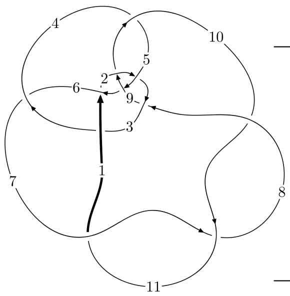
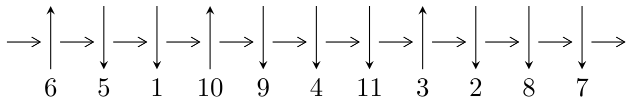
$11a_{349}$ ($K11a_{349}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$7,11 \underset{c_7}{\longrightarrow} 8 \underset{c_{11}}{\longrightarrow} 1,4 \underset{c_3}{\longrightarrow} 3 \underset{c_6}{\longrightarrow} 6 \underset{c_1}{\longrightarrow} 2 \underset{c_{10}}{\longrightarrow} 10 \underset{c_4}{\longrightarrow} 5 \underset{c_9}{\longrightarrow} 9 \longrightarrow\!\!\!\!\!\rightarrow c_2, c_5, c_8$$

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

$$\begin{aligned}
I_1^u = \langle &-8794u^{30} - 59427u^{29} + \cdots + 14648b - 565817,\\
&1207779u^{30} + 10072486u^{29} + \cdots + 1069304a - 32922272,\ u^{31} + 9u^{30} + \cdots - 608u - 73\rangle\\
I_2^u = \langle &1245599508u^{14}a^3 + 2019297822u^{14}a^2 + \cdots + 2559076525a + 1076862186,\\
&u^{14}a^2 - 3u^{14} + \cdots - a + 8,\\
&u^{15} - 3u^{14} + 12u^{13} - 25u^{12} + 52u^{11} - 78u^{10} + 104u^9 - 109u^8 + 94u^7 - 58u^6 + 24u^5 + 2u^4 - 8u^3 + 4u^2 - 1\rangle\\
I_3^u = \langle &-u^{15} + 5u^{14} + \cdots + 2b + 3u,\ u^{15} - 6u^{14} + \cdots + 2a + 3,\ u^{16} - 4u^{15} + \cdots + 2u^2 + 1\rangle
\end{aligned}$$

$$I_1^v = \langle a,\ b^2 - b + 1,\ v - 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 109 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. $\boldsymbol{I_1^u = \langle -8794u^{30} - 59427u^{29} + \cdots + 14648b - 565817,\ 1.21 \times 10^6u^{30} + 1.01 \times 10^7u^{29} + \cdots + 1.07 \times 10^6a - 3.29 \times 10^7,\ u^{31} + 9u^{30} + \cdots - 608u - 73\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix} -1.12950u^{30} - 9.41967u^{29} + \cdots + 251.970u + 30.7885 \\ 0.600355u^{30} + 4.05700u^{29} + \cdots + 252.304u + 38.6276 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.216690u^{30} + 2.67536u^{29} + \cdots - 151.674u - 13.0374 \\ -0.745836u^{30} - 8.03803u^{29} + \cdots + 655.948u + 82.4535 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.742167u^{30} + 6.23678u^{29} + \cdots - 18.8469u + 1.55985 \\ -0.689719u^{30} - 5.07503u^{29} + \cdots - 28.6196u - 3.82871 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.15640u^{30} - 8.25807u^{29} + \cdots - 113.632u - 15.8600 \\ -0.265838u^{30} - 5.40866u^{29} + \cdots + 1150.58u + 154.173 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.757026u^{30} - 7.25316u^{29} + \cdots + 294.147u + 32.3085 \\ 1.10930u^{30} + 9.99788u^{29} + \cdots - 399.270u - 46.4128 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.261828u^{30} + 1.90356u^{29} + \cdots - 25.4736u - 4.38300 \\ 0.0106499u^{30} + 0.585131u^{29} + \cdots - 179.751u - 22.5472 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.261828u^{30} + 1.90356u^{29} + \cdots - 25.4736u - 4.38300 \\ 0.0106499u^{30} + 0.585131u^{29} + \cdots - 179.751u - 22.5472 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{102043}{14648}u^{30} + \frac{113248}{1831}u^{29} + \cdots - \frac{59622049}{14648}u - \frac{4091199}{7324}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{31} - 24u^{30} + \cdots - 360448u + 32768$
c_2	$u^{31} - 22u^{30} + \cdots + 419u - 73$
c_3, c_6	$u^{31} + u^{30} + \cdots + 14u + 1$
c_4, c_8	$u^{31} - u^{30} + \cdots - 2u + 1$
c_5, c_9	$u^{31} + u^{29} + \cdots + 2u + 1$
c_7, c_{10}, c_{11}	$u^{31} - 9u^{30} + \cdots - 608u + 73$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{31} + 10y^{30} + \cdots - 2147483648y - 1073741824$
c_2	$y^{31} + 46y^{29} + \cdots + 42263y - 5329$
c_3, c_6	$y^{31} + 15y^{30} + \cdots + 110y - 1$
c_4, c_8	$y^{31} + 7y^{30} + \cdots - 40y - 1$
c_5, c_9	$y^{31} + 2y^{30} + \cdots - 6y - 1$
c_7, c_{10}, c_{11}	$y^{31} + 31y^{30} + \cdots - 37092y - 5329$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.852991 + 0.499323I$ $a = -0.379018 - 0.633422I$ $b = -0.994010 + 0.988244I$	$-3.36735 + 13.70180I$	$-6.58812 - 9.58074I$
$u = -0.852991 - 0.499323I$ $a = -0.379018 + 0.633422I$ $b = -0.994010 - 0.988244I$	$-3.36735 - 13.70180I$	$-6.58812 + 9.58074I$
$u = -0.316579 + 0.888214I$ $a = -1.097970 + 0.312101I$ $b = 0.721245 + 0.634191I$	$-0.90699 - 1.43155I$	$-3.87159 + 9.73821I$
$u = -0.316579 - 0.888214I$ $a = -1.097970 - 0.312101I$ $b = 0.721245 - 0.634191I$	$-0.90699 + 1.43155I$	$-3.87159 - 9.73821I$
$u = -0.886962 + 0.303700I$ $a = 0.332501 + 0.072745I$ $b = 0.235798 - 0.956055I$	$1.08264 + 5.12278I$	$-0.41195 - 8.68112I$
$u = -0.886962 - 0.303700I$ $a = 0.332501 - 0.072745I$ $b = 0.235798 + 0.956055I$	$1.08264 - 5.12278I$	$-0.41195 + 8.68112I$
$u = -0.844232 + 0.691840I$ $a = 0.578588 - 0.200674I$ $b = -0.675443 - 0.657436I$	$-2.87005 - 8.08181I$	$-6.17763 + 7.71756I$
$u = -0.844232 - 0.691840I$ $a = 0.578588 + 0.200674I$ $b = -0.675443 + 0.657436I$	$-2.87005 + 8.08181I$	$-6.17763 - 7.71756I$
$u = 1.18811$ $a = -0.163592$ $b = 0.0888281$	-2.36361	35.4320
$u = -0.722698 + 0.301514I$ $a = 0.681450 + 0.287166I$ $b = 0.960625 - 1.037040I$	$-2.64536 + 5.39096I$	$-12.5250 - 11.7577I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.722698 - 0.301514I$ $a = 0.681450 - 0.287166I$ $b = 0.960625 + 1.037040I$	$-2.64536 - 5.39096I$	$-12.5250 + 11.7577I$
$u = -0.403264 + 0.649558I$ $a = -0.871610 - 0.575987I$ $b = -0.277793 + 0.861904I$	$2.96693 - 0.69018I$	$2.10294 + 0.24214I$
$u = -0.403264 - 0.649558I$ $a = -0.871610 + 0.575987I$ $b = -0.277793 - 0.861904I$	$2.96693 + 0.69018I$	$2.10294 - 0.24214I$
$u = -0.281651 + 1.296450I$ $a = -0.574322 - 0.910235I$ $b = -0.150654 + 0.951529I$	$3.76674 - 0.82301I$	0
$u = -0.281651 - 1.296450I$ $a = -0.574322 + 0.910235I$ $b = -0.150654 - 0.951529I$	$3.76674 + 0.82301I$	0
$u = 0.013670 + 1.401210I$ $a = -0.09185 + 1.89114I$ $b = 0.94670 - 1.20717I$	$4.82828 + 1.90483I$	0
$u = 0.013670 - 1.401210I$ $a = -0.09185 - 1.89114I$ $b = 0.94670 + 1.20717I$	$4.82828 - 1.90483I$	0
$u = 0.297730 + 0.511306I$ $a = -0.978614 - 0.248724I$ $b = 0.260483 + 0.340007I$	$-0.38522 - 1.41061I$	$-2.90382 + 5.08297I$
$u = 0.297730 - 0.511306I$ $a = -0.978614 + 0.248724I$ $b = 0.260483 - 0.340007I$	$-0.38522 + 1.41061I$	$-2.90382 - 5.08297I$
$u = 0.06166 + 1.42151I$ $a = -0.130706 - 1.235920I$ $b = -0.471500 + 0.878105I$	$5.49366 - 2.37184I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.06166 - 1.42151I$ $a = -0.130706 + 1.235920I$ $b = -0.471500 - 0.878105I$	$5.49366 + 2.37184I$	0
$u = -0.26782 + 1.43933I$ $a = -0.00779 + 1.93679I$ $b = 1.07459 - 1.38869I$	$2.96780 + 8.97601I$	0
$u = -0.26782 - 1.43933I$ $a = -0.00779 - 1.93679I$ $b = 1.07459 + 1.38869I$	$2.96780 - 8.97601I$	0
$u = -0.14638 + 1.50740I$ $a = -0.13509 - 1.58317I$ $b = -0.698585 + 1.200690I$	$9.90733 + 1.39993I$	0
$u = -0.14638 - 1.50740I$ $a = -0.13509 + 1.58317I$ $b = -0.698585 - 1.200690I$	$9.90733 - 1.39993I$	0
$u = -0.33955 + 1.47960I$ $a = 0.39739 + 1.41421I$ $b = 0.499587 - 1.282410I$	$6.87874 + 9.56615I$	0
$u = -0.33955 - 1.47960I$ $a = 0.39739 - 1.41421I$ $b = 0.499587 + 1.282410I$	$6.87874 - 9.56615I$	0
$u = -0.30764 + 1.52681I$ $a = 0.13457 - 1.85476I$ $b = -1.10902 + 1.32474I$	$3.1915 + 17.9314I$	0
$u = -0.30764 - 1.52681I$ $a = 0.13457 + 1.85476I$ $b = -1.10902 - 1.32474I$	$3.1915 - 17.9314I$	0
$u = -0.09735 + 1.67029I$ $a = 0.203729 + 0.617797I$ $b = 0.133556 - 0.557496I$	$5.63925 - 4.20521I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.09735 - 1.67029I$ $a = 0.203729 - 0.617797I$ $b = 0.133556 + 0.557496I$	$5.63925 + 4.20521I$	0

II. $\boldsymbol{I_2^u = \langle 1.25 \times 10^9 a^3u^{14} + 2.02 \times 10^9 a^2u^{14} + \cdots + 2.56 \times 10^9 a + 1.08 \times 10^9,\ u^{14}a^2 - 3u^{14} + \cdots - a + 8,\ u^{15} - 3u^{14} + \cdots + 4u^2 - 1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_4 = \begin{pmatrix} a \\ -0.817912a^3u^{14} - 1.32595a^2u^{14} + \cdots - 1.68039a - 0.707112 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.471824a^3u^{14} + 0.346733a^2u^{14} + \cdots + 0.195001a - 0.931134 \\ -0.346088a^3u^{14} - 1.67269a^2u^{14} + \cdots - 0.875395a + 0.224022 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0699739a^3u^{14} - 0.319988a^2u^{14} + \cdots + 0.0210967a + 0.491055 \\ -0.0602705a^3u^{14} - 0.0972240a^2u^{14} + \cdots - 0.701805a + 0.161294 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.548073a^3u^{14} - 0.225684a^2u^{14} + \cdots - 0.0705041a + 0.0289120 \\ 0.417828a^3u^{14} - 0.191528a^2u^{14} + \cdots - 0.610204a + 0.623437 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.471824a^3u^{14} + 0.346733a^2u^{14} + \cdots + 0.195001a - 0.931134 \\ -1.19479a^3u^{14} - 1.41931a^2u^{14} + \cdots - 1.33430a - 0.154021 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.923492a^3u^{14} + 0.378846a^2u^{14} + \cdots - 0.912625a - 0.744597 \\ 0.765493a^3u^{14} - 1.51930a^2u^{14} + \cdots - 0.488395a + 1.38890 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.923492a^3u^{14} + 0.378846a^2u^{14} + \cdots - 0.912625a - 0.744597 \\ 0.765493a^3u^{14} - 1.51930a^2u^{14} + \cdots - 0.488395a + 1.38890 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{271921296}{138445675}u^{14}a^3 + \frac{88680364}{138445675}u^{14}a^2 + \cdots + \frac{17490488}{5537827}a - \frac{1797460618}{138445675}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2+u+1)^{30}$
c_2	$(u^{15}+7u^{14}+\cdots-4u^2+1)^4$
c_3, c_6	$u^{60}+u^{59}+\cdots+12u+7$
c_4, c_8	$u^{60}-u^{59}+\cdots-19478u+3673$
c_5, c_9	$u^{60}-u^{59}+\cdots+6u+1$
c_7, c_{10}, c_{11}	$(u^{15}+3u^{14}+\cdots-4u^2+1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)^{30}$
c_2	$(y^{15}-y^{14}+\cdots+8y-1)^4$
c_3, c_6	$y^{60}-9y^{59}+\cdots-256y+49$
c_4, c_8	$y^{60}+15y^{59}+\cdots+261046488y+13490929$
c_5, c_9	$y^{60}-21y^{59}+\cdots-228y^2+1$
c_7, c_{10}, c_{11}	$(y^{15}+15y^{14}+\cdots+8y-1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.825834 + 0.538674I$ $a = 0.179032 - 0.898220I$ $b = 0.942665 + 0.900730I$	$-2.77564 - 4.75250I$	$-17.6934 + 11.6845I$
$u = 0.825834 + 0.538674I$ $a = 0.064202 + 0.531611I$ $b = -0.515882 + 0.190551I$	$-2.77564 - 0.69273I$	$-17.6934 + 4.7563I$
$u = 0.825834 + 0.538674I$ $a = -0.374874 + 0.363480I$ $b = -0.924983 - 0.606302I$	$-2.77564 - 4.75250I$	$-17.6934 + 11.6845I$
$u = 0.825834 + 0.538674I$ $a = -0.429379 - 0.094637I$ $b = 0.762023 - 0.353078I$	$-2.77564 - 0.69273I$	$-17.6934 + 4.7563I$
$u = 0.825834 - 0.538674I$ $a = 0.179032 + 0.898220I$ $b = 0.942665 - 0.900730I$	$-2.77564 + 4.75250I$	$-17.6934 - 11.6845I$
$u = 0.825834 - 0.538674I$ $a = 0.064202 - 0.531611I$ $b = -0.515882 - 0.190551I$	$-2.77564 + 0.69273I$	$-17.6934 - 4.7563I$
$u = 0.825834 - 0.538674I$ $a = -0.374874 - 0.363480I$ $b = -0.924983 + 0.606302I$	$-2.77564 + 4.75250I$	$-17.6934 - 11.6845I$
$u = 0.825834 - 0.538674I$ $a = -0.429379 + 0.094637I$ $b = 0.762023 + 0.353078I$	$-2.77564 + 0.69273I$	$-17.6934 - 4.7563I$
$u = -0.000696 + 1.255430I$ $a = -0.537288 + 0.318620I$ $b = -1.054520 - 0.277320I$	$0.17890 - 4.56727I$	$-8.44510 + 5.18626I$
$u = -0.000696 + 1.255430I$ $a = -1.53790 - 0.07369I$ $b = 1.74600 + 0.26986I$	$0.178899 - 0.507500I$	$-8.44510 - 1.74195I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.000696 + 1.255430I$ $a = -0.46059 + 1.65199I$ $b = 0.246412 - 0.261109I$	$0.178899 - 0.507500I$	$-8.44510 - 1.74195I$
$u = -0.000696 + 1.255430I$ $a = 0.16969 - 2.83852I$ $b = 0.05074 + 1.99842I$	$0.17890 - 4.56727I$	$-8.44510 + 5.18626I$
$u = -0.000696 - 1.255430I$ $a = -0.537288 - 0.318620I$ $b = -1.054520 + 0.277320I$	$0.17890 + 4.56727I$	$-8.44510 - 5.18626I$
$u = -0.000696 - 1.255430I$ $a = -1.53790 + 0.07369I$ $b = 1.74600 - 0.26986I$	$0.178899 + 0.507500I$	$-8.44510 + 1.74195I$
$u = -0.000696 - 1.255430I$ $a = -0.46059 - 1.65199I$ $b = 0.246412 + 0.261109I$	$0.178899 + 0.507500I$	$-8.44510 + 1.74195I$
$u = -0.000696 - 1.255430I$ $a = 0.16969 + 2.83852I$ $b = 0.05074 - 1.99842I$	$0.17890 + 4.56727I$	$-8.44510 - 5.18626I$
$u = 0.374558 + 0.641779I$ $a = -1.242750 - 0.072310I$ $b = 0.404571 - 0.052904I$	$-0.331160 - 1.366830I$	$-2.47200 + 4.73263I$
$u = 0.374558 + 0.641779I$ $a = -0.211923 + 0.547582I$ $b = -1.227140 - 0.690327I$	$-0.33116 - 5.42660I$	$-2.47200 + 11.66083I$
$u = 0.374558 + 0.641779I$ $a = -0.446534 - 0.078718I$ $b = 0.233588 + 0.584828I$	$-0.331160 - 1.366830I$	$-2.47200 + 4.73263I$
$u = 0.374558 + 0.641779I$ $a = 1.18736 - 1.93503I$ $b = 0.447402 + 0.977027I$	$-0.33116 - 5.42660I$	$-2.47200 + 11.66083I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.374558 - 0.641779I$ $a = -1.242750 + 0.072310I$ $b = 0.404571 + 0.052904I$	$-0.331160 + 1.366830I$	$-2.47200 - 4.73263I$
$u = 0.374558 - 0.641779I$ $a = -0.211923 - 0.547582I$ $b = -1.227140 + 0.690327I$	$-0.33116 + 5.42660I$	$-2.47200 - 11.66083I$
$u = 0.374558 - 0.641779I$ $a = -0.446534 + 0.078718I$ $b = 0.233588 - 0.584828I$	$-0.331160 + 1.366830I$	$-2.47200 - 4.73263I$
$u = 0.374558 - 0.641779I$ $a = 1.18736 + 1.93503I$ $b = 0.447402 - 0.977027I$	$-0.33116 + 5.42660I$	$-2.47200 - 11.66083I$
$u = 0.678314$ $a = -0.755171 + 1.008870I$ $b = -0.575180 + 0.365490I$	$-2.66135 + 2.02988I$	$-15.2719 - 3.4641I$
$u = 0.678314$ $a = -0.755171 - 1.008870I$ $b = -0.575180 - 0.365490I$	$-2.66135 - 2.02988I$	$-15.2719 + 3.4641I$
$u = 0.678314$ $a = -0.054442 + 0.393425I$ $b = 0.902396 - 0.932245I$	$-2.66135 + 2.02988I$	$-15.2719 - 3.4641I$
$u = 0.678314$ $a = -0.054442 - 0.393425I$ $b = 0.902396 + 0.932245I$	$-2.66135 - 2.02988I$	$-15.2719 + 3.4641I$
$u = -0.100337 + 1.375660I$ $a = -0.339092 + 0.510735I$ $b = 1.44399 - 0.16542I$	$1.67680 + 3.56562I$	$-5.33049 - 4.32935I$
$u = -0.100337 + 1.375660I$ $a = 0.86553 - 2.02688I$ $b = -0.113467 + 0.277530I$	$1.67680 + 7.62538I$	$-5.33049 - 11.25756I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.100337 + 1.375660I$ $a = \quad 2.12438 + 1.14269I$ $b = -2.33104 - 1.21010I$	$1.67680 + 7.62538I$	$-5.33049 - 11.25756I$
$u = -0.100337 + 1.375660I$ $a = -0.39013 + 2.52070I$ $b = \quad 0.58590 - 1.48531I$	$1.67680 + 3.56562I$	$-5.33049 - 4.32935I$
$u = -0.100337 - 1.375660I$ $a = -0.339092 - 0.510735I$ $b = \quad 1.44399 + 0.16542I$	$1.67680 - 3.56562I$	$-5.33049 + 4.32935I$
$u = -0.100337 - 1.375660I$ $a = \quad 0.86553 + 2.02688I$ $b = -0.113467 - 0.277530I$	$1.67680 - 7.62538I$	$-5.33049 + 11.25756I$
$u = -0.100337 - 1.375660I$ $a = \quad 2.12438 - 1.14269I$ $b = -2.33104 + 1.21010I$	$1.67680 - 7.62538I$	$-5.33049 + 11.25756I$
$u = -0.100337 - 1.375660I$ $a = -0.39013 - 2.52070I$ $b = \quad 0.58590 + 1.48531I$	$1.67680 - 3.56562I$	$-5.33049 + 4.32935I$
$u = \quad 0.15235 + 1.51729I$ $a = -0.521531 + 0.526784I$ $b = -0.380642 - 0.366400I$	$6.67569 - 3.44689I$	$2.29813 + 1.92370I$
$u = \quad 0.15235 + 1.51729I$ $a = -0.11679 - 1.56879I$ $b = \quad 0.380795 + 1.344430I$	$6.67569 - 3.44689I$	$2.29813 + 1.92370I$
$u = \quad 0.15235 + 1.51729I$ $a = \quad 0.36895 - 1.83783I$ $b = \quad 0.665586 + 0.944764I$	$6.67569 - 7.50666I$	$2.29813 + 8.85191I$
$u = \quad 0.15235 + 1.51729I$ $a = \quad 0.85260 + 1.80604I$ $b = -1.51266 - 1.43364I$	$6.67569 - 7.50666I$	$2.29813 + 8.85191I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.15235 - 1.51729I$ $a = -0.521531 - 0.526784I$ $b = -0.380642 + 0.366400I$	$6.67569 + 3.44689I$	$2.29813 - 1.92370I$
$u = 0.15235 - 1.51729I$ $a = -0.11679 + 1.56879I$ $b = 0.380795 - 1.344430I$	$6.67569 + 3.44689I$	$2.29813 - 1.92370I$
$u = 0.15235 - 1.51729I$ $a = 0.36895 + 1.83783I$ $b = 0.665586 - 0.944764I$	$6.67569 + 7.50666I$	$2.29813 - 8.85191I$
$u = 0.15235 - 1.51729I$ $a = 0.85260 - 1.80604I$ $b = -1.51266 + 1.43364I$	$6.67569 + 7.50666I$	$2.29813 - 8.85191I$
$u = 0.29798 + 1.53037I$ $a = -0.206885 + 1.025480I$ $b = -0.293963 - 0.641758I$	$3.91480 - 4.81769I$	$-7.00546 + 6.81035I$
$u = 0.29798 + 1.53037I$ $a = -0.296418 - 0.758545I$ $b = 0.736482 + 0.652145I$	$3.91480 - 4.81769I$	$-7.00546 + 6.81035I$
$u = 0.29798 + 1.53037I$ $a = 0.201484 + 1.364530I$ $b = -1.14931 - 0.94853I$	$3.91480 - 8.87745I$	$-7.0055 + 13.7386I$
$u = 0.29798 + 1.53037I$ $a = -0.18100 - 1.93387I$ $b = 0.91906 + 1.32657I$	$3.91480 - 8.87745I$	$-7.0055 + 13.7386I$
$u = 0.29798 - 1.53037I$ $a = -0.206885 - 1.025480I$ $b = -0.293963 + 0.641758I$	$3.91480 + 4.81769I$	$-7.00546 - 6.81035I$
$u = 0.29798 - 1.53037I$ $a = -0.296418 + 0.758545I$ $b = 0.736482 - 0.652145I$	$3.91480 + 4.81769I$	$-7.00546 - 6.81035I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.29798 - 1.53037I$ $a = 0.201484 - 1.364530I$ $b = -1.14931 + 0.94853I$	$3.91480 + 8.87745I$	$-7.0055 - 13.7386I$
$u = 0.29798 - 1.53037I$ $a = -0.18100 + 1.93387I$ $b = 0.91906 - 1.32657I$	$3.91480 + 8.87745I$	$-7.0055 - 13.7386I$
$u = -0.388845 + 0.104061I$ $a = -0.406304 + 1.016400I$ $b = -1.21864 - 1.27940I$	$-3.07391 + 5.95948I$	$-15.7157 - 11.4516I$
$u = -0.388845 + 0.104061I$ $a = 1.27388 + 1.26165I$ $b = 1.049420 - 0.913569I$	$-3.07391 + 1.89972I$	$-15.7157 - 4.5234I$
$u = -0.388845 + 0.104061I$ $a = 2.16554 - 1.41204I$ $b = 0.939626 - 0.106413I$	$-3.07391 + 1.89972I$	$-15.7157 - 4.5234I$
$u = -0.388845 + 0.104061I$ $a = -1.44365 - 3.91984I$ $b = -0.659218 + 0.066827I$	$-3.07391 + 5.95948I$	$-15.7157 - 11.4516I$
$u = -0.388845 - 0.104061I$ $a = -0.406304 - 1.016400I$ $b = -1.21864 + 1.27940I$	$-3.07391 - 5.95948I$	$-15.7157 + 11.4516I$
$u = -0.388845 - 0.104061I$ $a = 1.27388 - 1.26165I$ $b = 1.049420 + 0.913569I$	$-3.07391 - 1.89972I$	$-15.7157 + 4.5234I$
$u = -0.388845 - 0.104061I$ $a = 2.16554 + 1.41204I$ $b = 0.939626 + 0.106413I$	$-3.07391 - 1.89972I$	$-15.7157 + 4.5234I$
$u = -0.388845 - 0.104061I$ $a = -1.44365 + 3.91984I$ $b = -0.659218 - 0.066827I$	$-3.07391 - 5.95948I$	$-15.7157 + 11.4516I$

III. $\boldsymbol{I_3^u =}$
$\boldsymbol{\langle -u^{15}+5u^{14}+\cdots+2b+3u,\ u^{15}-6u^{14}+\cdots+2a+3,\ u^{16}-4u^{15}+\cdots+2u^2+1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -\frac{1}{2}u^{15} + 3u^{14} + \cdots + 2u - \frac{3}{2} \\ \frac{1}{2}u^{15} - \frac{5}{2}u^{14} + \cdots + \frac{1}{2}u^2 - \frac{3}{2}u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{15} + 4u^{14} + \cdots + 2u - 2 \\ u^{15} - \frac{7}{2}u^{14} + \cdots - \frac{3}{2}u + \frac{1}{2} \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{1}{2}u^{15} - \frac{3}{2}u^{14} + \cdots - \frac{9}{2}u + 3 \\ -\frac{1}{2}u^{14} + \frac{3}{2}u^{13} + \cdots + \frac{3}{2}u - \frac{1}{2} \end{pmatrix}$$
$$a_2 = \begin{pmatrix} u^{15} - \frac{11}{2}u^{14} + \cdots + \frac{15}{2}u - \frac{5}{2} \\ -u^{15} + 4u^{14} + \cdots + 4u^2 - u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{15} + \frac{9}{2}u^{14} + \cdots + \frac{3}{2}u - \frac{3}{2} \\ u^{15} - \frac{7}{2}u^{14} + \cdots - \frac{3}{2}u + \frac{1}{2} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^9 + 3u^8 - 9u^7 + 17u^6 - 25u^5 + 30u^4 - 26u^3 + 18u^2 - 9u + 3 \\ \frac{1}{2}u^{15} - \frac{3}{2}u^{14} + \cdots - \frac{15}{2}u^2 + \frac{5}{2}u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u^9 + 3u^8 - 9u^7 + 17u^6 - 25u^5 + 30u^4 - 26u^3 + 18u^2 - 9u + 3 \\ \frac{1}{2}u^{15} - \frac{3}{2}u^{14} + \cdots - \frac{15}{2}u^2 + \frac{5}{2}u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{3}{2}u^{15} - 4u^{14} + \frac{35}{2}u^{13} - 37u^{12} + \frac{171}{2}u^{11} - 150u^{10} + 239u^9 - \frac{683}{2}u^8 + 402u^7 - \frac{863}{2}u^6 + \frac{727}{2}u^5 - \frac{503}{2}u^4 + \frac{255}{2}u^3 - \frac{71}{2}u^2 - \frac{19}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} + 5u^{14} + \cdots - u + 1$
c_2	$u^{16} - 9u^{15} + \cdots - 3u + 1$
c_3, c_6	$u^{16} + 4u^{15} + \cdots + 4u + 1$
c_4, c_8	$u^{16} + 2u^{14} + \cdots - 4u + 1$
c_5, c_9	$u^{16} + u^{15} + \cdots - 2u + 1$
c_7	$u^{16} - 4u^{15} + \cdots + 2u^2 + 1$
c_{10}, c_{11}	$u^{16} + 4u^{15} + \cdots + 2u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} + 10y^{15} + \cdots - y + 1$
c_2	$y^{16} + y^{15} + \cdots - 7y + 1$
c_3, c_6	$y^{16} - 4y^{15} + \cdots - 10y + 1$
c_4, c_8	$y^{16} + 4y^{15} + \cdots - 4y + 1$
c_5, c_9	$y^{16} - 9y^{15} + \cdots - 14y + 1$
c_7, c_{10}, c_{11}	$y^{16} + 16y^{15} + \cdots + 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.952498 + 0.131115I$ $a = 0.0033545 + 0.0725748I$ $b = -0.484458 + 0.127312I$	$-2.50830 + 0.01138I$	$-21.2199 - 7.8586I$
$u = 0.952498 - 0.131115I$ $a = 0.0033545 - 0.0725748I$ $b = -0.484458 - 0.127312I$	$-2.50830 - 0.01138I$	$-21.2199 + 7.8586I$
$u = 0.125713 + 0.947117I$ $a = 1.200340 + 0.568422I$ $b = -0.892721 + 0.414975I$	$-1.31298 + 1.09614I$	$-16.2051 - 0.8717I$
$u = 0.125713 - 0.947117I$ $a = 1.200340 - 0.568422I$ $b = -0.892721 - 0.414975I$	$-1.31298 - 1.09614I$	$-16.2051 + 0.8717I$
$u = 0.714113 + 0.457971I$ $a = -0.502410 + 0.579452I$ $b = -0.900844 - 0.800511I$	$-2.01872 - 4.33323I$	$-6.23875 + 5.22511I$
$u = 0.714113 - 0.457971I$ $a = -0.502410 - 0.579452I$ $b = -0.900844 + 0.800511I$	$-2.01872 + 4.33323I$	$-6.23875 - 5.22511I$
$u = 0.054385 + 1.271360I$ $a = 0.45585 + 1.52893I$ $b = -1.058410 - 0.722202I$	$0.41258 - 2.25313I$	$-9.04909 + 3.10995I$
$u = 0.054385 - 1.271360I$ $a = 0.45585 - 1.52893I$ $b = -1.058410 + 0.722202I$	$0.41258 + 2.25313I$	$-9.04909 - 3.10995I$
$u = -0.063174 + 1.362500I$ $a = -0.48160 - 1.76041I$ $b = 1.11324 + 0.91407I$	$1.66646 + 6.43037I$	$-4.55872 - 3.61803I$
$u = -0.063174 - 1.362500I$ $a = -0.48160 + 1.76041I$ $b = 1.11324 - 0.91407I$	$1.66646 - 6.43037I$	$-4.55872 + 3.61803I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.27182 + 1.50460I$ $a = 0.13400 + 1.67219I$ $b = -0.99955 - 1.16424I$	$4.36105 - 7.99836I$	$-2.22876 + 4.36122I$
$u = 0.27182 - 1.50460I$ $a = 0.13400 - 1.67219I$ $b = -0.99955 + 1.16424I$	$4.36105 + 7.99836I$	$-2.22876 - 4.36122I$
$u = 0.14710 + 1.63403I$ $a = -0.154905 - 0.738372I$ $b = 0.471140 + 0.478511I$	$5.13996 - 4.97309I$	$-0.40575 + 9.40850I$
$u = 0.14710 - 1.63403I$ $a = -0.154905 + 0.738372I$ $b = 0.471140 - 0.478511I$	$5.13996 + 4.97309I$	$-0.40575 - 9.40850I$
$u = -0.202461 + 0.214174I$ $a = -3.65462 - 0.29825I$ $b = 0.751612 - 0.466846I$	$-2.45018 - 5.54449I$	$-4.59390 + 4.01193I$
$u = -0.202461 - 0.214174I$ $a = -3.65462 + 0.29825I$ $b = 0.751612 + 0.466846I$	$-2.45018 + 5.54449I$	$-4.59390 - 4.01193I$

IV. $I_1^v = \langle a,\ b^2 - b + 1,\ v - 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4b - 2$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v =$	1.00000		
$a =$	0	$-2.02988I$	$0. + 3.46410I$
$b =$	$0.500000 + 0.866025I$		
$v =$	1.00000		
$a =$	0	$2.02988I$	$0. - 3.46410I$
$b =$	$0.500000 - 0.866025I$		

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)(u^2+u+1)^{30}(u^{16}+5u^{14}+\cdots-u+1)$ $\cdot(u^{31}-24u^{30}+\cdots-360448u+32768)$
c_2	$u^2(u^{15}+7u^{14}+\cdots-4u^2+1)^4(u^{16}-9u^{15}+\cdots-3u+1)$ $\cdot(u^{31}-22u^{30}+\cdots+419u-73)$
c_3, c_6	$(u^2+u+1)(u^{16}+4u^{15}+\cdots+4u+1)(u^{31}+u^{30}+\cdots+14u+1)$ $\cdot(u^{60}+u^{59}+\cdots+12u+7)$
c_4, c_8	$(u^2+u+1)(u^{16}+2u^{14}+\cdots-4u+1)(u^{31}-u^{30}+\cdots-2u+1)$ $\cdot(u^{60}-u^{59}+\cdots-19478u+3673)$
c_5, c_9	$(u^2+u+1)(u^{16}+u^{15}+\cdots-2u+1)(u^{31}+u^{29}+\cdots+2u+1)$ $\cdot(u^{60}-u^{59}+\cdots+6u+1)$
c_7	$u^2(u^{15}+3u^{14}+\cdots-4u^2+1)^4(u^{16}-4u^{15}+\cdots+2u^2+1)$ $\cdot(u^{31}-9u^{30}+\cdots-608u+73)$
c_{10}, c_{11}	$u^2(u^{15}+3u^{14}+\cdots-4u^2+1)^4(u^{16}+4u^{15}+\cdots+2u^2+1)$ $\cdot(u^{31}-9u^{30}+\cdots-608u+73)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^{31})(y^{16}+10y^{15}+\cdots-y+1)$ $\cdot(y^{31}+10y^{30}+\cdots-2147483648y-1073741824)$
c_2	$y^2(y^{15}-y^{14}+\cdots+8y-1)^4(y^{16}+y^{15}+\cdots-7y+1)$ $\cdot(y^{31}+46y^{29}+\cdots+42263y-5329)$
c_3, c_6	$(y^2+y+1)(y^{16}-4y^{15}+\cdots-10y+1)(y^{31}+15y^{30}+\cdots+110y-1)$ $\cdot(y^{60}-9y^{59}+\cdots-256y+49)$
c_4, c_8	$(y^2+y+1)(y^{16}+4y^{15}+\cdots-4y+1)(y^{31}+7y^{30}+\cdots-40y-1)$ $\cdot(y^{60}+15y^{59}+\cdots+261046488y+13490929)$
c_5, c_9	$(y^2+y+1)(y^{16}-9y^{15}+\cdots-14y+1)(y^{31}+2y^{30}+\cdots-6y-1)$ $\cdot(y^{60}-21y^{59}+\cdots-228y^2+1)$
c_7, c_{10}, c_{11}	$y^2(y^{15}+15y^{14}+\cdots+8y-1)^4(y^{16}+16y^{15}+\cdots+4y+1)$ $\cdot(y^{31}+31y^{30}+\cdots-37092y-5329)$