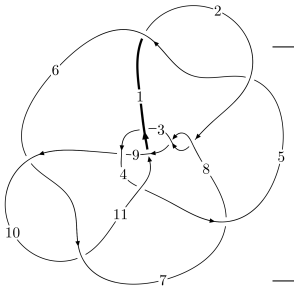
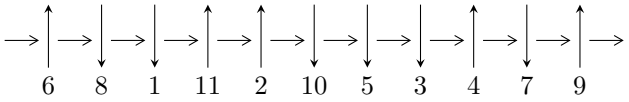
$11a_{286}$ $(K11a_{286})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -1.55234 \times 10^{267} u^{88} - 4.31282 \times 10^{267} u^{87} + \cdots + 1.32472 \times 10^{270} b - 3.32772 \times 10^{270}, \\
&\quad - 9.22601 \times 10^{271} u^{88} + 1.62321 \times 10^{271} u^{87} + \cdots + 5.74253 \times 10^{274} a - 3.46330 \times 10^{275}, \\
&\quad u^{89} + 2u^{88} + \cdots - 1333u + 647 \rangle \\
I_2^u &= \langle -5635742 u^{22} + 8544802 u^{21} + \cdots + 1559171 b - 7785518, \\
&\quad - 175768102 u^{22} + 289559314 u^{21} + \cdots + 45215959 a - 268721385,\ u^{23} - u^{22} + \cdots + 3u + 1 \rangle \\
I_3^u &= \langle -u^2 + b,\ a - 1,\ u^6 + u^5 - 1 \rangle \\
I_4^u &= \langle b - 1,\ a - 1,\ u - 1 \rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 119 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. $\boldsymbol{I_1^u = \langle -1.55 \times 10^{267} u^{88} - 4.31 \times 10^{267} u^{87} + \cdots + 1.32 \times 10^{270} b - 3.33 \times 10^{270},\ -9.23 \times 10^{271} u^{88} + 1.62 \times 10^{271} u^{87} + \cdots + 5.74 \times 10^{274} a - 3.46 \times 10^{275},\ u^{89} + 2u^{88} + \cdots - 1333u + 647 \rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.00160661u^{88} - 0.000282665u^{87} + \cdots - 11.9326u + 6.03096 \\ 0.00117182u^{88} + 0.00325564u^{87} + \cdots + 3.24187u + 2.51202 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.00318081u^{88} + 0.00410332u^{87} + \cdots + 3.56991u + 5.20178 \\ 0.00290796u^{88} + 0.00391365u^{87} + \cdots - 7.38301u + 2.72421 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.00181149u^{88} - 0.00607733u^{87} + \cdots - 12.3004u + 7.55856 \\ 0.00916924u^{88} + 0.0106604u^{87} + \cdots - 4.14988u + 0.678788 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.00119620u^{88} - 0.00157570u^{87} + \cdots - 8.00639u - 3.80599 \\ -0.00146737u^{88} + 0.00122998u^{87} + \cdots + 10.8586u - 0.0804670 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.000434788u^{88} - 0.00353831u^{87} + \cdots - 15.1744u + 3.51894 \\ 0.00117182u^{88} + 0.00325564u^{87} + \cdots + 3.24187u + 2.51202 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.00590099u^{88} - 0.00142517u^{87} + \cdots - 16.2111u + 13.2628 \\ -0.000356025u^{88} - 0.000216007u^{87} + \cdots + 2.84127u - 0.176532 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00351260u^{88} + 0.00181198u^{87} + \cdots + 1.84399u + 5.88592 \\ 0.00567299u^{88} + 0.00695895u^{87} + \cdots - 9.81067u + 3.95191 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00351260u^{88} + 0.00181198u^{87} + \cdots + 1.84399u + 5.88592 \\ 0.00567299u^{88} + 0.00695895u^{87} + \cdots - 9.81067u + 3.95191 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0524832u^{88} + 0.137268u^{87} + \cdots + 11.5462u - 2.46166$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{89} - 2u^{88} + \cdots + 90320u + 7513$
c_2, c_8	$u^{89} - 2u^{88} + \cdots - 1333u - 647$
c_3	$u^{89} - 11u^{88} + \cdots + 527u - 23$
c_4	$u^{89} - 5u^{88} + \cdots + 635519u + 52123$
c_6, c_{10}	$u^{89} - 5u^{88} + \cdots - 2896u + 424$
c_7	$u^{89} - 6u^{88} + \cdots + 521820u + 24583$
c_9	$u^{89} + u^{88} + \cdots - 19u - 1$
c_{11}	$u^{89} + 14u^{88} + \cdots - 5718u - 557$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{89} + 64y^{88} + \cdots - 300613312y - 56445169$
c_2, c_8	$y^{89} - 80y^{88} + \cdots + 3896461y - 418609$
c_3	$y^{89} - 21y^{88} + \cdots + 57481y - 529$
c_4	$y^{89} + 31y^{88} + \cdots - 29419728923y - 2716807129$
c_6, c_{10}	$y^{89} - 61y^{88} + \cdots + 3809312y - 179776$
c_7	$y^{89} - 42y^{88} + \cdots + 387303203794y - 604323889$
c_9	$y^{89} + y^{88} + \cdots + 201y - 1$
c_{11}	$y^{89} + 6y^{88} + \cdots - 11245092y - 310249$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.852038+0.573966I$ $a=\ \ 0.153177+0.809297I$ $b=\ \ 0.419729+0.323128I$	$1.05660+4.06132I$	0
$u=-0.852038-0.573966I$ $a=\ \ 0.153177-0.809297I$ $b=\ \ 0.419729-0.323128I$	$1.05660-4.06132I$	0
$u=-0.864849+0.385795I$ $a=\ \ 0.241214+0.307598I$ $b=-0.308549-0.832916I$	$-2.04087+4.73072I$	0
$u=-0.864849-0.385795I$ $a=\ \ 0.241214-0.307598I$ $b=-0.308549+0.832916I$	$-2.04087-4.73072I$	0
$u=\ \ 0.932246$ $a=\ \ 1.02505$ $b=\ \ 0.898656$	-1.64367	0
$u=-1.140430+0.113727I$ $a=\ \ 0.33690-2.20649I$ $b=\ \ 0.270332-1.071420I$	$-3.93177-3.22400I$	0
$u=-1.140430-0.113727I$ $a=\ \ 0.33690+2.20649I$ $b=\ \ 0.270332+1.071420I$	$-3.93177+3.22400I$	0
$u=\ \ 1.15466$ $a=-1.55856$ $b=-2.53211$	-3.85286	0
$u=-0.460947+0.694535I$ $a=\ \ 1.310850+0.249643I$ $b=-0.575229+0.865518I$	$-2.26703-4.51831I$	$-7.03491+7.29654I$
$u=-0.460947-0.694535I$ $a=\ \ 1.310850-0.249643I$ $b=-0.575229-0.865518I$	$-2.26703+4.51831I$	$-7.03491-7.29654I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.182030 + 0.111716I$ $a = 0.026577 + 1.131400I$ $b = -1.10640 + 1.13771I$	$-4.32016 - 0.46135I$	0
$u = 1.182030 - 0.111716I$ $a = 0.026577 - 1.131400I$ $b = -1.10640 - 1.13771I$	$-4.32016 + 0.46135I$	0
$u = 1.052700 + 0.579893I$ $a = 0.240171 - 0.373271I$ $b = 0.470747 + 0.682507I$	$-3.68792 - 5.17721I$	0
$u = 1.052700 - 0.579893I$ $a = 0.240171 + 0.373271I$ $b = 0.470747 - 0.682507I$	$-3.68792 + 5.17721I$	0
$u = -0.071192 + 0.780803I$ $a = 0.333783 + 0.327684I$ $b = 0.391335 - 1.253760I$	$-4.73333 - 5.13676I$	$-4.79385 + 5.15866I$
$u = -0.071192 - 0.780803I$ $a = 0.333783 - 0.327684I$ $b = 0.391335 + 1.253760I$	$-4.73333 + 5.13676I$	$-4.79385 - 5.15866I$
$u = -1.199700 + 0.267696I$ $a = -0.57353 + 2.82272I$ $b = 0.248725 + 1.041230I$	$-4.66601 + 8.00242I$	0
$u = -1.199700 - 0.267696I$ $a = -0.57353 - 2.82272I$ $b = 0.248725 - 1.041230I$	$-4.66601 - 8.00242I$	0
$u = 1.230640 + 0.151026I$ $a = 0.22441 - 2.56579I$ $b = -0.015718 - 1.171970I$	$-3.86110 - 3.68592I$	0
$u = 1.230640 - 0.151026I$ $a = 0.22441 + 2.56579I$ $b = -0.015718 + 1.171970I$	$-3.86110 + 3.68592I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.079021+0.755009I$ $a=-0.128272+0.963419I$ $b=\ \ 0.465479+0.267566I$	$1.72367-2.29628I$	$3.71613+2.24479I$
$u=-0.079021-0.755009I$ $a=-0.128272-0.963419I$ $b=\ \ 0.465479-0.267566I$	$1.72367+2.29628I$	$3.71613-2.24479I$
$u=\ \ 1.196310+0.362225I$ $a=\ \ 0.55811+1.69107I$ $b=-0.036092+1.244670I$	$-2.45733-2.24802I$	0
$u=\ \ 1.196310-0.362225I$ $a=\ \ 0.55811-1.69107I$ $b=-0.036092-1.244670I$	$-2.45733+2.24802I$	0
$u=\ \ 0.241520+0.705539I$ $a=\ \ 0.561680+0.619181I$ $b=-0.448846+0.907434I$	$-0.10593-2.04444I$	$-0.54024+1.85851I$
$u=\ \ 0.241520-0.705539I$ $a=\ \ 0.561680-0.619181I$ $b=-0.448846-0.907434I$	$-0.10593+2.04444I$	$-0.54024-1.85851I$
$u=\ \ 1.254720+0.193546I$ $a=-1.25537-1.97728I$ $b=\ \ 0.34988-1.39556I$	$-10.28340-7.12902I$	0
$u=\ \ 1.254720-0.193546I$ $a=-1.25537+1.97728I$ $b=\ \ 0.34988+1.39556I$	$-10.28340+7.12902I$	0
$u=-0.132492+0.716499I$ $a=-0.803385-1.144180I$ $b=\ \ 0.776012-0.148345I$	$-1.40662+7.25464I$	$-0.22956-5.72658I$
$u=-0.132492-0.716499I$ $a=-0.803385+1.144180I$ $b=\ \ 0.776012+0.148345I$	$-1.40662-7.25464I$	$-0.22956+5.72658I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.256780 + 0.206876I$ $a = 0.107803 + 0.278625I$ $b = 0.709738 + 0.096912I$	$-2.93694 - 0.72659I$	0
$u = 1.256780 - 0.206876I$ $a = 0.107803 - 0.278625I$ $b = 0.709738 - 0.096912I$	$-2.93694 + 0.72659I$	0
$u = -1.239310 + 0.307173I$ $a = -0.218426 - 0.116452I$ $b = -1.010900 - 0.191078I$	$-1.88883 + 6.12044I$	0
$u = -1.239310 - 0.307173I$ $a = -0.218426 + 0.116452I$ $b = -1.010900 + 0.191078I$	$-1.88883 - 6.12044I$	0
$u = -1.316330 + 0.145004I$ $a = -0.83559 + 1.75114I$ $b = 0.345027 + 1.209400I$	$-6.82739 + 3.05153I$	0
$u = -1.316330 - 0.145004I$ $a = -0.83559 - 1.75114I$ $b = 0.345027 - 1.209400I$	$-6.82739 - 3.05153I$	0
$u = 0.323659 + 1.290170I$ $a = -0.300857 - 0.474785I$ $b = 0.408181 - 1.257460I$	$-4.92720 - 11.64780I$	0
$u = 0.323659 - 1.290170I$ $a = -0.300857 + 0.474785I$ $b = 0.408181 + 1.257460I$	$-4.92720 + 11.64780I$	0
$u = -1.285120 + 0.344331I$ $a = 0.42059 - 1.68169I$ $b = -0.69616 - 1.58229I$	$-8.56762 + 9.22585I$	0
$u = -1.285120 - 0.344331I$ $a = 0.42059 + 1.68169I$ $b = -0.69616 + 1.58229I$	$-8.56762 - 9.22585I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.333260+0.204732I$ $a=-0.268514-0.987311I$ $b=\ \ 0.426156-0.228140I$	$-5.12513-3.72904I$	0
$u=-1.333260-0.204732I$ $a=-0.268514+0.987311I$ $b=\ \ 0.426156+0.228140I$	$-5.12513+3.72904I$	0
$u=-0.373108+0.519453I$ $a=\ \ 0.076492-0.229569I$ $b=-0.439650-1.132350I$	$-1.75401+4.66861I$	$-3.95549-9.85438I$
$u=-0.373108-0.519453I$ $a=\ \ 0.076492+0.229569I$ $b=-0.439650+1.132350I$	$-1.75401-4.66861I$	$-3.95549+9.85438I$
$u=-1.365130+0.048947I$ $a=\ \ 0.21768-1.79307I$ $b=-0.44410-1.71034I$	$-12.00710-3.71517I$	0
$u=-1.365130-0.048947I$ $a=\ \ 0.21768+1.79307I$ $b=-0.44410+1.71034I$	$-12.00710+3.71517I$	0
$u=-0.513263+0.358386I$ $a=-0.104949-0.154317I$ $b=-0.688586+0.010479I$	$1.74565-0.14077I$	$6.71794-0.03002I$
$u=-0.513263-0.358386I$ $a=-0.104949+0.154317I$ $b=-0.688586-0.010479I$	$1.74565+0.14077I$	$6.71794+0.03002I$
$u=-1.353050+0.301704I$ $a=-0.168686+0.322744I$ $b=\ \ 0.878008+0.147788I$	$-7.00043+3.54336I$	0
$u=-1.353050-0.301704I$ $a=-0.168686-0.322744I$ $b=\ \ 0.878008-0.147788I$	$-7.00043-3.54336I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.362100 + 0.305948I$ $a = -0.467165 + 0.154943I$ $b = -1.383160 - 0.037295I$	$-6.17185 - 10.98280I$	0
$u = 1.362100 - 0.305948I$ $a = -0.467165 - 0.154943I$ $b = -1.383160 + 0.037295I$	$-6.17185 + 10.98280I$	0
$u = 1.372990 + 0.265161I$ $a = -1.07478 - 1.31489I$ $b = 0.037344 - 1.207550I$	$-9.43005 + 1.38809I$	0
$u = 1.372990 - 0.265161I$ $a = -1.07478 + 1.31489I$ $b = 0.037344 + 1.207550I$	$-9.43005 - 1.38809I$	0
$u = -1.41181 + 0.13858I$ $a = -0.79558 + 1.22268I$ $b = 0.360823 + 0.845249I$	$-7.40365 + 2.74871I$	0
$u = -1.41181 - 0.13858I$ $a = -0.79558 - 1.22268I$ $b = 0.360823 - 0.845249I$	$-7.40365 - 2.74871I$	0
$u = 0.202494 + 0.537617I$ $a = 0.687900 + 0.642570I$ $b = -0.821642 + 0.600623I$	$0.63479 - 2.64472I$	$3.76538 + 7.23337I$
$u = 0.202494 - 0.537617I$ $a = 0.687900 - 0.642570I$ $b = -0.821642 - 0.600623I$	$0.63479 + 2.64472I$	$3.76538 - 7.23337I$
$u = 0.19928 + 1.41866I$ $a = 0.137053 - 0.471791I$ $b = -0.086645 - 1.246190I$	$-6.97471 + 1.04418I$	0
$u = 0.19928 - 1.41866I$ $a = 0.137053 + 0.471791I$ $b = -0.086645 + 1.246190I$	$-6.97471 - 1.04418I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.41609 + 0.24412I$ $a = -0.24700 - 1.97888I$ $b = 0.53060 - 1.59105I$	$-7.38451 - 7.68123I$	0
$u = 1.41609 - 0.24412I$ $a = -0.24700 + 1.97888I$ $b = 0.53060 + 1.59105I$	$-7.38451 + 7.68123I$	0
$u = -1.41117 + 0.27924I$ $a = -0.33375 + 1.93377I$ $b = 0.541321 + 1.258050I$	$-5.39933 + 5.66695I$	0
$u = -1.41117 - 0.27924I$ $a = -0.33375 - 1.93377I$ $b = 0.541321 - 1.258050I$	$-5.39933 - 5.66695I$	0
$u = -0.43093 + 1.40029I$ $a = -0.148517 + 0.592462I$ $b = 0.216028 + 1.126670I$	$-0.71982 + 5.03191I$	0
$u = -0.43093 - 1.40029I$ $a = -0.148517 - 0.592462I$ $b = 0.216028 - 1.126670I$	$-0.71982 - 5.03191I$	0
$u = 0.278418 + 0.397158I$ $a = 1.85980 - 0.36612I$ $b = 0.220789 + 1.049910I$	$-1.94443 - 1.16051I$	$-8.28120 + 3.09928I$
$u = 0.278418 - 0.397158I$ $a = 1.85980 + 0.36612I$ $b = 0.220789 - 1.049910I$	$-1.94443 + 1.16051I$	$-8.28120 - 3.09928I$
$u = 1.51819 + 0.01038I$ $a = -0.078070 - 1.302700I$ $b = 0.70193 - 1.31950I$	$-9.89843 - 2.36013I$	0
$u = 1.51819 - 0.01038I$ $a = -0.078070 + 1.302700I$ $b = 0.70193 + 1.31950I$	$-9.89843 + 2.36013I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.361562 + 0.290388I$ $a = 2.25359 - 1.31788I$ $b = -0.291328 - 0.828254I$	$-0.94779 + 1.89530I$	$-4.39069 - 2.15362I$
$u = 0.361562 - 0.290388I$ $a = 2.25359 + 1.31788I$ $b = -0.291328 + 0.828254I$	$-0.94779 - 1.89530I$	$-4.39069 + 2.15362I$
$u = 0.179986 + 0.366303I$ $a = 0.06258 + 2.02439I$ $b = -0.028653 - 1.366540I$	$-6.89196 + 4.94443I$	$-7.37178 - 6.12031I$
$u = 0.179986 - 0.366303I$ $a = 0.06258 - 2.02439I$ $b = -0.028653 + 1.366540I$	$-6.89196 - 4.94443I$	$-7.37178 + 6.12031I$
$u = 0.299965 + 0.271463I$ $a = 2.74186 - 0.45958I$ $b = 0.474187 + 0.532452I$	$-1.90117 - 0.90020I$	$-1.84066 + 5.54903I$
$u = 0.299965 - 0.271463I$ $a = 2.74186 + 0.45958I$ $b = 0.474187 - 0.532452I$	$-1.90117 + 0.90020I$	$-1.84066 - 5.54903I$
$u = -1.52376 + 0.47907I$ $a = 0.43599 - 1.49110I$ $b = -0.24746 - 1.54545I$	$-12.75350 + 5.38634I$	0
$u = -1.52376 - 0.47907I$ $a = 0.43599 + 1.49110I$ $b = -0.24746 + 1.54545I$	$-12.75350 - 5.38634I$	0
$u = -1.52091 + 0.50360I$ $a = 0.53545 - 1.59399I$ $b = -0.61700 - 1.45275I$	$-10.7248 + 17.8936I$	0
$u = -1.52091 - 0.50360I$ $a = 0.53545 + 1.59399I$ $b = -0.61700 + 1.45275I$	$-10.7248 - 17.8936I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.53532 + 0.49059I$ $a = 0.45660 + 1.58099I$ $b = -0.46555 + 1.40767I$	$-6.85583 - 11.41460I$	0
$u = 1.53532 - 0.49059I$ $a = 0.45660 - 1.58099I$ $b = -0.46555 - 1.40767I$	$-6.85583 + 11.41460I$	0
$u = 1.50335 + 0.63087I$ $a = -0.73529 - 1.32480I$ $b = 0.45505 - 1.34065I$	$-11.4797 - 8.3874I$	0
$u = 1.50335 - 0.63087I$ $a = -0.73529 + 1.32480I$ $b = 0.45505 + 1.34065I$	$-11.4797 + 8.3874I$	0
$u = -0.334805$ $a = -1.05379$ $b = -0.926511$	1.70882	9.76890
$u = -1.81736 + 0.32532I$ $a = -0.251709 + 1.363850I$ $b = 0.310179 + 1.083130I$	$-5.71088 + 4.56681I$	0
$u = -1.81736 - 0.32532I$ $a = -0.251709 - 1.363850I$ $b = 0.310179 - 1.083130I$	$-5.71088 - 4.56681I$	0
$u = 1.85103 + 1.12986I$ $a = -0.289754 - 0.951959I$ $b = -0.015947 - 1.191150I$	$-8.07483 + 3.02853I$	0
$u = 1.85103 - 1.12986I$ $a = -0.289754 + 0.951959I$ $b = -0.015947 + 1.191150I$	$-8.07483 - 3.02853I$	0

II.

$\boldsymbol{I_2^u = \langle -5.64\times 10^6 u^{22} + 8.54\times 10^6 u^{21} + \cdots + 1.56\times 10^6 b - 7.79\times 10^6,\ -1.76\times 10^8 u^{22} + 2.90\times 10^8 u^{21} + \cdots + 4.52\times 10^7 a - 2.69\times 10^8,\ u^{23} - u^{22} + \cdots + 3u + 1\rangle}$

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 3.88730u^{22} - 6.40392u^{21} + \cdots + 6.10173u + 5.94307 \\ 3.61458u^{22} - 5.48035u^{21} + \cdots + 6.55939u + 4.99337 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -9.75063u^{22} + 15.9703u^{21} + \cdots - 20.3818u - 14.5067 \\ -5.15419u^{22} + 7.69996u^{21} + \cdots - 9.04251u - 8.53914 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.860108u^{22} - 2.17125u^{21} + \cdots + 1.32111u + 2.99146 \\ 1.96857u^{22} - 3.44559u^{21} + \cdots + 7.17413u + 4.61190 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 2.25457u^{22} - 2.73544u^{21} + \cdots + 9.65028u + 5.80119 \\ -0.221818u^{22} - 0.598982u^{21} + \cdots + 3.63548u - 0.384714 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.272726u^{22} - 0.923569u^{21} + \cdots - 0.457661u + 0.949695 \\ 3.61458u^{22} - 5.48035u^{21} + \cdots + 6.55939u + 4.99337 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3.84287u^{22} - 5.87490u^{21} + \cdots + 12.0397u + 7.26475 \\ 3.67394u^{22} - 5.98395u^{21} + \cdots + 7.82178u + 4.59644 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -5.52198u^{22} + 9.35888u^{21} + \cdots - 11.4172u - 7.83340 \\ -8.16975u^{22} + 12.4932u^{21} + \cdots - 15.0873u - 12.8296 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -5.52198u^{22} + 9.35888u^{21} + \cdots - 11.4172u - 7.83340 \\ -8.16975u^{22} + 12.4932u^{21} + \cdots - 15.0873u - 12.8296 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{1300268560}{45215959}u^{22} - \frac{1926516261}{45215959}u^{21} + \cdots + \frac{2563124848}{45215959}u + \frac{1734379105}{45215959}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{23} - u^{22} + \cdots + 4u + 1$
c_2	$u^{23} - u^{22} + \cdots + 3u + 1$
c_3	$u^{23} + 4u^{22} + \cdots - 5u - 1$
c_4	$u^{23} - 5u^{21} + \cdots - 3u - 1$
c_5	$u^{23} + u^{22} + \cdots + 4u - 1$
c_6	$u^{23} - u^{22} + \cdots + 10u^2 - 1$
c_7	$u^{23} + 7u^{22} + \cdots - 16u - 1$
c_8	$u^{23} + u^{22} + \cdots + 3u - 1$
c_9	$u^{23} - 4u^{21} + \cdots - 11u - 1$
c_{10}	$u^{23} + u^{22} + \cdots - 10u^2 + 1$
c_{11}	$u^{23} + 3u^{22} + \cdots + 4u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{23} + 7y^{22} + \cdots - 20y - 1$
c_2, c_8	$y^{23} - 21y^{22} + \cdots + 13y - 1$
c_3	$y^{23} - 10y^{22} + \cdots + 25y - 1$
c_4	$y^{23} - 10y^{22} + \cdots + 9y - 1$
c_6, c_{10}	$y^{23} - 19y^{22} + \cdots + 20y - 1$
c_7	$y^{23} - 3y^{22} + \cdots + 110y - 1$
c_9	$y^{23} - 8y^{22} + \cdots + 113y - 1$
c_{11}	$y^{23} - 15y^{22} + \cdots - 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.630651 + 0.854297I$ $a = -0.094529 + 0.709026I$ $b = -0.184912 + 0.808421I$	$0.05303 - 3.91099I$	$-2.75122 + 4.60695I$
$u = 0.630651 - 0.854297I$ $a = -0.094529 - 0.709026I$ $b = -0.184912 - 0.808421I$	$0.05303 + 3.91099I$	$-2.75122 - 4.60695I$
$u = 1.003000 + 0.396548I$ $a = 0.493252 - 0.717433I$ $b = -0.055302 + 0.558834I$	$-1.59422 - 4.11932I$	$-0.560459 + 0.340619I$
$u = 1.003000 - 0.396548I$ $a = 0.493252 + 0.717433I$ $b = -0.055302 - 0.558834I$	$-1.59422 + 4.11932I$	$-0.560459 - 0.340619I$
$u = -0.842995 + 0.305076I$ $a = -1.31881 + 1.05272I$ $b = -0.204156 - 0.489118I$	$-3.47368 + 6.95172I$	$-5.25578 - 7.32648I$
$u = -0.842995 - 0.305076I$ $a = -1.31881 - 1.05272I$ $b = -0.204156 + 0.489118I$	$-3.47368 - 6.95172I$	$-5.25578 + 7.32648I$
$u = -1.16613$ $a = 1.39051$ $b = 2.35416$	-3.87496	-137.350
$u = 0.554636 + 0.585064I$ $a = 1.374680 - 0.277665I$ $b = -0.268705 + 0.748468I$	$-0.368655 + 0.196161I$	$1.78721 - 0.45381I$
$u = 0.554636 - 0.585064I$ $a = 1.374680 + 0.277665I$ $b = -0.268705 - 0.748468I$	$-0.368655 - 0.196161I$	$1.78721 + 0.45381I$
$u = 1.21136$ $a = 1.14701$ $b = 1.44986$	-0.859220	7.75880

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.707756$ $a = 0.0211065$ $b = -0.941139$	1.15241	-6.22780
$u = 1.272540 + 0.316944I$ $a = -0.83909 - 1.88056I$ $b = 0.39854 - 1.49967I$	$-9.18524 - 7.46529I$	$-7.34374 + 6.20076I$
$u = 1.272540 - 0.316944I$ $a = -0.83909 + 1.88056I$ $b = 0.39854 + 1.49967I$	$-9.18524 + 7.46529I$	$-7.34374 - 6.20076I$
$u = -1.373110 + 0.241369I$ $a = -0.27133 + 2.14871I$ $b = 0.478693 + 1.276680I$	$-5.69972 + 6.16283I$	$-9.71862 - 9.80694I$
$u = -1.373110 - 0.241369I$ $a = -0.27133 - 2.14871I$ $b = 0.478693 - 1.276680I$	$-5.69972 - 6.16283I$	$-9.71862 + 9.80694I$
$u = -0.596714 + 0.039370I$ $a = -2.22860 + 1.10257I$ $b = -0.837704 + 0.699468I$	$-2.16702 + 0.60681I$	$-20.7625 + 8.3028I$
$u = -0.596714 - 0.039370I$ $a = -2.22860 - 1.10257I$ $b = -0.837704 - 0.699468I$	$-2.16702 - 0.60681I$	$-20.7625 - 8.3028I$
$u = -0.261386 + 0.292165I$ $a = 2.27340 + 0.35361I$ $b = -0.520197 + 0.952893I$	$-1.40097 - 3.70332I$	$-0.97303 + 2.30575I$
$u = -0.261386 - 0.292165I$ $a = 2.27340 - 0.35361I$ $b = -0.520197 - 0.952893I$	$-1.40097 + 3.70332I$	$-0.97303 - 2.30575I$
$u = 1.41940 + 0.87852I$ $a = -0.411048 - 0.844626I$ $b = 0.023112 - 1.217960I$	$-7.75684 + 2.66139I$	$-6.39622 + 1.22040I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.41940 - 0.87852I$ $a = -0.411048 + 0.844626I$ $b = 0.023112 + 1.217960I$	$-7.75684 - 2.66139I$	$-6.39622 - 1.22040I$
$u = -1.68251 + 0.14469I$ $a = -0.25724 - 1.49784I$ $b = 0.239188 - 0.899605I$	$-6.09421 - 3.92079I$	$-12.11646 + 2.85312I$
$u = -1.68251 - 0.14469I$ $a = -0.25724 + 1.49784I$ $b = 0.239188 + 0.899605I$	$-6.09421 + 3.92079I$	$-12.11646 - 2.85312I$

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

(i) Arc colorings

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

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u^4 - u^2 + 1 \\ u^5 + u^2 - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^5 - 2u^3 + u - 1 \\ -u^5 + u^3 - u^2 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^5 - 2u^3 + u \\ -u^5 + u^3 + u \end{pmatrix}$$

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

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5	$y^6 - y^5 - 4y^4 - 2y^3 + 1$
c_2, c_8, c_{11}	$y^6 - y^5 - 2y^3 + 1$
c_4	$y^6 - 9y^5 + 12y^4 - 2y^3 - 8y^2 + 1$
c_6, c_{10}	$(y-1)^6$
c_7, c_9	$y^6 - 6y^5 + 17y^4 - 38y^3 + 58y^2 - 28y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.671369+0.784851I$ $a=\ \ 1.00000$ $b=-0.165255-1.053850I$	-1.64493	-6.00000
$u=-0.671369-0.784851I$ $a=\ \ 1.00000$ $b=-0.165255+1.053850I$	-1.64493	-6.00000
$u=\ \ 0.373333+0.829645I$ $a=\ \ 1.00000$ $b=-0.548933+0.619467I$	-1.64493	-6.00000
$u=\ \ 0.373333-0.829645I$ $a=\ \ 1.00000$ $b=-0.548933-0.619467I$	-1.64493	-6.00000
$u=\ \ 0.881271$ $a=\ \ 1.00000$ $b=\ \ 0.776639$	-1.64493	-6.00000
$u=-1.28520$ $a=\ \ 1.00000$ $b=\ \ 1.65174$	-1.64493	-6.00000

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

(i) Arc colorings

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

(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_8, c_{10}, c_{11}	$u+1$
c_7, c_9	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_8, c_{10}, c_{11}	$y-1$
c_7, c_9	y

(vi) Complex Volumes and Cusp Shapes

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

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u+1)(u^6+u^5+2u^3+1)(u^{23}-u^{22}+\cdots+4u+1)$ $\cdot(u^{89}-2u^{88}+\cdots+90320u+7513)$
c_2	$(u+1)(u^6-u^5-1)(u^{23}-u^{22}+\cdots+3u+1)$ $\cdot(u^{89}-2u^{88}+\cdots-1333u-647)$
c_3	$(u+1)(u^6+u^5+2u^3+1)(u^{23}+4u^{22}+\cdots-5u-1)$ $\cdot(u^{89}-11u^{88}+\cdots+527u-23)$
c_4	$(u+1)(u^6+u^5-4u^4+2u^3+1)(u^{23}-5u^{21}+\cdots-3u-1)$ $\cdot(u^{89}-5u^{88}+\cdots+635519u+52123)$
c_5	$(u+1)(u^6+u^5+2u^3+1)(u^{23}+u^{22}+\cdots+4u-1)$ $\cdot(u^{89}-2u^{88}+\cdots+90320u+7513)$
c_6	$((u+1)^7)(u^{23}-u^{22}+\cdots+10u^2-1)(u^{89}-5u^{88}+\cdots-2896u+424)$
c_7	$u(u^6-3u^4+\cdots+6u+1)(u^{23}+7u^{22}+\cdots-16u-1)$ $\cdot(u^{89}-6u^{88}+\cdots+521820u+24583)$
c_8	$(u+1)(u^6-u^5-1)(u^{23}+u^{22}+\cdots+3u-1)$ $\cdot(u^{89}-2u^{88}+\cdots-1333u-647)$
c_9	$u(u^6-3u^4+\cdots+6u+1)(u^{23}-4u^{21}+\cdots-11u-1)$ $\cdot(u^{89}+u^{88}+\cdots-19u-1)$
c_{10}	$((u+1)^7)(u^{23}+u^{22}+\cdots-10u^2+1)(u^{89}-5u^{88}+\cdots-2896u+424)$
c_{11}	$(u+1)(u^6-u^5-1)(u^{23}+3u^{22}+\cdots+4u^2+1)$ $\cdot(u^{89}+14u^{88}+\cdots-5718u-557)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y-1)(y^6-y^5-4y^4-2y^3+1)(y^{23}+7y^{22}+\cdots-20y-1)$ $\cdot(y^{89}+64y^{88}+\cdots-300613312y-56445169)$
c_2, c_8	$(y-1)(y^6-y^5-2y^3+1)(y^{23}-21y^{22}+\cdots+13y-1)$ $\cdot(y^{89}-80y^{88}+\cdots+3896461y-418609)$
c_3	$(y-1)(y^6-y^5-4y^4-2y^3+1)(y^{23}-10y^{22}+\cdots+25y-1)$ $\cdot(y^{89}-21y^{88}+\cdots+57481y-529)$
c_4	$(y-1)(y^6-9y^5+\cdots-8y^2+1)(y^{23}-10y^{22}+\cdots+9y-1)$ $\cdot(y^{89}+31y^{88}+\cdots-29419728923y-2716807129)$
c_6, c_{10}	$((y-1)^7)(y^{23}-19y^{22}+\cdots+20y-1)$ $\cdot(y^{89}-61y^{88}+\cdots+3809312y-179776)$
c_7	$y(y^6-6y^5+17y^4-38y^3+58y^2-28y+1)$ $\cdot(y^{23}-3y^{22}+\cdots+110y-1)$ $\cdot(y^{89}-42y^{88}+\cdots+387303203794y-604323889)$
c_9	$y(y^6-6y^5+17y^4-38y^3+58y^2-28y+1)$ $\cdot(y^{23}-8y^{22}+\cdots+113y-1)(y^{89}+y^{88}+\cdots+201y-1)$
c_{11}	$(y-1)(y^6-y^5-2y^3+1)(y^{23}-15y^{22}+\cdots-8y-1)$ $\cdot(y^{89}+6y^{88}+\cdots-11245092y-310249)$