3u^3 + u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{10836912}{649345301}a^5u^5 + \frac{6217485248}{649345301}u^5a^4 + \cdots + \frac{27178566568}{649345301}a - \frac{51617037366}{649345301}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^3+u^2-1)^{12}$
c_2, c_3, c_7 c_9	$u^{36}+u^{35}+\cdots-334u+77$
c_4, c_8	$u^{36}+3u^{35}+\cdots+244u+271$
c_5, c_6, c_{10} c_{11}, c_{12}	$(u^6+u^5+5u^4+4u^3+6u^2+3u+1)^6$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^3 - y^2 + 2y - 1)^{12}$
c_2, c_3, c_7 c_9	$y^{36} - 33y^{35} + \cdots + 209380y + 5929$
c_4, c_8	$y^{36} + 11y^{35} + \cdots + 1542616y + 73441$
c_5, c_6, c_{10} c_{11}, c_{12}	$(y^6 + 9y^5 + 29y^4 + 40y^3 + 22y^2 + 3y + 1)^6$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.142924 + 1.159520I$ $a = 0.020396 - 0.755302I$ $b = -0.624535 - 0.897322I$	$-6.55350 - 0.17216I$	$-6.07139 - 0.41864I$
$u = 0.142924 + 1.159520I$ $a = -0.90019 + 1.20470I$ $b = -0.072498 + 0.768105I$	$-6.55350 - 0.17216I$	$-6.07139 - 0.41864I$
$u = 0.142924 + 1.159520I$ $a = -1.09844 + 1.21563I$ $b = -1.70363 + 1.17475I$	$-10.69110 + 2.65597I$	$-12.60066 - 3.39809I$
$u = 0.142924 + 1.159520I$ $a = 0.71837 - 1.49821I$ $b = -0.702328 - 0.883472I$	$-6.55350 + 5.48409I$	$-6.07139 - 6.37753I$
$u = 0.142924 + 1.159520I$ $a = 0.09177 + 2.06359I$ $b = 0.91585 + 1.55946I$	$-6.55350 + 5.48409I$	$-6.07139 - 6.37753I$
$u = 0.142924 + 1.159520I$ $a = 0.85867 + 2.27785I$ $b = 0.039086 + 0.707567I$	$-10.69110 + 2.65597I$	$-12.60066 - 3.39809I$
$u = 0.142924 - 1.159520I$ $a = 0.020396 + 0.755302I$ $b = -0.624535 + 0.897322I$	$-6.55350 + 0.17216I$	$-6.07139 + 0.41864I$
$u = 0.142924 - 1.159520I$ $a = -0.90019 - 1.20470I$ $b = -0.072498 - 0.768105I$	$-6.55350 + 0.17216I$	$-6.07139 + 0.41864I$
$u = 0.142924 - 1.159520I$ $a = -1.09844 - 1.21563I$ $b = -1.70363 - 1.17475I$	$-10.69110 - 2.65597I$	$-12.60066 + 3.39809I$
$u = 0.142924 - 1.159520I$ $a = 0.71837 + 1.49821I$ $b = -0.702328 + 0.883472I$	$-6.55350 - 5.48409I$	$-6.07139 + 6.37753I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.142924 - 1.159520I$ $a = 0.09177 - 2.06359I$ $b = 0.91585 - 1.55946I$	$-6.55350 - 5.48409I$	$-6.07139 + 6.37753I$
$u = 0.142924 - 1.159520I$ $a = 0.85867 - 2.27785I$ $b = 0.039086 - 0.707567I$	$-10.69110 - 2.65597I$	$-12.60066 + 3.39809I$
$u = 0.321608 + 0.359079I$ $a = -0.541913 - 0.991237I$ $b = 1.134260 - 0.815115I$	$-5.79017 + 1.10871I$	$-7.48336 - 6.18117I$
$u = 0.321608 + 0.359079I$ $a = -0.573836 - 1.111540I$ $b = -0.036630 + 0.730558I$	$-1.65258 - 1.71942I$	$-0.95409 - 3.20172I$
$u = 0.321608 + 0.359079I$ $a = 1.120820 - 0.796180I$ $b = -0.727819 - 1.151300I$	$-1.65258 + 3.93683I$	$-0.95409 - 9.16062I$
$u = 0.321608 + 0.359079I$ $a = 1.56692 + 0.28239I$ $b = 0.488689 - 0.785333I$	$-1.65258 - 1.71942I$	$-0.95409 - 3.20172I$
$u = 0.321608 + 0.359079I$ $a = -2.31941 + 0.30926I$ $b = 0.467021 + 0.778019I$	$-1.65258 + 3.93683I$	$-0.95409 - 9.16062I$
$u = 0.321608 + 0.359079I$ $a = -0.16556 - 3.53944I$ $b = -0.475830 - 0.658521I$	$-5.79017 + 1.10871I$	$-7.48336 - 6.18117I$
$u = 0.321608 - 0.359079I$ $a = -0.541913 + 0.991237I$ $b = 1.134260 + 0.815115I$	$-5.79017 - 1.10871I$	$-7.48336 + 6.18117I$
$u = 0.321608 - 0.359079I$ $a = -0.573836 + 1.111540I$ $b = -0.036630 - 0.730558I$	$-1.65258 + 1.71942I$	$-0.95409 + 3.20172I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.321608 - 0.359079I$ $a = 1.120820 + 0.796180I$ $b = -0.727819 + 1.151300I$	$-1.65258 - 3.93683I$	$-0.95409 + 9.16062I$
$u = 0.321608 - 0.359079I$ $a = 1.56692 - 0.28239I$ $b = 0.488689 + 0.785333I$	$-1.65258 + 1.71942I$	$-0.95409 + 3.20172I$
$u = 0.321608 - 0.359079I$ $a = -2.31941 - 0.30926I$ $b = 0.467021 - 0.778019I$	$-1.65258 - 3.93683I$	$-0.95409 + 9.16062I$
$u = 0.321608 - 0.359079I$ $a = -0.16556 + 3.53944I$ $b = -0.475830 + 0.658521I$	$-5.79017 - 1.10871I$	$-7.48336 + 6.18117I$
$u = 0.03547 + 1.77530I$ $a = 0.483101 + 1.162360I$ $b = 0.98695 + 1.09529I$	$-17.2652 + 0.5991I$	$-6.44525 + 0.72721I$
$u = 0.03547 + 1.77530I$ $a = 0.49089 - 1.43550I$ $b = -0.136931 - 0.892105I$	$-17.2652 + 0.5991I$	$-6.44525 + 0.72721I$
$u = 0.03547 + 1.77530I$ $a = -0.19050 + 1.53203I$ $b = 0.836637 + 0.957299I$	$-17.2652 + 6.2553I$	$-6.44525 - 5.23168I$
$u = 0.03547 + 1.77530I$ $a = -0.63078 - 1.91690I$ $b = 0.159090 - 0.769263I$	$18.0757 + 3.4272I$	$-12.97451 - 2.25224I$
$u = 0.03547 + 1.77530I$ $a = 1.57803 - 1.54119I$ $b = 2.00938 - 1.44296I$	$18.0757 + 3.4272I$	$-12.97451 - 2.25224I$
$u = 0.03547 + 1.77530I$ $a = -0.50833 - 2.26340I$ $b = -1.05676 - 1.80309I$	$-17.2652 + 6.2553I$	$-6.44525 - 5.23168I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.03547 - 1.77530I$ $a = 0.483101 - 1.162360I$ $b = 0.98695 - 1.09529I$	$-17.2652 - 0.5991I$	$-6.44525 - 0.72721I$
$u = 0.03547 - 1.77530I$ $a = 0.49089 + 1.43550I$ $b = -0.136931 + 0.892105I$	$-17.2652 - 0.5991I$	$-6.44525 - 0.72721I$
$u = 0.03547 - 1.77530I$ $a = -0.19050 - 1.53203I$ $b = 0.836637 - 0.957299I$	$-17.2652 - 6.2553I$	$-6.44525 + 5.23168I$
$u = 0.03547 - 1.77530I$ $a = -0.63078 + 1.91690I$ $b = 0.159090 + 0.769263I$	$18.0757 - 3.4272I$	$-12.97451 + 2.25224I$
$u = 0.03547 - 1.77530I$ $a = 1.57803 + 1.54119I$ $b = 2.00938 + 1.44296I$	$18.0757 - 3.4272I$	$-12.97451 + 2.25224I$
$u = 0.03547 - 1.77530I$ $a = -0.50833 + 2.26340I$ $b = -1.05676 + 1.80309I$	$-17.2652 - 6.2553I$	$-6.44525 + 5.23168I$

III. $\boldsymbol{I_3^u =}$
$\boldsymbol{\langle -u^{12} - 9u^{10} + \cdots + b + 2u,\ -u^{12} - u^{11} + \cdots + a + 2,\ u^{13} + 10u^{11} + \cdots - 3u^2 - 1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

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

$$a_9 = \begin{pmatrix} u^{12} + u^{11} + \cdots + 4u - 2 \\ u^{12} + 9u^{10} + 30u^8 + 45u^6 + 29u^4 - u^3 + 6u^2 - 2u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^{12} - 10u^{10} + \cdots + 5u + 2 \\ u^9 + 7u^7 + 16u^5 + 13u^3 + 2u - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{12} - 10u^{10} + \cdots - 3u + 2 \\ u^9 - u^8 + 7u^7 - 6u^6 + 16u^5 - 11u^4 + 13u^3 - 6u^2 + 3u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{12} + 9u^{10} + \cdots + 4u - 1 \\ u^{12} - u^{11} + \cdots - 2u + 1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{12} - 10u^{10} - 38u^8 - 67u^6 - u^5 - 52u^4 - 3u^3 - 11u^2 - u + 2 \\ -u^8 + u^7 - 6u^6 + 5u^5 - 11u^4 + 7u^3 - 6u^2 + 2u - 1 \end{pmatrix}$$

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= -u^{11} + u^{10} - 11u^9 + 11u^8 - 44u^7 + 40u^6 - 77u^5 + 57u^4 - 55u^3 + 28u^2 - 10u - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{13} - 4u^{12} + 8u^{11} - 8u^{10} + u^9 + 7u^8 - 5u^7 - 3u^6 + 3u^5 + 4u^4 - 4u^3 + 1$
c_2, c_7	$u^{13} + u^{12} + \cdots + u + 1$
c_3, c_9	$u^{13} - u^{12} + \cdots + u - 1$
c_4, c_8	$u^{13} + 2u^{11} - u^{10} + 5u^9 - u^8 + 3u^7 + 3u^5 + u^4 + u^3 - 2u^2 - 1$
c_5, c_6	$u^{13} + 10u^{11} + 38u^9 + 68u^7 + 57u^5 - u^4 + 18u^3 - 3u^2 - 1$
c_{10}, c_{11}, c_{12}	$u^{13} + 10u^{11} + 38u^9 + 68u^7 + 57u^5 + u^4 + 18u^3 + 3u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{13} + 2y^{11} + \cdots - 8y^2 - 1$
c_2, c_3, c_7 c_9	$y^{13} - 13y^{12} + \cdots + 9y - 1$
c_4, c_8	$y^{13} + 4y^{12} + \cdots - 4y - 1$
c_5, c_6, c_{10} c_{11}, c_{12}	$y^{13} + 20y^{12} + \cdots - 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.222851 + 1.128390I$ $a = -0.528316 + 1.119370I$ $b = -0.751183 + 0.409643I$	$-9.46673 + 2.12086I$	$-5.40296 - 0.71019I$
$u = 0.222851 - 1.128390I$ $a = -0.528316 - 1.119370I$ $b = -0.751183 - 0.409643I$	$-9.46673 - 2.12086I$	$-5.40296 + 0.71019I$
$u = -0.132288 + 0.825196I$ $a = -0.80812 - 1.63198I$ $b = 0.620126 - 1.109460I$	$-3.74892 - 3.58419I$	$-7.53140 + 5.11211I$
$u = -0.132288 - 0.825196I$ $a = -0.80812 + 1.63198I$ $b = 0.620126 + 1.109460I$	$-3.74892 + 3.58419I$	$-7.53140 - 5.11211I$
$u = -0.09053 + 1.45630I$ $a = 0.446564 + 0.617287I$ $b = 0.003852 + 0.647453I$	$-8.20019 + 1.37133I$	$-10.62804 - 1.83848I$
$u = -0.09053 - 1.45630I$ $a = 0.446564 - 0.617287I$ $b = 0.003852 - 0.647453I$	$-8.20019 - 1.37133I$	$-10.62804 + 1.83848I$
$u = -0.192457 + 0.338010I$ $a = -1.90707 + 0.93123I$ $b = -0.308277 - 0.891137I$	$-2.11472 + 2.48894I$	$-7.57750 - 5.29863I$
$u = -0.192457 - 0.338010I$ $a = -1.90707 - 0.93123I$ $b = -0.308277 + 0.891137I$	$-2.11472 - 2.48894I$	$-7.57750 + 5.29863I$
$u = 0.374429$ $a = 2.73808$ $b = 0.745922$	-5.68479	-6.08470
$u = -0.03925 + 1.68347I$ $a = -0.05381 + 1.74327I$ $b = -0.82116 + 1.27338I$	$-12.70200 - 4.26962I$	$-9.64995 + 5.18333I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.03925 - 1.68347I$ $a = -0.05381 - 1.74327I$ $b = -0.82116 - 1.27338I$	$-12.70200 + 4.26962I$	$-9.64995 - 5.18333I$
$u = 0.04446 + 1.77839I$ $a = 0.481712 - 1.244350I$ $b = 0.883684 - 0.737401I$	$19.3357 + 3.2097I$	$-5.16777 - 0.81655I$
$u = 0.04446 - 1.77839I$ $a = 0.481712 + 1.244350I$ $b = 0.883684 + 0.737401I$	$19.3357 - 3.2097I$	$-5.16777 + 0.81655I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^3+u^2-1)^{12}$ $\cdot(u^{13}-4u^{12}+8u^{11}-8u^{10}+u^9+7u^8-5u^7-3u^6+3u^5+4u^4-4u^3+1)$ $\cdot(u^{22}-19u^{21}+\cdots-800u+64)$
c_2, c_7	$(u^{13}+u^{12}+\cdots+u+1)(u^{22}-u^{21}+\cdots+6u^2+1)$ $\cdot(u^{36}+u^{35}+\cdots-334u+77)$
c_3, c_9	$(u^{13}-u^{12}+\cdots+u-1)(u^{22}-u^{21}+\cdots+6u^2+1)$ $\cdot(u^{36}+u^{35}+\cdots-334u+77)$
c_4, c_8	$(u^{13}+2u^{11}-u^{10}+5u^9-u^8+3u^7+3u^5+u^4+u^3-2u^2-1)$ $\cdot(u^{22}+6u^{20}+\cdots-u+1)(u^{36}+3u^{35}+\cdots+244u+271)$
c_5, c_6	$(u^6+u^5+5u^4+4u^3+6u^2+3u+1)^6$ $\cdot(u^{13}+10u^{11}+38u^9+68u^7+57u^5-u^4+18u^3-3u^2-1)$ $\cdot(u^{22}-7u^{21}+\cdots-88u+8)$
c_{10}, c_{11}, c_{12}	$(u^6+u^5+5u^4+4u^3+6u^2+3u+1)^6$ $\cdot(u^{13}+10u^{11}+38u^9+68u^7+57u^5+u^4+18u^3+3u^2+1)$ $\cdot(u^{22}-7u^{21}+\cdots-88u+8)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^3 - y^2 + 2y - 1)^{12})(y^{13} + 2y^{11} + \cdots - 8y^2 - 1)$ $\cdot (y^{22} - y^{21} + \cdots - 1024y + 4096)$
c_2, c_3, c_7 c_9	$(y^{13} - 13y^{12} + \cdots + 9y - 1)(y^{22} - 25y^{21} + \cdots + 12y + 1)$ $\cdot (y^{36} - 33y^{35} + \cdots + 209380y + 5929)$
c_4, c_8	$(y^{13} + 4y^{12} + \cdots - 4y - 1)(y^{22} + 12y^{21} + \cdots - 7y + 1)$ $\cdot (y^{36} + 11y^{35} + \cdots + 1542616y + 73441)$
c_5, c_6, c_{10} c_{11}, c_{12}	$(y^6 + 9y^5 + 29y^4 + 40y^3 + 22y^2 + 3y + 1)^6$ $\cdot (y^{13} + 20y^{12} + \cdots - 6y - 1)(y^{22} + 29y^{21} + \cdots + 32y + 64)$