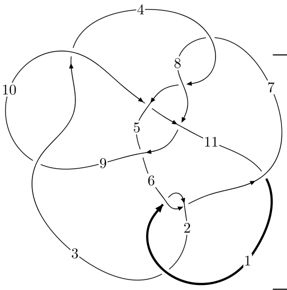
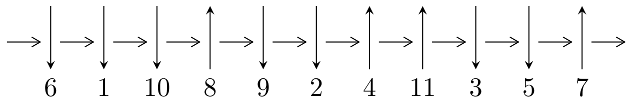
$11a_{216}$ ($K11a_{216}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -1.00850\times 10^{59}u^{80} - 3.71314\times 10^{58}u^{79} + \cdots + 1.36235\times 10^{58}b - 1.35990\times 10^{59},\\
& 1.76890\times 10^{59}u^{80} + 8.72974\times 10^{58}u^{79} + \cdots + 1.36235\times 10^{58}a + 2.94938\times 10^{59},\ u^{81} + u^{80} + \cdots + 2u + 1\rangle\\
I_2^u = \langle & -2u^{14} + 2u^{13} + 7u^{12} - 7u^{11} - 12u^{10} + 12u^9 + 9u^8 - 7u^7 - 4u^6 - 3u^5 + 3u^4 + 6u^3 - 5u^2 + b - 2u + 3,\\
& -3u^{13} + u^{12} + 10u^{11} - 3u^{10} - 17u^9 + 4u^8 + 12u^7 + u^6 - 4u^5 - 7u^4 + 7u^2 + a - 2u - 4,\\
& u^{15} - 4u^{13} + 8u^{11} - 8u^9 - u^8 + 4u^7 + 3u^6 - 4u^4 + 3u^2 - 1\rangle\\
I_3^u = \langle & u^2 + b,\ -u^2 + a - 1,\ u^6 + u^5 + 1\rangle\\
I_4^u = \langle & b + 1,\ a - 2,\ u - 1\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 103 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.

$\boldsymbol{I_1^u = \langle -1.01\times 10^{59}u^{80} - 3.71\times 10^{58}u^{79} + \cdots + 1.36\times 10^{58}b - 1.36\times 10^{59},\ 1.77\times 10^{59}u^{80} + 8.73\times 10^{58}u^{79} + \cdots + 1.36\times 10^{58}a + 2.95\times 10^{59},\ u^{81} + u^{80} + \cdots + 2u + 1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -12.9842u^{80} - 6.40783u^{79} + \cdots - 2.14853u - 21.6491 \\ 7.40264u^{80} + 2.72553u^{79} + \cdots + 4.39790u + 9.98198 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -13.3712u^{80} - 5.09999u^{79} + \cdots - 2.91497u - 20.5076 \\ 0.0913650u^{80} - 0.813439u^{79} + \cdots - 2.45718u - 2.62055 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^3 \\ -u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -14.4485u^{80} - 7.48009u^{79} + \cdots - 2.78649u - 23.7611 \\ 5.28092u^{80} + 2.32374u^{79} + \cdots + 4.14897u + 5.26440 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -8.40559u^{80} - 5.75051u^{79} + \cdots + 2.69355u - 17.0429 \\ -6.46426u^{80} - 2.78674u^{79} + \cdots - 6.07564u - 10.4024 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -13.0257u^{80} - 6.50801u^{79} + \cdots - 1.60601u - 20.8812 \\ 6.96235u^{80} + 2.92923u^{79} + \cdots + 6.10527u + 7.49207 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -13.0257u^{80} - 6.50801u^{79} + \cdots - 1.60601u - 20.8812 \\ 6.96235u^{80} + 2.92923u^{79} + \cdots + 6.10527u + 7.49207 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 14.5586u^{80} + 7.70676u^{79} + \cdots - 1.69347u + 19.4046$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{81} - u^{80} + \cdots + 2u - 1$
c_2	$u^{81} + 43u^{80} + \cdots + 6u + 1$
c_3, c_9	$u^{81} - 7u^{80} + \cdots - 1188u + 216$
c_4, c_7	$u^{81} - 2u^{80} + \cdots - 77u + 79$
c_5	$u^{81} + u^{80} + \cdots - 16528u - 1781$
c_8	$u^{81} + 13u^{80} + \cdots - 34u + 11$
c_{10}	$u^{81} - u^{80} + \cdots + 14u + 3$
c_{11}	$u^{81} - 3u^{80} + \cdots + 4942u - 1947$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{81} - 43y^{80} + \cdots + 6y - 1$
c_2	$y^{81} + y^{80} + \cdots + 38y - 1$
c_3, c_9	$y^{81} - 57y^{80} + \cdots + 1333584y - 46656$
c_4, c_7	$y^{81} - 50y^{80} + \cdots - 1813y - 6241$
c_5	$y^{81} - 27y^{80} + \cdots + 148198452y - 3171961$
c_8	$y^{81} - 7y^{80} + \cdots + 9032y - 121$
c_{10}	$y^{81} - 3y^{80} + \cdots + 232y - 9$
c_{11}	$y^{81} + 41y^{80} + \cdots + 38652040y - 3790809$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.353486 + 0.936121I$ $a = 0.145670 - 0.210945I$ $b = -0.684489 + 0.183324I$	$-1.81799 + 2.40695I$	0
$u = 0.353486 - 0.936121I$ $a = 0.145670 + 0.210945I$ $b = -0.684489 - 0.183324I$	$-1.81799 - 2.40695I$	0
$u = 0.764070 + 0.573116I$ $a = 0.019145 - 0.599281I$ $b = 0.294520 + 0.973700I$	$-1.65399 - 4.34598I$	$0. + 7.39263I$
$u = 0.764070 - 0.573116I$ $a = 0.019145 + 0.599281I$ $b = 0.294520 - 0.973700I$	$-1.65399 + 4.34598I$	$0. - 7.39263I$
$u = 0.897471 + 0.585786I$ $a = -0.426738 - 0.251752I$ $b = 0.378705 - 0.463704I$	$4.21372 - 0.52225I$	0
$u = 0.897471 - 0.585786I$ $a = -0.426738 + 0.251752I$ $b = 0.378705 + 0.463704I$	$4.21372 + 0.52225I$	0
$u = -0.255625 + 0.871069I$ $a = -0.322424 + 0.317539I$ $b = -1.67729 - 0.85921I$	$-0.92282 - 11.98720I$	$-2.33004 + 6.68936I$
$u = -0.255625 - 0.871069I$ $a = -0.322424 - 0.317539I$ $b = -1.67729 + 0.85921I$	$-0.92282 + 11.98720I$	$-2.33004 - 6.68936I$
$u = 0.887015 + 0.179085I$ $a = 1.247820 + 0.507202I$ $b = -0.406240 - 0.514609I$	$-1.382340 - 0.196561I$	$-8.40096 + 0.94389I$
$u = 0.887015 - 0.179085I$ $a = 1.247820 - 0.507202I$ $b = -0.406240 + 0.514609I$	$-1.382340 + 0.196561I$	$-8.40096 - 0.94389I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.666327 + 0.609855I$ $a = -1.056000 + 0.794212I$ $b = 0.120020 - 0.152491I$	$4.88164 - 4.17734I$	$2.92030 + 4.97430I$
$u = 0.666327 - 0.609855I$ $a = -1.056000 - 0.794212I$ $b = 0.120020 + 0.152491I$	$4.88164 + 4.17734I$	$2.92030 - 4.97430I$
$u = -0.772892 + 0.442862I$ $a = 0.911132 + 0.522504I$ $b = -0.563301 - 0.466917I$	$1.33705 + 1.90417I$	$2.60969 - 4.16146I$
$u = -0.772892 - 0.442862I$ $a = 0.911132 - 0.522504I$ $b = -0.563301 + 0.466917I$	$1.33705 - 1.90417I$	$2.60969 + 4.16146I$
$u = -0.833248 + 0.735410I$ $a = -0.309844 - 0.449602I$ $b = -0.203212 + 0.411021I$	$2.49951 + 9.29172I$	0
$u = -0.833248 - 0.735410I$ $a = -0.309844 + 0.449602I$ $b = -0.203212 - 0.411021I$	$2.49951 - 9.29172I$	0
$u = -0.839590 + 0.291084I$ $a = -0.45851 + 2.35188I$ $b = -0.61804 - 1.59554I$	$0.06939 + 4.39534I$	$-6.51221 - 9.24323I$
$u = -0.839590 - 0.291084I$ $a = -0.45851 - 2.35188I$ $b = -0.61804 + 1.59554I$	$0.06939 - 4.39534I$	$-6.51221 + 9.24323I$
$u = -0.789832 + 0.783125I$ $a = -0.465566 + 0.452295I$ $b = 0.0687710 - 0.1002050I$	$2.65976 - 3.66135I$	0
$u = -0.789832 - 0.783125I$ $a = -0.465566 - 0.452295I$ $b = 0.0687710 + 0.1002050I$	$2.65976 + 3.66135I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.032810 + 0.447989I$ $a = 2.83612 - 0.49189I$ $b = -1.53996 - 1.53611I$	$0.275846 - 0.630932I$	0
$u = 1.032810 - 0.447989I$ $a = 2.83612 + 0.49189I$ $b = -1.53996 + 1.53611I$	$0.275846 + 0.630932I$	0
$u = -1.111980 + 0.324340I$ $a = 1.80235 + 1.20589I$ $b = -2.24237 + 0.27267I$	$-0.79545 - 2.68846I$	0
$u = -1.111980 - 0.324340I$ $a = 1.80235 - 1.20589I$ $b = -2.24237 - 0.27267I$	$-0.79545 + 2.68846I$	0
$u = -0.453414 + 0.691603I$ $a = -0.0996573 - 0.0433267I$ $b = -0.996987 + 0.338045I$	$2.86402 - 1.12377I$	$1.82611 - 2.82977I$
$u = -0.453414 - 0.691603I$ $a = -0.0996573 + 0.0433267I$ $b = -0.996987 - 0.338045I$	$2.86402 + 1.12377I$	$1.82611 + 2.82977I$
$u = 0.231721 + 0.787238I$ $a = 0.250689 + 0.388970I$ $b = 1.75641 - 0.82207I$	$-4.21937 + 5.70269I$	$-5.14699 - 5.02778I$
$u = 0.231721 - 0.787238I$ $a = 0.250689 - 0.388970I$ $b = 1.75641 + 0.82207I$	$-4.21937 - 5.70269I$	$-5.14699 + 5.02778I$
$u = -1.065070 + 0.538991I$ $a = 1.40242 + 1.59557I$ $b = -1.70328 + 0.12611I$	$1.05312 + 5.61889I$	0
$u = -1.065070 - 0.538991I$ $a = 1.40242 - 1.59557I$ $b = -1.70328 - 0.12611I$	$1.05312 - 5.61889I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.111370 + 0.438228I$ $a = 1.385970 + 0.267580I$ $b = -0.64009 + 1.54321I$	$-5.57621 + 3.25113I$	0
$u = -1.111370 - 0.438228I$ $a = 1.385970 - 0.267580I$ $b = -0.64009 - 1.54321I$	$-5.57621 - 3.25113I$	0
$u = 1.125260 + 0.410648I$ $a = -1.34414 + 1.12484I$ $b = 1.69461 + 0.27601I$	$-3.69078 - 1.82728I$	0
$u = 1.125260 - 0.410648I$ $a = -1.34414 - 1.12484I$ $b = 1.69461 - 0.27601I$	$-3.69078 + 1.82728I$	0
$u = -0.447441 + 0.661185I$ $a = -0.088570 + 0.150125I$ $b = -1.232070 - 0.219872I$	$2.87684 - 0.94366I$	$3.19851 + 0.58211I$
$u = -0.447441 - 0.661185I$ $a = -0.088570 - 0.150125I$ $b = -1.232070 + 0.219872I$	$2.87684 + 0.94366I$	$3.19851 - 0.58211I$
$u = -1.065000 + 0.572695I$ $a = 0.18457 + 1.55186I$ $b = -1.040630 - 0.428971I$	$1.06746 + 6.00583I$	0
$u = -1.065000 - 0.572695I$ $a = 0.18457 - 1.55186I$ $b = -1.040630 + 0.428971I$	$1.06746 - 6.00583I$	0
$u = -1.197790 + 0.191469I$ $a = 1.080480 + 0.170748I$ $b = -0.489918 + 0.440340I$	$-7.30328 + 0.66829I$	0
$u = -1.197790 - 0.191469I$ $a = 1.080480 - 0.170748I$ $b = -0.489918 - 0.440340I$	$-7.30328 - 0.66829I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.120360 + 0.467251I$ $a = 1.24527 - 1.30896I$ $b = -1.96104 + 0.66304I$	$-5.35302 - 4.32976I$	0
$u = 1.120360 - 0.467251I$ $a = 1.24527 + 1.30896I$ $b = -1.96104 - 0.66304I$	$-5.35302 + 4.32976I$	0
$u = 1.115380 + 0.480964I$ $a = -0.90946 - 1.83248I$ $b = -0.309442 + 0.841468I$	$-1.19632 - 7.51167I$	0
$u = 1.115380 - 0.480964I$ $a = -0.90946 + 1.83248I$ $b = -0.309442 - 0.841468I$	$-1.19632 + 7.51167I$	0
$u = 0.268475 + 0.723594I$ $a = -1.083920 - 0.186754I$ $b = -1.39346 + 0.97561I$	$3.18792 + 5.71030I$	$0.53106 - 5.73349I$
$u = 0.268475 - 0.723594I$ $a = -1.083920 + 0.186754I$ $b = -1.39346 - 0.97561I$	$3.18792 - 5.71030I$	$0.53106 + 5.73349I$
$u = -1.188380 + 0.311281I$ $a = -1.75719 - 1.47102I$ $b = 1.79283 - 0.05490I$	$-8.54999 - 2.22876I$	0
$u = -1.188380 - 0.311281I$ $a = -1.75719 + 1.47102I$ $b = 1.79283 + 0.05490I$	$-8.54999 + 2.22876I$	0
$u = -1.137500 + 0.475476I$ $a = -2.17624 - 0.33439I$ $b = 1.72783 - 1.32004I$	$-3.22394 + 6.00881I$	0
$u = -1.137500 - 0.475476I$ $a = -2.17624 + 0.33439I$ $b = 1.72783 + 1.32004I$	$-3.22394 - 6.00881I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.078476 + 0.744812I$ $a = 0.704380 - 0.993703I$ $b = 1.305590 - 0.047937I$	$-2.16071 - 3.34222I$	$-4.83017 + 7.08778I$
$u = -0.078476 - 0.744812I$ $a = 0.704380 + 0.993703I$ $b = 1.305590 + 0.047937I$	$-2.16071 + 3.34222I$	$-4.83017 - 7.08778I$
$u = 1.137170 + 0.533166I$ $a = 2.28675 - 0.59226I$ $b = -2.03696 - 1.61104I$	$0.65865 - 10.48350I$	0
$u = 1.137170 - 0.533166I$ $a = 2.28675 + 0.59226I$ $b = -2.03696 + 1.61104I$	$0.65865 + 10.48350I$	0
$u = 1.186600 + 0.412439I$ $a = -1.40354 + 0.43387I$ $b = 1.19145 + 1.27355I$	$-5.80693 - 0.69674I$	0
$u = 1.186600 - 0.412439I$ $a = -1.40354 - 0.43387I$ $b = 1.19145 - 1.27355I$	$-5.80693 + 0.69674I$	0
$u = -1.178410 + 0.480916I$ $a = -1.70444 - 1.06176I$ $b = 2.40022 - 0.13432I$	$-5.32246 + 7.84641I$	0
$u = -1.178410 - 0.480916I$ $a = -1.70444 + 1.06176I$ $b = 2.40022 + 0.13432I$	$-5.32246 - 7.84641I$	0
$u = 1.251330 + 0.270280I$ $a = 1.54437 - 1.19181I$ $b = -1.72788 + 0.01203I$	$-5.81796 + 8.31263I$	0
$u = 1.251330 - 0.270280I$ $a = 1.54437 + 1.19181I$ $b = -1.72788 - 0.01203I$	$-5.81796 - 8.31263I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.163560 + 0.542163I$ $a = -2.49355 + 1.01995I$ $b = 2.30668 + 1.00700I$	$-6.95659 - 10.65130I$	0
$u = 1.163560 - 0.542163I$ $a = -2.49355 - 1.01995I$ $b = 2.30668 - 1.00700I$	$-6.95659 + 10.65130I$	0
$u = -0.686699 + 0.054430I$ $a = 1.53780 + 0.66922I$ $b = -0.66950 - 1.40480I$	$0.82340 + 2.75519I$	$-4.46449 - 1.61172I$
$u = -0.686699 - 0.054430I$ $a = 1.53780 - 0.66922I$ $b = -0.66950 + 1.40480I$	$0.82340 - 2.75519I$	$-4.46449 + 1.61172I$
$u = -1.186750 + 0.572166I$ $a = 2.24475 + 0.84767I$ $b = -2.15764 + 1.11820I$	$-3.7190 + 17.2795I$	0
$u = -1.186750 - 0.572166I$ $a = 2.24475 - 0.84767I$ $b = -2.15764 - 1.11820I$	$-3.7190 - 17.2795I$	0
$u = 1.288520 + 0.326107I$ $a = -0.977917 + 0.363557I$ $b = 0.859230 + 0.498217I$	$-6.39093 - 4.34959I$	0
$u = 1.288520 - 0.326107I$ $a = -0.977917 - 0.363557I$ $b = 0.859230 - 0.498217I$	$-6.39093 + 4.34959I$	0
$u = 1.186810 + 0.605790I$ $a = 1.066820 - 0.511590I$ $b = -1.075190 - 0.313808I$	$-4.42307 - 8.03198I$	0
$u = 1.186810 - 0.605790I$ $a = 1.066820 + 0.511590I$ $b = -1.075190 + 0.313808I$	$-4.42307 + 8.03198I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.230620+0.525995I$ $a=-1.38150-0.39729I$ $b=1.41856-0.61959I$	$-5.01528+5.22835I$	0
$u=-1.230620-0.525995I$ $a=-1.38150+0.39729I$ $b=1.41856+0.61959I$	$-5.01528-5.22835I$	0
$u=-0.122761+0.636850I$ $a=0.773920-0.056125I$ $b=0.994606+0.698230I$	$-0.40315-1.75468I$	$-2.66947+3.58305I$
$u=-0.122761-0.636850I$ $a=0.773920+0.056125I$ $b=0.994606-0.698230I$	$-0.40315+1.75468I$	$-2.66947-3.58305I$
$u=0.491013+0.385970I$ $a=-1.318490+0.085313I$ $b=-0.86028+1.57846I$	$1.91014-3.07747I$	$3.39105+3.81953I$
$u=0.491013-0.385970I$ $a=-1.318490-0.085313I$ $b=-0.86028-1.57846I$	$1.91014+3.07747I$	$3.39105-3.81953I$
$u=0.180434+0.529501I$ $a=-0.662704+1.127170I$ $b=-0.591412-1.215950I$	$1.34431+3.37389I$	$-0.27532-5.21535I$
$u=0.180434-0.529501I$ $a=-0.662704-1.127170I$ $b=-0.591412+1.215950I$	$1.34431-3.37389I$	$-0.27532+5.21535I$
$u=0.144994+0.507790I$ $a=0.36150-2.09518I$ $b=-0.958492-0.271503I$	$-2.71152+0.29912I$	$-4.85977+1.99528I$
$u=0.144994-0.507790I$ $a=0.36150+2.09518I$ $b=-0.958492+0.271503I$	$-2.71152-0.29912I$	$-4.85977-1.99528I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.479949$ $a=-4.18306$ $b=-0.0617552$	-2.92420	0.818700

II. $\boldsymbol{I^u_2 =}$
$\boldsymbol{\langle -2u^{14}+2u^{13}+\cdots+b+3,\ -3u^{13}+u^{12}+\cdots+a-4,\ u^{15}-4u^{13}+\cdots+3u^2-1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 \\ u^5-u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 3u^{13}-u^{12}+\cdots+2u+4 \\ 2u^{14}-2u^{13}+\cdots+2u-3 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{14}-2u^{13}+\cdots-u-3 \\ u^{14}-u^{13}-3u^{12}+2u^{11}+5u^{10}-2u^9-3u^8-2u^7+2u^6+3u^5-3u^3+1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^3 \\ -u^3+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 3u^{13}-u^{12}+\cdots+2u+5 \\ 2u^{14}-u^{13}+\cdots+2u-2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -2u^{14}-2u^{13}+\cdots-3u-4 \\ u^{12}-3u^{10}+4u^8-u^6-u^5-u^4+2u^3-u+1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u^{13}-u^{12}+\cdots+2u+3 \\ 2u^{14}-u^{13}+\cdots+3u-2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u^{13}-u^{12}+\cdots+2u+3 \\ 2u^{14}-u^{13}+\cdots+3u-2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^{14}-11u^{13}-3u^{12}+43u^{11}+5u^{10}-78u^9-4u^8+61u^7+13u^6-11u^5-31u^4-13u^3+35u^2-3u-22$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{15} - 4u^{13} + 8u^{11} - 8u^9 + u^8 + 4u^7 - 3u^6 + 4u^4 - 3u^2 + 1$
c_2	$u^{15} + 8u^{14} + \cdots + 6u + 1$
c_3	$u^{15} - u^{14} + \cdots - u + 1$
c_4	$u^{15} - u^{14} + \cdots - u + 1$
c_5	$u^{15} + 2u^{13} + u^{12} + 3u^{11} + u^{10} + 2u^9 + u^7 - 2u^6 - 3u^5 - 4u^4 - 1$
c_6	$u^{15} - 4u^{13} + 8u^{11} - 8u^9 - u^8 + 4u^7 + 3u^6 - 4u^4 + 3u^2 - 1$
c_7	$u^{15} + u^{14} + \cdots - u - 1$
c_8	$u^{15} - 2u^{13} + \cdots - 4u - 1$
c_9	$u^{15} + u^{14} + \cdots - u - 1$
c_{10}	$u^{15} + 4u^{11} + 3u^{10} + 2u^9 - u^8 - 2u^6 - u^5 - 3u^4 - u^3 - 2u^2 - 1$
c_{11}	$u^{15} + 4u^{13} + \cdots - 6u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{15} - 8y^{14} + \cdots + 6y - 1$
c_2	$y^{15} + 16y^{13} + \cdots + 2y - 1$
c_3, c_9	$y^{15} - 15y^{14} + \cdots + 11y - 1$
c_4, c_7	$y^{15} - 11y^{14} + \cdots + 15y - 1$
c_5	$y^{15} + 4y^{14} + \cdots - 8y^2 - 1$
c_8	$y^{15} - 4y^{14} + \cdots + 4y - 1$
c_{10}	$y^{15} + 8y^{13} + \cdots - 4y - 1$
c_{11}	$y^{15} + 8y^{14} + \cdots + 12y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.997247 + 0.392970I$ $a = 2.71489 - 0.62809I$ $b = -1.29145 + 1.40184I$	$-0.044369 - 0.633415I$	$-1.08788 + 2.48026I$
$u = -0.997247 - 0.392970I$ $a = 2.71489 + 0.62809I$ $b = -1.29145 - 1.40184I$	$-0.044369 + 0.633415I$	$-1.08788 - 2.48026I$
$u = -0.221545 + 0.858385I$ $a = -0.066551 - 0.561702I$ $b = 0.651943 - 0.003032I$	$-1.82195 - 1.76571I$	$-4.04745 - 0.75169I$
$u = -0.221545 - 0.858385I$ $a = -0.066551 + 0.561702I$ $b = 0.651943 + 0.003032I$	$-1.82195 + 1.76571I$	$-4.04745 + 0.75169I$
$u = 0.589578 + 0.609250I$ $a = 0.026910 - 0.340226I$ $b = -0.852572 - 0.777911I$	$2.48631 + 2.07411I$	$-0.45705 - 2.34926I$
$u = 0.589578 - 0.609250I$ $a = 0.026910 + 0.340226I$ $b = -0.852572 + 0.777911I$	$2.48631 - 2.07411I$	$-0.45705 + 2.34926I$
$u = 1.030730 + 0.548115I$ $a = -0.26464 - 1.93296I$ $b = -1.17743 + 0.81712I$	$1.09684 - 6.66891I$	$-2.05979 + 11.69980I$
$u = 1.030730 - 0.548115I$ $a = -0.26464 + 1.93296I$ $b = -1.17743 - 0.81712I$	$1.09684 + 6.66891I$	$-2.05979 - 11.69980I$
$u = -0.734119 + 0.278311I$ $a = 0.018935 + 1.247810I$ $b = -0.75789 - 1.70123I$	$1.01287 + 3.62441I$	$-1.97748 - 8.82225I$
$u = -0.734119 - 0.278311I$ $a = 0.018935 - 1.247810I$ $b = -0.75789 + 1.70123I$	$1.01287 - 3.62441I$	$-1.97748 + 8.82225I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.162560 + 0.361615I$ $a = -1.017670 + 0.054285I$ $b = 0.415367 + 1.176280I$	$-6.03108 - 1.76748I$	$-8.58457 + 2.09679I$
$u = 1.162560 - 0.361615I$ $a = -1.017670 - 0.054285I$ $b = 0.415367 - 1.176280I$	$-6.03108 + 1.76748I$	$-8.58457 - 2.09679I$
$u = 0.729970$ $a = 3.59045$ $b = -0.927345$	-3.42072	-16.5640
$u = -1.194930 + 0.516966I$ $a = -1.207100 - 0.512386I$ $b = 1.47569 - 0.21174I$	$-4.85785 + 6.78722I$	$-6.00355 - 4.69104I$
$u = -1.194930 - 0.516966I$ $a = -1.207100 + 0.512386I$ $b = 1.47569 + 0.21174I$	$-4.85785 - 6.78722I$	$-6.00355 + 4.69104I$

III. $I_3^u = \langle u^2 + b,\ -u^2 + a - 1,\ u^6 + u^5 + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_8	$y^6 - y^5 + 2y^3 + 1$
c_2, c_4, c_7	$y^6 - y^5 + 4y^4 - 2y^3 + 1$
c_3, c_9	$(y-1)^6$
c_5	$y^6 + 7y^5 + 12y^4 - 2y^3 + 8y^2 + 1$
c_{10}, c_{11}	$y^6 + 6y^5 + 13y^4 + 2y^3 - 10y^2 - 4y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.140390 + 0.942117I$ $a = 0.132124 - 0.264528I$ $b = 0.867876 + 0.264528I$	-1.64493	-6.00000
$u = -0.140390 - 0.942117I$ $a = 0.132124 + 0.264528I$ $b = 0.867876 - 0.264528I$	-1.64493	-6.00000
$u = 0.745509 + 0.482472I$ $a = 1.32300 + 0.71937I$ $b = -0.323005 - 0.719374I$	-1.64493	-6.00000
$u = 0.745509 - 0.482472I$ $a = 1.32300 - 0.71937I$ $b = -0.323005 + 0.719374I$	-1.64493	-6.00000
$u = -1.105120 + 0.420020I$ $a = 2.04487 - 0.92834I$ $b = -1.044870 + 0.928343I$	-1.64493	-6.00000
$u = -1.105120 - 0.420020I$ $a = 2.04487 + 0.92834I$ $b = -1.044870 - 0.928343I$	-1.64493	-6.00000

IV. $I_4^u = \langle b+1,\ a-2,\ u-1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3 \\ -1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$$

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

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 2.00000$ $b = -1.00000$	-1.64493	-6.00000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u+1)(u^6-u^5+1)$ $\cdot(u^{15}-4u^{13}+8u^{11}-8u^9+u^8+4u^7-3u^6+4u^4-3u^2+1)$ $\cdot(u^{81}-u^{80}+\cdots+2u-1)$
c_2	$(u+1)(u^6+u^5-2u^3+1)(u^{15}+8u^{14}+\cdots+6u+1)$ $\cdot(u^{81}+43u^{80}+\cdots+6u+1)$
c_3	$((u+1)^7)(u^{15}-u^{14}+\cdots-u+1)(u^{81}-7u^{80}+\cdots-1188u+216)$
c_4	$(u+1)(u^6+u^5-2u^3+1)(u^{15}-u^{14}+\cdots-u+1)$ $\cdot(u^{81}-2u^{80}+\cdots-77u+79)$
c_5	$(u+1)(u^6+u^5+4u^4+2u^3+1)$ $\cdot(u^{15}+2u^{13}+u^{12}+3u^{11}+u^{10}+2u^9+u^7-2u^6-3u^5-4u^4-1)$ $\cdot(u^{81}+u^{80}+\cdots-16528u-1781)$
c_6	$(u+1)(u^6-u^5+1)$ $\cdot(u^{15}-4u^{13}+8u^{11}-8u^9-u^8+4u^7+3u^6-4u^4+3u^2-1)$ $\cdot(u^{81}-u^{80}+\cdots+2u-1)$
c_7	$(u+1)(u^6+u^5-2u^3+1)(u^{15}+u^{14}+\cdots-u-1)$ $\cdot(u^{81}-2u^{80}+\cdots-77u+79)$
c_8	$(u+1)(u^6-u^5+1)(u^{15}-2u^{13}+\cdots-4u-1)$ $\cdot(u^{81}+13u^{80}+\cdots-34u+11)$
c_9	$((u+1)^7)(u^{15}+u^{14}+\cdots-u-1)(u^{81}-7u^{80}+\cdots-1188u+216)$
c_{10}	$u(u^6+3u^4+4u^3+2u^2+4u+3)$ $\cdot(u^{15}+4u^{11}+3u^{10}+2u^9-u^8-2u^6-u^5-3u^4-u^3-2u^2-1)$ $\cdot(u^{81}-u^{80}+\cdots+14u+3)$
c_{11}	$u(u^6+3u^4+\cdots+4u+3)(u^{15}+4u^{13}+\cdots-6u^2+1)$ $\cdot(u^{81}-3u^{80}+\cdots+4942u-1947)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y-1)(y^6-y^5+2y^3+1)(y^{15}-8y^{14}+\cdots+6y-1)$ $\cdot\,(y^{81}-43y^{80}+\cdots+6y-1)$
c_2	$(y-1)(y^6-y^5+4y^4-2y^3+1)(y^{15}+16y^{13}+\cdots+2y-1)$ $\cdot\,(y^{81}+y^{80}+\cdots+38y-1)$
c_3, c_9	$((y-1)^7)(y^{15}-15y^{14}+\cdots+11y-1)$ $\cdot\,(y^{81}-57y^{80}+\cdots+1333584y-46656)$
c_4, c_7	$(y-1)(y^6-y^5+4y^4-2y^3+1)(y^{15}-11y^{14}+\cdots+15y-1)$ $\cdot\,(y^{81}-50y^{80}+\cdots-1813y-6241)$
c_5	$(y-1)(y^6+7y^5+\cdots+8y^2+1)(y^{15}+4y^{14}+\cdots-8y^2-1)$ $\cdot\,(y^{81}-27y^{80}+\cdots+148198452y-3171961)$
c_8	$(y-1)(y^6-y^5+2y^3+1)(y^{15}-4y^{14}+\cdots+4y-1)$ $\cdot\,(y^{81}-7y^{80}+\cdots+9032y-121)$
c_{10}	$y(y^6+6y^5+\cdots-4y+9)(y^{15}+8y^{13}+\cdots-4y-1)$ $\cdot\,(y^{81}-3y^{80}+\cdots+232y-9)$
c_{11}	$y(y^6+6y^5+\cdots-4y+9)(y^{15}+8y^{14}+\cdots+12y-1)$ $\cdot\,(y^{81}+41y^{80}+\cdots+38652040y-3790809)$