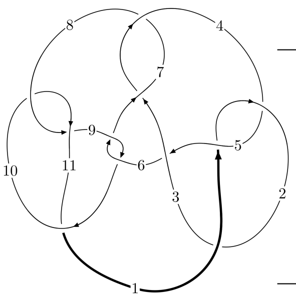
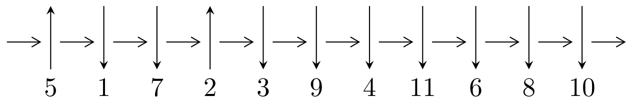
$11a_2$ ($K11a_2$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-5.43741 \times 10^{171} u^{78} - 5.11274 \times 10^{171} u^{77} + \cdots + 1.98334 \times 10^{172} b - 2.82335 \times 10^{173}, \\
&- 1.22224 \times 10^{171} u^{78} + 1.44341 \times 10^{172} u^{77} + \cdots + 1.58667 \times 10^{173} a + 1.86038 \times 10^{174}, \\
&u^{79} + 2u^{78} + \cdots + 224u + 64 \rangle \\
I_2^u = \langle &u^2 + b,\ u^4 - 2u^3 - u^2 + a + 3u + 1,\ u^5 - u^4 - 2u^3 + u^2 + u + 1 \rangle
\end{aligned}$$

$$I_1^v = \langle a,\ -18v^5 - 63v^4 - 193v^3 - 63v^2 + 55b + 27v + 12,\ v^6 + 2v^5 + 7v^4 - 8v^3 + 7v^2 - 3v + 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 90 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. $\boldsymbol{I_1^u = \langle -5.44\times 10^{171}u^{78} - 5.11\times 10^{171}u^{77} + \cdots + 1.98\times 10^{172}b - 2.82\times 10^{173},\ -1.22\times 10^{171}u^{78} + 1.44\times 10^{172}u^{77} + \cdots + 1.59\times 10^{173}a + 1.86\times 10^{174},\ u^{79} + 2u^{78} + \cdots + 224u + 64\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.00770315u^{78} - 0.0909705u^{77} + \cdots - 27.2773u - 11.7250 \\ 0.274154u^{78} + 0.257784u^{77} + \cdots + 36.6907u + 14.2353 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.0515299u^{78} - 0.0134218u^{77} + \cdots - 14.2684u - 3.89351 \\ -0.204276u^{78} - 0.212923u^{77} + \cdots - 35.5855u - 11.5905 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.0432551u^{78} - 0.0953382u^{77} + \cdots - 17.7659u - 9.19854 \\ 0.0600517u^{78} + 0.0392781u^{77} + \cdots + 5.74611u - 3.52633 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.0400019u^{78} - 0.0348387u^{77} + \cdots - 8.25015u - 4.59071 \\ 0.0633049u^{78} + 0.0997776u^{77} + \cdots + 15.2619u + 1.08150 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.102479u^{78} - 0.00813482u^{77} + \cdots - 13.9221u - 4.29785 \\ 0.401016u^{78} + 0.368694u^{77} + \cdots + 54.5295u + 21.0651 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.103307u^{78} - 0.134616u^{77} + \cdots - 23.5120u - 5.67221 \\ -0.0633049u^{78} - 0.0997776u^{77} + \cdots - 15.2619u - 1.08150 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.140138u^{78} + 0.241968u^{77} + \cdots + 33.5462u + 15.5291 \\ 0.278386u^{78} + 0.429982u^{77} + \cdots + 64.6729u + 27.3218 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.140138u^{78} + 0.241968u^{77} + \cdots + 33.5462u + 15.5291 \\ 0.278386u^{78} + 0.429982u^{77} + \cdots + 64.6729u + 27.3218 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0683647u^{78} + 0.114454u^{77} + \cdots - 17.3139u - 1.86024$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{79} + 5u^{78} + \cdots + 12u + 1$
c_2	$u^{79} + 39u^{78} + \cdots + 42u - 1$
c_3, c_7	$u^{79} + 2u^{78} + \cdots + 224u + 64$
c_5	$u^{79} - 5u^{78} + \cdots + 14176u + 3137$
c_6, c_9	$u^{79} - 3u^{78} + \cdots - 192u + 32$
c_8, c_{10}	$u^{79} - 8u^{78} + \cdots - 5u + 1$
c_{11}	$u^{79} + 38u^{78} + \cdots - 137u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{79} + 39y^{78} + \cdots + 42y - 1$
c_2	$y^{79} + 7y^{78} + \cdots + 2238y - 1$
c_3, c_7	$y^{79} - 40y^{78} + \cdots + 91136y - 4096$
c_5	$y^{79} - 25y^{78} + \cdots + 636907866y - 9840769$
c_6, c_9	$y^{79} + 39y^{78} + \cdots - 15872y - 1024$
c_8, c_{10}	$y^{79} - 38y^{78} + \cdots - 137y - 1$
c_{11}	$y^{79} + 14y^{78} + \cdots + 11687y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.853592 + 0.508882I$ $a = -0.055782 + 1.086980I$ $b = 0.385053 - 0.112918I$	$2.66697 - 2.36282I$	$-4.65001 + 1.65972I$
$u = -0.853592 - 0.508882I$ $a = -0.055782 - 1.086980I$ $b = 0.385053 + 0.112918I$	$2.66697 + 2.36282I$	$-4.65001 - 1.65972I$
$u = -0.440363 + 0.912546I$ $a = 0.724174 + 0.449379I$ $b = -0.699520 - 0.426408I$	$-0.27585 + 2.15811I$	$-7.00000 - 4.29711I$
$u = -0.440363 - 0.912546I$ $a = 0.724174 - 0.449379I$ $b = -0.699520 + 0.426408I$	$-0.27585 - 2.15811I$	$-7.00000 + 4.29711I$
$u = 0.320495 + 0.912395I$ $a = 0.249632 - 0.939746I$ $b = 1.37567 + 0.42738I$	$-2.34704 + 4.31468I$	$-10.21762 - 4.57210I$
$u = 0.320495 - 0.912395I$ $a = 0.249632 + 0.939746I$ $b = 1.37567 - 0.42738I$	$-2.34704 - 4.31468I$	$-10.21762 + 4.57210I$
$u = 0.567410 + 0.878865I$ $a = 0.595821 - 0.532012I$ $b = -0.237797 + 0.089887I$	$3.87103 - 0.09665I$	0
$u = 0.567410 - 0.878865I$ $a = 0.595821 + 0.532012I$ $b = -0.237797 - 0.089887I$	$3.87103 + 0.09665I$	0
$u = -0.890520 + 0.328701I$ $a = 0.424564 + 0.261362I$ $b = 0.946519 + 0.465471I$	$-1.024930 + 0.378054I$	$-6.69847 + 0.35322I$
$u = -0.890520 - 0.328701I$ $a = 0.424564 - 0.261362I$ $b = 0.946519 - 0.465471I$	$-1.024930 - 0.378054I$	$-6.69847 - 0.35322I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.913716 + 0.570561I$ $a = -0.226843 - 0.736350I$ $b = 0.189637 + 0.143627I$	$3.68282 - 2.87436I$	0
$u = 0.913716 - 0.570561I$ $a = -0.226843 + 0.736350I$ $b = 0.189637 - 0.143627I$	$3.68282 + 2.87436I$	0
$u = -1.045420 + 0.303052I$ $a = 2.58858 + 0.40116I$ $b = 1.81492 - 0.66339I$	$1.18747 + 2.48169I$	0
$u = -1.045420 - 0.303052I$ $a = 2.58858 - 0.40116I$ $b = 1.81492 + 0.66339I$	$1.18747 - 2.48169I$	0
$u = -0.809973 + 0.391729I$ $a = 0.515617 + 0.419812I$ $b = -0.258885 + 0.774414I$	$2.91495 + 6.10945I$	$-7.82272 - 8.97445I$
$u = -0.809973 - 0.391729I$ $a = 0.515617 - 0.419812I$ $b = -0.258885 - 0.774414I$	$2.91495 - 6.10945I$	$-7.82272 + 8.97445I$
$u = 0.404716 + 1.023830I$ $a = 0.584705 + 0.288653I$ $b = -1.81023 + 0.83355I$	$2.22736 + 5.03014I$	0
$u = 0.404716 - 1.023830I$ $a = 0.584705 - 0.288653I$ $b = -1.81023 - 0.83355I$	$2.22736 - 5.03014I$	0
$u = 0.653865 + 0.591272I$ $a = 0.546637 - 0.447428I$ $b = -0.313726 - 0.436492I$	$4.46313 - 1.71758I$	$-1.99294 + 3.91162I$
$u = 0.653865 - 0.591272I$ $a = 0.546637 + 0.447428I$ $b = -0.313726 + 0.436492I$	$4.46313 + 1.71758I$	$-1.99294 - 3.91162I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.543636 + 0.978739I$ $a = 0.595952 + 0.594331I$ $b = -0.143500 - 0.270257I$	$1.84084 - 4.64712I$	0
$u = -0.543636 - 0.978739I$ $a = 0.595952 - 0.594331I$ $b = -0.143500 + 0.270257I$	$1.84084 + 4.64712I$	0
$u = 1.136340 + 0.085967I$ $a = 0.279099 - 0.088232I$ $b = 0.651828 - 0.756122I$	$-4.51217 + 2.77386I$	0
$u = 1.136340 - 0.085967I$ $a = 0.279099 + 0.088232I$ $b = 0.651828 + 0.756122I$	$-4.51217 - 2.77386I$	0
$u = 1.067750 + 0.420888I$ $a = -1.87786 + 0.34577I$ $b = -0.83129 - 1.54411I$	$-3.40761 - 2.20375I$	0
$u = 1.067750 - 0.420888I$ $a = -1.87786 - 0.34577I$ $b = -0.83129 + 1.54411I$	$-3.40761 + 2.20375I$	0
$u = -0.125465 + 0.835214I$ $a = -0.10435 - 1.59020I$ $b = 0.862564 + 0.893320I$	$-2.81805 - 2.16506I$	$-9.87540 + 5.61737I$
$u = -0.125465 - 0.835214I$ $a = -0.10435 + 1.59020I$ $b = 0.862564 - 0.893320I$	$-2.81805 + 2.16506I$	$-9.87540 - 5.61737I$
$u = 1.074320 + 0.446434I$ $a = 2.33317 - 0.78177I$ $b = 1.90096 + 0.89090I$	$1.85989 - 8.01595I$	0
$u = 1.074320 - 0.446434I$ $a = 2.33317 + 0.78177I$ $b = 1.90096 - 0.89090I$	$1.85989 + 8.01595I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.725121 + 0.392006I$ $a = -1.90522 - 2.47065I$ $b = -1.210690 - 0.210584I$	$-0.64046 + 2.98061I$	$-8.98738 - 7.04047I$
$u = -0.725121 - 0.392006I$ $a = -1.90522 + 2.47065I$ $b = -1.210690 + 0.210584I$	$-0.64046 - 2.98061I$	$-8.98738 + 7.04047I$
$u = 1.104970 + 0.414939I$ $a = 0.283959 - 0.271043I$ $b = 1.069610 - 0.727261I$	$-3.45530 - 4.80167I$	0
$u = 1.104970 - 0.414939I$ $a = 0.283959 + 0.271043I$ $b = 1.069610 + 0.727261I$	$-3.45530 + 4.80167I$	0
$u = -0.170048 + 1.184850I$ $a = 0.627452 - 0.278541I$ $b = -1.99843 - 0.37107I$	$-1.69051 - 1.86503I$	0
$u = -0.170048 - 1.184850I$ $a = 0.627452 + 0.278541I$ $b = -1.99843 + 0.37107I$	$-1.69051 + 1.86503I$	0
$u = -0.441408 + 0.647966I$ $a = 0.543640 + 0.757595I$ $b = 1.160190 - 0.111260I$	$-0.501227 - 0.231040I$	$-6.51195 + 0.36059I$
$u = -0.441408 - 0.647966I$ $a = 0.543640 - 0.757595I$ $b = 1.160190 + 0.111260I$	$-0.501227 + 0.231040I$	$-6.51195 - 0.36059I$
$u = -1.101140 + 0.524739I$ $a = -1.31740 - 1.35522I$ $b = -1.76932 - 0.29287I$	$-2.56199 + 4.84000I$	0
$u = -1.101140 - 0.524739I$ $a = -1.31740 + 1.35522I$ $b = -1.76932 + 0.29287I$	$-2.56199 - 4.84000I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.743273 + 0.192362I$ $a = 0.523153 - 0.357954I$ $b = -0.778082 - 1.165960I$	$2.43852 - 0.18703I$	$-11.37446 - 3.74898I$
$u = -0.743273 - 0.192362I$ $a = 0.523153 + 0.357954I$ $b = -0.778082 + 1.165960I$	$2.43852 + 0.18703I$	$-11.37446 + 3.74898I$
$u = -1.214390 + 0.237157I$ $a = -1.81606 + 0.08423I$ $b = -1.24455 + 1.45461I$	$-7.51790 - 0.99407I$	0
$u = -1.214390 - 0.237157I$ $a = -1.81606 - 0.08423I$ $b = -1.24455 - 1.45461I$	$-7.51790 + 0.99407I$	0
$u = -1.148700 + 0.510777I$ $a = -0.065466 + 0.259649I$ $b = 0.003288 - 0.501341I$	$-2.69356 + 2.85282I$	0
$u = -1.148700 - 0.510777I$ $a = -0.065466 - 0.259649I$ $b = 0.003288 + 0.501341I$	$-2.69356 - 2.85282I$	0
$u = 1.208390 + 0.353192I$ $a = -1.51238 + 1.05060I$ $b = -1.79615 + 0.61356I$	$-7.01716 - 1.79468I$	0
$u = 1.208390 - 0.353192I$ $a = -1.51238 - 1.05060I$ $b = -1.79615 - 0.61356I$	$-7.01716 + 1.79468I$	0
$u = -0.484551 + 1.171980I$ $a = 0.580134 - 0.265852I$ $b = -2.07365 - 0.94054I$	$-0.30685 - 9.73004I$	0
$u = -0.484551 - 1.171980I$ $a = 0.580134 + 0.265852I$ $b = -2.07365 + 0.94054I$	$-0.30685 + 9.73004I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.516322 + 0.514627I$ $a = 0.550028 + 0.336051I$ $b = -1.15619 + 1.03408I$	$3.64506 + 4.10175I$	$-3.50068 + 0.16550I$
$u = 0.516322 - 0.514627I$ $a = 0.550028 - 0.336051I$ $b = -1.15619 - 1.03408I$	$3.64506 - 4.10175I$	$-3.50068 - 0.16550I$
$u = 1.098620 + 0.654049I$ $a = -0.259825 - 0.296004I$ $b = -0.127365 + 0.305299I$	$2.17633 - 5.60365I$	0
$u = 1.098620 - 0.654049I$ $a = -0.259825 + 0.296004I$ $b = -0.127365 - 0.305299I$	$2.17633 + 5.60365I$	0
$u = -1.187720 + 0.505810I$ $a = -1.63010 - 0.30290I$ $b = -0.89789 + 1.80532I$	$-5.97333 + 6.98094I$	0
$u = -1.187720 - 0.505810I$ $a = -1.63010 + 0.30290I$ $b = -0.89789 - 1.80532I$	$-5.97333 - 6.98094I$	0
$u = 1.192530 + 0.590288I$ $a = -1.17833 + 1.23110I$ $b = -1.94360 + 0.25893I$	$-5.05086 - 9.82294I$	0
$u = 1.192530 - 0.590288I$ $a = -1.17833 - 1.23110I$ $b = -1.94360 - 0.25893I$	$-5.05086 + 9.82294I$	0
$u = 0.453727 + 0.479176I$ $a = -1.88077 + 2.61755I$ $b = 0.031595 - 0.872947I$	$-1.61075 - 1.37550I$	$1.06828 + 3.88421I$
$u = 0.453727 - 0.479176I$ $a = -1.88077 - 2.61755I$ $b = 0.031595 + 0.872947I$	$-1.61075 + 1.37550I$	$1.06828 - 3.88421I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.160930+0.693518I$ $a=-0.270422+0.204754I$ $b=-0.238385-0.350820I$	$-0.15331+10.78920I$	0
$u=-1.160930-0.693518I$ $a=-0.270422-0.204754I$ $b=-0.238385+0.350820I$	$-0.15331-10.78920I$	0
$u=\ 1.218660+0.679170I$ $a=\ 1.73476-0.94207I$ $b=\ 2.16330+1.28301I$	$-0.31155-11.22020I$	0
$u=\ 1.218660-0.679170I$ $a=\ 1.73476+0.94207I$ $b=\ 2.16330-1.28301I$	$-0.31155+11.22020I$	0
$u=-1.387240+0.184587I$ $a=\ 1.57267+0.32546I$ $b=\ 2.17449-0.52478I$	$-4.07832-1.19726I$	0
$u=-1.387240-0.184587I$ $a=\ 1.57267-0.32546I$ $b=\ 2.17449+0.52478I$	$-4.07832+1.19726I$	0
$u=-0.195618+0.552066I$ $a=\ 1.178600+0.372591I$ $b=-0.235368-0.239587I$	$-0.36323+1.66196I$	$-2.66065-3.49504I$
$u=-0.195618-0.552066I$ $a=\ 1.178600-0.372591I$ $b=-0.235368+0.239587I$	$-0.36323-1.66196I$	$-2.66065+3.49504I$
$u=-1.32645+0.58089I$ $a=\ 1.73200+0.69897I$ $b=\ 2.36240-1.10492I$	$-5.48277+8.06356I$	0
$u=-1.32645-0.58089I$ $a=\ 1.73200-0.69897I$ $b=\ 2.36240+1.10492I$	$-5.48277-8.06356I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.25392 + 0.74743I$ $a = 1.60645 + 0.95537I$ $b = 2.22097 - 1.40824I$	$-2.7949 + 16.5881I$	0
$u = -1.25392 - 0.74743I$ $a = 1.60645 - 0.95537I$ $b = 2.22097 + 1.40824I$	$-2.7949 - 16.5881I$	0
$u = 0.491993 + 0.193491I$ $a = -4.49599 + 4.27455I$ $b = -0.856146 + 0.213716I$	$-1.20246 + 1.70054I$	$-18.7053 + 3.5277I$
$u = 0.491993 - 0.193491I$ $a = -4.49599 - 4.27455I$ $b = -0.856146 - 0.213716I$	$-1.20246 - 1.70054I$	$-18.7053 - 3.5277I$
$u = 1.51845 + 0.02075I$ $a = 1.58759 - 0.09676I$ $b = 2.61113 + 0.21884I$	$-8.17783 + 5.50134I$	0
$u = 1.51845 - 0.02075I$ $a = 1.58759 + 0.09676I$ $b = 2.61113 - 0.21884I$	$-8.17783 - 5.50134I$	0
$u = 1.49958 + 0.33987I$ $a = 1.39029 - 0.29970I$ $b = 2.31492 + 1.03303I$	$-7.50417 - 3.65998I$	0
$u = 1.49958 - 0.33987I$ $a = 1.39029 + 0.29970I$ $b = 2.31492 - 1.03303I$	$-7.50417 + 3.65998I$	0
$u = -0.384773$ $a = 0.996229$ $b = 0.763429$	-0.986513	-9.91200

II. $I^u_2 = \langle u^2 + b,\ u^4 - 2u^3 - u^2 + a + 3u + 1,\ u^5 - u^4 - 2u^3 + u^2 + u + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^4 + 7u^3 + 7u^2 - 13u - 18$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_2	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_3, c_5, c_7	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_6, c_9	y^5
c_8, c_{10}, c_{11}	$(y - 1)^5$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.21774$ $a=-1.67436$ $b=-1.48288$	-4.04602	-8.82740
$u=-0.309916+0.549911I$ $a=\ 0.29977-2.14694I$ $b=\ 0.206354+0.340852I$	$-1.97403+1.53058I$	$-13.5086-9.8710I$
$u=-0.309916-0.549911I$ $a=\ 0.29977+2.14694I$ $b=\ 0.206354-0.340852I$	$-1.97403-1.53058I$	$-13.5086+9.8710I$
$u=\ 1.41878+0.21917I$ $a=-1.46259+0.14641I$ $b=-1.96491-0.62190I$	$-7.51750-4.40083I$	$-11.07763+5.80708I$
$u=\ 1.41878-0.21917I$ $a=-1.46259-0.14641I$ $b=-1.96491+0.62190I$	$-7.51750+4.40083I$	$-11.07763-5.80708I$

III.

$\boldsymbol{I_1^v = \langle a,\ -18v^5 - 63v^4 + \cdots + 55b + 12,\ v^6 + 2v^5 + 7v^4 - 8v^3 + 7v^2 - 3v + 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ 0.327273v^5 + 1.14545v^4 + \cdots - 0.490909v - 0.218182 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -0.581818v^5 - 2.03636v^4 + \cdots + 0.872727v - 0.945455 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.581818v^5 + 2.03636v^4 + \cdots - 0.872727v + 1.94545 \\ 0.254545v^5 + 0.890909v^4 + \cdots - 0.381818v + 2.16364 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.654545v^5 + 2.29091v^4 + \cdots + 0.0181818v + 1.56364 \\ 0.254545v^5 + 0.890909v^4 + \cdots - 0.381818v + 2.16364 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.327273v^5 + 1.14545v^4 + \cdots - 0.490909v - 0.218182 \\ 0.327273v^5 + 1.14545v^4 + \cdots - 0.490909v - 0.218182 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.581818v^5 - 2.03636v^4 + \cdots + 0.872727v - 1.94545 \\ -0.254545v^5 - 0.890909v^4 + \cdots + 0.381818v - 2.16364 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1.74545v^5 - 4.10909v^4 + \cdots - 5.38182v + 1.16364 \\ -1.25455v^5 - 2.89091v^4 + \cdots - 6.61818v + 0.836364 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1.74545v^5 - 4.10909v^4 + \cdots - 5.38182v + 1.16364 \\ -1.25455v^5 - 2.89091v^4 + \cdots - 6.61818v + 0.836364 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{153}{55}v^5 - \frac{453}{55}v^4 - \frac{1393}{55}v^3 + \frac{262}{55}v^2 + \frac{37}{55}v - \frac{448}{55}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_5	$(u^2+u+1)^3$
c_3, c_7	u^6
c_4	$(u^2-u+1)^3$
c_6	$(u^3-u^2+2u-1)^2$
c_8	$(u^3+u^2-1)^2$
c_9, c_{11}	$(u^3+u^2+2u+1)^2$
c_{10}	$(u^3-u^2+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_5	$(y^2 + y + 1)^3$
c_3, c_7	y^6
c_6, c_9, c_{11}	$(y^3 + 3y^2 + 2y - 1)^2$
c_8, c_{10}	$(y^3 - y^2 + 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 0.111778 + 0.558770I$ $a = 0$ $b = -0.877439 - 0.744862I$	$3.02413 - 4.85801I$	$-7.63258 + 5.38377I$
$v = 0.111778 - 0.558770I$ $a = 0$ $b = -0.877439 + 0.744862I$	$3.02413 + 4.85801I$	$-7.63258 - 5.38377I$
$v = 0.428020 + 0.376187I$ $a = 0$ $b = -0.877439 + 0.744862I$	$3.02413 + 0.79824I$	$-4.05323 - 2.24743I$
$v = 0.428020 - 0.376187I$ $a = 0$ $b = -0.877439 - 0.744862I$	$3.02413 - 0.79824I$	$-4.05323 + 2.24743I$
$v = -1.53980 + 2.66701I$ $a = 0$ $b = 0.754878$	$-1.11345 + 2.02988I$	$-15.8142 - 11.5861I$
$v = -1.53980 - 2.66701I$ $a = 0$ $b = 0.754878$	$-1.11345 - 2.02988I$	$-15.8142 + 11.5861I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2+u+1)^3)(u^5-u^4+\cdots+u-1)(u^{79}+5u^{78}+\cdots+12u+1)$
c_2	$((u^2+u+1)^3)(u^5+3u^4+\cdots-u-1)(u^{79}+39u^{78}+\cdots+42u-1)$
c_3	$u^6(u^5+u^4+\cdots+u-1)(u^{79}+2u^{78}+\cdots+224u+64)$
c_4	$((u^2-u+1)^3)(u^5+u^4+\cdots+u+1)(u^{79}+5u^{78}+\cdots+12u+1)$
c_5	$(u^2+u+1)^3(u^5-u^4-2u^3+u^2+u+1)$ $\cdot(u^{79}-5u^{78}+\cdots+14176u+3137)$
c_6	$u^5(u^3-u^2+2u-1)^2(u^{79}-3u^{78}+\cdots-192u+32)$
c_7	$u^6(u^5-u^4+\cdots+u+1)(u^{79}+2u^{78}+\cdots+224u+64)$
c_8	$((u-1)^5)(u^3+u^2-1)^2(u^{79}-8u^{78}+\cdots-5u+1)$
c_9	$u^5(u^3+u^2+2u+1)^2(u^{79}-3u^{78}+\cdots-192u+32)$
c_{10}	$((u+1)^5)(u^3-u^2+1)^2(u^{79}-8u^{78}+\cdots-5u+1)$
c_{11}	$((u+1)^5)(u^3+u^2+2u+1)^2(u^{79}+38u^{78}+\cdots-137u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$((y^2+y+1)^3)(y^5+3y^4+\cdots-y-1)(y^{79}+39y^{78}+\cdots+42y-1)$
c_2	$(y^2+y+1)^3(y^5-y^4+8y^3-3y^2+3y-1)$ $\cdot(y^{79}+7y^{78}+\cdots+2238y-1)$
c_3, c_7	$y^6(y^5-5y^4+\cdots-y-1)(y^{79}-40y^{78}+\cdots+91136y-4096)$
c_5	$(y^2+y+1)^3(y^5-5y^4+8y^3-3y^2-y-1)$ $\cdot(y^{79}-25y^{78}+\cdots+636907866y-9840769)$
c_6, c_9	$y^5(y^3+3y^2+2y-1)^2(y^{79}+39y^{78}+\cdots-15872y-1024)$
c_8, c_{10}	$((y-1)^5)(y^3-y^2+2y-1)^2(y^{79}-38y^{78}+\cdots-137y-1)$
c_{11}	$((y-1)^5)(y^3+3y^2+2y-1)^2(y^{79}+14y^{78}+\cdots+11687y-1)$