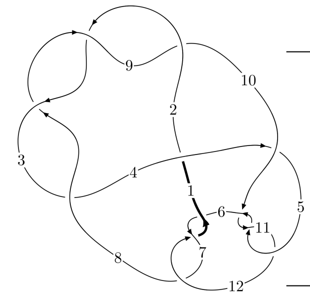
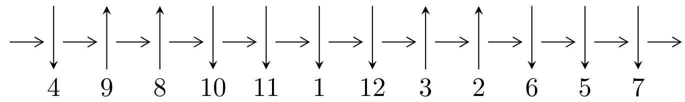
$12a_{1160}$ ($K12a_{1160}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle u^{22} - u^{21} + \cdots + 4b - 1,\ u^{22} - u^{21} + \cdots + 4a - 5,\ u^{23} + 12u^{21} + \cdots + 2u + 1\rangle \\
I_2^u &= \langle -408137340u^{35} + 324289774u^{34} + \cdots + 922017653b + 2937229108, \\
&\quad - 670648626u^{35} - 875070234u^{34} + \cdots + 4610088265a + 20077281071,\ u^{36} - u^{35} + \cdots - 6u + 5\rangle \\
I_3^u &= \langle b - a - 1,\ a^2 + au + 2a + u + 2,\ u^2 + 1\rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 63 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.

$$\boldsymbol{I_1^u = \langle u^{22} - u^{21} + \cdots + 4b - 1,\ u^{22} - u^{21} + \cdots + 4a - 5,\ u^{23} + 12u^{21} + \cdots + 2u + 1\rangle}$$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{4}u^{22} + \frac{1}{4}u^{21} + \cdots + \frac{1}{4}u + \frac{5}{4} \\ -\frac{1}{4}u^{22} + \frac{1}{4}u^{21} + \cdots + \frac{1}{4}u + \frac{1}{4} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ -\frac{1}{4}u^{22} + \frac{1}{4}u^{21} + \cdots + \frac{1}{4}u + \frac{1}{4} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u \\ -\frac{1}{4}u^{22} - \frac{1}{4}u^{21} + \cdots + \frac{1}{4}u - \frac{1}{4} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{4}u^{22} + \frac{3}{4}u^{21} + \cdots + \frac{5}{4}u + \frac{5}{4} \\ \frac{1}{2}u^{22} + \frac{1}{2}u^{21} + \cdots + \frac{5}{2}u^2 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} \frac{1}{4}u^{22} + \frac{1}{4}u^{21} + \cdots - \frac{5}{4}u + \frac{1}{4} \\ \frac{1}{2}u^{22} + 5u^{20} + \cdots - 2u - \frac{1}{2} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^3 - 2u \\ -\frac{1}{4}u^{22} - \frac{1}{4}u^{21} + \cdots + \frac{1}{4}u - \frac{1}{4} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -2u^{22} + 3u^{21} - 23u^{20} + 30u^{19} - 109u^{18} + 121u^{17} - 261u^{16} + 235u^{15} - 283u^{14} + 172u^{13} + 27u^{12} - 104u^{11} + 343u^{10} - 197u^9 + 172u^8 + 30u^7 - 140u^6 + 113u^5 - 79u^4 - 6u^3 + 31u^2 - 13u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{23} - 7u^{22} + \cdots + 43u - 136$
c_2, c_3, c_8 c_9	$u^{23} + 3u^{22} + \cdots + 9u + 2$
c_4	$u^{23} + 3u^{22} + \cdots + 112u + 32$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$u^{23} + 12u^{21} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{23} - 9y^{22} + \cdots + 119625y - 18496$
c_2, c_3, c_8 c_9	$y^{23} + 27y^{22} + \cdots - 19y - 4$
c_4	$y^{23} - 7y^{22} + \cdots - 14592y - 1024$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$y^{23} + 24y^{22} + \cdots - 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.795316 + 0.139636I$ $a = -1.23282 + 3.11375I$ $b = 0.11231 + 1.61312I$	$-11.42090 + 4.87039I$	$-11.90567 - 3.91229I$
$u = -0.795316 - 0.139636I$ $a = -1.23282 - 3.11375I$ $b = 0.11231 - 1.61312I$	$-11.42090 - 4.87039I$	$-11.90567 + 3.91229I$
$u = 0.718532 + 0.110969I$ $a = -0.38913 - 1.64647I$ $b = 0.394058 - 0.727871I$	$-3.42109 - 2.97216I$	$-10.73203 + 5.72082I$
$u = 0.718532 - 0.110969I$ $a = -0.38913 + 1.64647I$ $b = 0.394058 + 0.727871I$	$-3.42109 + 2.97216I$	$-10.73203 - 5.72082I$
$u = 0.220634 + 1.266720I$ $a = 0.15139 + 1.88506I$ $b = 0.05656 + 1.66965I$	$-4.81649 - 2.32088I$	$-2.94517 + 3.80722I$
$u = 0.220634 - 1.266720I$ $a = 0.15139 - 1.88506I$ $b = 0.05656 - 1.66965I$	$-4.81649 + 2.32088I$	$-2.94517 - 3.80722I$
$u = -0.235589 + 1.349070I$ $a = 0.046253 - 0.742212I$ $b = 0.290628 - 0.964242I$	$4.32338 + 3.54350I$	$-1.78201 - 1.89735I$
$u = -0.235589 - 1.349070I$ $a = 0.046253 + 0.742212I$ $b = 0.290628 + 0.964242I$	$4.32338 - 3.54350I$	$-1.78201 + 1.89735I$
$u = -0.619298$ $a = 0.221043$ $b = 0.485803$	-1.38664	-6.71120
$u = 0.29349 + 1.39778I$ $a = -0.304987 - 0.309207I$ $b = 0.661665 + 0.171016I$	$7.94839 - 6.78325I$	$2.61504 + 3.60698I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.29349 - 1.39778I$ $a = -0.304987 + 0.309207I$ $b = 0.661665 - 0.171016I$	$7.94839 + 6.78325I$	$2.61504 - 3.60698I$
$u = 0.324994 + 0.458228I$ $a = 1.39871 + 1.17755I$ $b = -0.01682 + 1.57006I$	$-7.31537 - 1.33361I$	$-8.98283 + 4.93247I$
$u = 0.324994 - 0.458228I$ $a = 1.39871 - 1.17755I$ $b = -0.01682 - 1.57006I$	$-7.31537 + 1.33361I$	$-8.98283 - 4.93247I$
$u = -0.33865 + 1.40078I$ $a = -0.985685 + 0.972690I$ $b = 0.541575 + 0.731096I$	$6.29016 + 10.83400I$	$-0.76204 - 8.37253I$
$u = -0.33865 - 1.40078I$ $a = -0.985685 - 0.972690I$ $b = 0.541575 - 0.731096I$	$6.29016 - 10.83400I$	$-0.76204 + 8.37253I$
$u = 0.37468 + 1.39854I$ $a = -1.79865 - 1.50732I$ $b = 0.16169 - 1.61532I$	$-1.65587 - 13.48220I$	$-3.40425 + 7.15692I$
$u = 0.37468 - 1.39854I$ $a = -1.79865 + 1.50732I$ $b = 0.16169 + 1.61532I$	$-1.65587 + 13.48220I$	$-3.40425 - 7.15692I$
$u = 0.03245 + 1.46555I$ $a = 0.722690 + 0.188147I$ $b = -0.607538 + 0.467437I$	$11.47900 - 2.05502I$	$3.85436 + 3.36506I$
$u = 0.03245 - 1.46555I$ $a = 0.722690 - 0.188147I$ $b = -0.607538 - 0.467437I$	$11.47900 + 2.05502I$	$3.85436 - 3.36506I$
$u = -0.11357 + 1.47084I$ $a = 0.835309 - 0.504420I$ $b = -0.15177 - 1.45959I$	$5.25690 + 4.76865I$	$0.07437 - 3.33797I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.11357 - 1.47084I$ $a = 0.835309 + 0.504420I$ $b = -0.15177 + 1.45959I$	$5.25690 - 4.76865I$	$0.07437 + 3.33797I$
$u = -0.172016 + 0.292715I$ $a = 0.946386 - 0.302788I$ $b = -0.185253 - 0.470231I$	$-0.217442 + 0.818533I$	$-5.67418 - 8.29419I$
$u = -0.172016 - 0.292715I$ $a = 0.946386 + 0.302788I$ $b = -0.185253 + 0.470231I$	$-0.217442 - 0.818533I$	$-5.67418 + 8.29419I$

II.

$\boldsymbol{I_2^u = \langle -4.08 \times 10^8 u^{35} + 3.24 \times 10^8 u^{34} + \cdots + 9.22 \times 10^8 b + 2.94 \times 10^9,\ -6.71 \times 10^8 u^{35} - 8.75 \times 10^8 u^{34} + \cdots + 4.61 \times 10^9 a + 2.01 \times 10^{10},\ u^{36} - u^{35} + \cdots - 6u + 5 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.145474u^{35} + 0.189816u^{34} + \cdots - 3.47613u - 4.35508 \\ 0.442657u^{35} - 0.351718u^{34} + \cdots - 0.393933u - 3.18565 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^3 + 2u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.321589u^{35} - 0.0247378u^{34} + \cdots - 1.86241u - 3.15812 \\ 0.572267u^{35} - 0.478600u^{34} + \cdots + 0.173162u - 2.48425 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.0968510u^{35} + 0.475416u^{34} + \cdots + 1.37142u - 0.407944 \\ 0.390518u^{35} - 0.397188u^{34} + \cdots + 2.72077u - 4.46928 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1.10604u^{35} - 0.316499u^{34} + \cdots - 4.24898u - 8.08013 \\ 0.177951u^{35} - 0.286241u^{34} + \cdots - 0.437593u - 2.21383 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.941357u^{35} + 0.248450u^{34} + \cdots - 0.356152u + 5.95006 \\ -0.486293u^{35} - 0.253941u^{34} + \cdots + 2.85704u + 4.40381 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.293667u^{35} + 0.872605u^{34} + \cdots + 0.650651u + 4.06134 \\ 0.0991121u^{35} - 0.145616u^{34} + \cdots + 2.76403u - 1.64129 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1541755780}{922017653}u^{35} + \frac{320087608}{922017653}u^{34} + \cdots - \frac{3188285292}{922017653}u - \frac{2738892350}{922017653}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{18} - 5u^{17} + \cdots - 13u + 3)^2$
c_2, c_3, c_8 c_9	$(u^{18} - u^{17} + \cdots - u + 1)^2$
c_4	$(u^{18} - u^{17} + \cdots - u + 5)^2$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$u^{36} - u^{35} + \cdots - 6u + 5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{18} - 3y^{17} + \cdots + 5y + 9)^2$
c_2, c_3, c_8 c_9	$(y^{18} + 21y^{17} + \cdots + y + 1)^2$
c_4	$(y^{18} - 7y^{17} + \cdots - 91y + 25)^2$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$y^{36} + 27y^{35} + \cdots - 116y + 25$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.457072 + 0.967947I$ $a = 0.164693 - 0.563129I$ $b = 0.417636 - 0.610136I$	$3.38528 - 2.06052I$	$-0.97721 + 4.27827I$
$u = -0.457072 - 0.967947I$ $a = 0.164693 + 0.563129I$ $b = 0.417636 + 0.610136I$	$3.38528 + 2.06052I$	$-0.97721 - 4.27827I$
$u = 0.885943 + 0.199664I$ $a = 1.00940 + 2.98114I$ $b = -0.13939 + 1.60559I$	$-6.71673 - 8.95499I$	$-7.02415 + 5.84784I$
$u = 0.885943 - 0.199664I$ $a = 1.00940 - 2.98114I$ $b = -0.13939 - 1.60559I$	$-6.71673 + 8.95499I$	$-7.02415 - 5.84784I$
$u = -0.656938 + 0.600932I$ $a = -0.91310 + 2.10115I$ $b = 0.04262 + 1.48330I$	$-1.65768 + 2.36433I$	$-3.03894 - 3.34702I$
$u = -0.656938 - 0.600932I$ $a = -0.91310 - 2.10115I$ $b = 0.04262 - 1.48330I$	$-1.65768 - 2.36433I$	$-3.03894 + 3.34702I$
$u = 0.445816 + 0.746695I$ $a = -0.264214 - 0.816201I$ $b = 0.434512 - 0.328358I$	$4.20760 - 0.97328I$	$2.11395 + 4.55184I$
$u = 0.445816 - 0.746695I$ $a = -0.264214 + 0.816201I$ $b = 0.434512 + 0.328358I$	$4.20760 + 0.97328I$	$2.11395 - 4.55184I$
$u = -0.823348 + 0.228873I$ $a = 0.22766 - 1.48393I$ $b = -0.480218 - 0.701439I$	$1.11805 + 6.64525I$	$-4.64041 - 7.71274I$
$u = -0.823348 - 0.228873I$ $a = 0.22766 + 1.48393I$ $b = -0.480218 + 0.701439I$	$1.11805 - 6.64525I$	$-4.64041 + 7.71274I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.347542 + 1.103030I$ $a = -0.28849 + 1.82343I$ $b = -0.07596 + 1.61798I$	$-8.50059 - 0.69909I$	$-9.38255 - 0.31146I$
$u = -0.347542 - 1.103030I$ $a = -0.28849 - 1.82343I$ $b = -0.07596 - 1.61798I$	$-8.50059 + 0.69909I$	$-9.38255 + 0.31146I$
$u = 0.517613 + 1.064580I$ $a = 0.39272 + 1.89779I$ $b = 0.11549 + 1.58311I$	$-4.08770 + 3.98828I$	$-3.98066 - 2.30410I$
$u = 0.517613 - 1.064580I$ $a = 0.39272 - 1.89779I$ $b = 0.11549 - 1.58311I$	$-4.08770 - 3.98828I$	$-3.98066 + 2.30410I$
$u = 0.248055 + 1.159160I$ $a = -0.074740 - 0.660291I$ $b = -0.260166 - 0.780385I$	$-0.299485 - 0.584791I$	$-8.18494 - 0.42463I$
$u = 0.248055 - 1.159160I$ $a = -0.074740 + 0.660291I$ $b = -0.260166 + 0.780385I$	$-0.299485 + 0.584791I$	$-8.18494 + 0.42463I$
$u = 0.721568 + 0.264552I$ $a = -0.277705 - 0.147451I$ $b = -0.554520 - 0.161487I$	$2.68166 - 3.09151I$	$-0.88507 + 2.77317I$
$u = 0.721568 - 0.264552I$ $a = -0.277705 + 0.147451I$ $b = -0.554520 + 0.161487I$	$2.68166 + 3.09151I$	$-0.88507 - 2.77317I$
$u = 0.054835 + 1.272260I$ $a = -0.890768 - 0.428266I$ $b = 0.434512 + 0.328358I$	$4.20760 + 0.97328I$	$2.11395 - 4.55184I$
$u = 0.054835 - 1.272260I$ $a = -0.890768 + 0.428266I$ $b = 0.434512 - 0.328358I$	$4.20760 - 0.97328I$	$2.11395 + 4.55184I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.189835 + 1.277090I$ $a = -1.52194 + 0.52826I$ $b = 0.417636 + 0.610136I$	$3.38528 + 2.06052I$	$-0.97721 - 4.27827I$
$u = -0.189835 - 1.277090I$ $a = -1.52194 - 0.52826I$ $b = 0.417636 - 0.610136I$	$3.38528 - 2.06052I$	$-0.97721 + 4.27827I$
$u = -0.237707 + 1.295530I$ $a = 0.427494 - 0.439480I$ $b = -0.554520 + 0.161487I$	$2.68166 + 3.09151I$	$-0.88507 - 2.77317I$
$u = -0.237707 - 1.295530I$ $a = 0.427494 + 0.439480I$ $b = -0.554520 - 0.161487I$	$2.68166 - 3.09151I$	$-0.88507 + 2.77317I$
$u = 0.264179 + 1.322520I$ $a = -2.28269 - 0.78081I$ $b = 0.11549 - 1.58311I$	$-4.08770 - 3.98828I$	$-4.00000 + 2.30410I$
$u = 0.264179 - 1.322520I$ $a = -2.28269 + 0.78081I$ $b = 0.11549 + 1.58311I$	$-4.08770 + 3.98828I$	$-4.00000 - 2.30410I$
$u = 0.634142 + 0.073008I$ $a = 1.79945 + 3.33771I$ $b = -0.07596 + 1.61798I$	$-8.50059 - 0.69909I$	$-9.38255 - 0.31146I$
$u = 0.634142 - 0.073008I$ $a = 1.79945 - 3.33771I$ $b = -0.07596 - 1.61798I$	$-8.50059 + 0.69909I$	$-9.38255 + 0.31146I$
$u = 0.295602 + 1.332060I$ $a = 1.22092 + 0.91446I$ $b = -0.480218 + 0.701439I$	$1.11805 - 6.64525I$	$-4.64041 + 7.71274I$
$u = 0.295602 - 1.332060I$ $a = 1.22092 - 0.91446I$ $b = -0.480218 - 0.701439I$	$1.11805 + 6.64525I$	$-4.64041 - 7.71274I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.049987 + 1.363660I$ $a = -0.593933 + 0.495532I$ $b = 0.04262 - 1.48330I$	$-1.65768 - 2.36433I$	$-3.03894 + 3.34702I$
$u = 0.049987 - 1.363660I$ $a = -0.593933 - 0.495532I$ $b = 0.04262 + 1.48330I$	$-1.65768 + 2.36433I$	$-3.03894 - 3.34702I$
$u = -0.337090 + 1.352820I$ $a = 2.06978 - 1.32113I$ $b = -0.13939 - 1.60559I$	$-6.71673 + 8.95499I$	$-7.02415 - 5.84784I$
$u = -0.337090 - 1.352820I$ $a = 2.06978 + 1.32113I$ $b = -0.13939 + 1.60559I$	$-6.71673 - 8.95499I$	$-7.02415 + 5.84784I$
$u = -0.568209 + 0.094076I$ $a = 0.59547 + 2.13551I$ $b = -0.260166 + 0.780385I$	$-0.299485 + 0.584791I$	$-8.18494 + 0.42463I$
$u = -0.568209 - 0.094076I$ $a = 0.59547 - 2.13551I$ $b = -0.260166 - 0.780385I$	$-0.299485 - 0.584791I$	$-8.18494 - 0.42463I$

III. $I_3^u = \langle b - a - 1,\ a^2 + au + 2a + u + 2,\ u^2 + 1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} a \\ a+1 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} -1 \\ a+1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u \\ au+2u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -au-a-u-1 \\ -au-u-1 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} au+2u \\ -a+u-1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ au+u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -1.000000 + 0.618034I$ $b = 0.618034I$	2.30291	−4.00000
$u = 1.000000I$ $a = -1.00000 - 1.61803I$ $b = -1.61803I$	−5.59278	−4.00000
$u = -1.000000I$ $a = -1.000000 - 0.618034I$ $b = -0.618034I$	2.30291	−4.00000
$u = -1.000000I$ $a = -1.00000 + 1.61803I$ $b = 1.61803I$	−5.59278	−4.00000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2+u-1)^2)(u^{18}-5u^{17}+\cdots-13u+3)^2$ $\cdot\,(u^{23}-7u^{22}+\cdots+43u-136)$
c_2, c_3, c_8 c_9	$(u^4+3u^2+1)(u^{18}-u^{17}+\cdots-u+1)^2(u^{23}+3u^{22}+\cdots+9u+2)$
c_4	$u^4(u^{18}-u^{17}+\cdots-u+5)^2(u^{23}+3u^{22}+\cdots+112u+32)$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$((u^2+1)^2)(u^{23}+12u^{21}+\cdots+2u+1)(u^{36}-u^{35}+\cdots-6u+5)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2-3y+1)^2)(y^{18}-3y^{17}+\cdots+5y+9)^2$ $\cdot\,(y^{23}-9y^{22}+\cdots+119625y-18496)$
c_2, c_3, c_8 c_9	$((y^2+3y+1)^2)(y^{18}+21y^{17}+\cdots+y+1)^2$ $\cdot\,(y^{23}+27y^{22}+\cdots-19y-4)$
c_4	$y^4(y^{18}-7y^{17}+\cdots-91y+25)^2(y^{23}-7y^{22}+\cdots-14592y-1024)$
c_5, c_6, c_7 c_{10}, c_{11}, c_{12}	$((y+1)^4)(y^{23}+24y^{22}+\cdots-8y-1)(y^{36}+27y^{35}+\cdots-116y+25)$