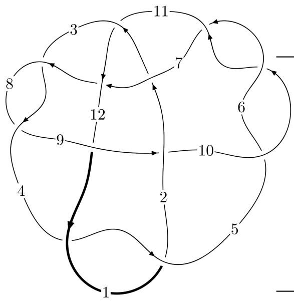
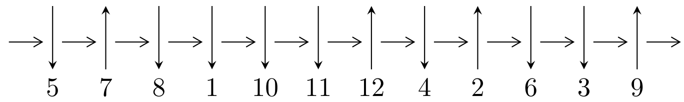
$12a_{1255}$ $(K12a_{1255})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 2.19271 \times 10^{265} u^{102} + 5.65299 \times 10^{265} u^{101} + \cdots + 3.59709 \times 10^{264} b - 5.56869 \times 10^{266}, \\
& 3.41923 \times 10^{266} u^{102} + 8.30043 \times 10^{266} u^{101} + \cdots + 7.91361 \times 10^{265} a - 4.72551 \times 10^{267}, \\
& u^{103} + 3u^{102} + \cdots - 30u - 11 \rangle \\
I_2^u = \langle & u^{13} + 2u^{12} - 8u^{11} - 14u^{10} + 25u^9 + 35u^8 - 31u^7 - 32u^6 - u^5 - 3u^4 + 24u^3 + 18u^2 + b - 3u - 2, \\
& -6u^{13} - 9u^{12} + \cdots + a + 17, \\
& u^{14} + u^{13} - 9u^{12} - 7u^{11} + 30u^{10} + 18u^9 - 41u^8 - 19u^7 + 10u^6 + 3u^5 + 21u^4 + 7u^3 - 10u^2 - u + 1 \rangle \\
I_3^u = \langle & b + 1,\ a^2 + a - 1,\ u - 1 \rangle \\
I_4^u = \langle & b,\ a + 1,\ u - 1 \rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 120 representations.

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[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. $I^u_1 = \langle 2.19 \times 10^{265} u^{102} + 5.65 \times 10^{265} u^{101} + \cdots + 3.60 \times 10^{264} b - 5.57 \times 10^{266},\ 3.42 \times 10^{266} u^{102} + 8.30 \times 10^{266} u^{101} + \cdots + 7.91 \times 10^{265} a - 4.73 \times 10^{267},\ u^{103} + 3u^{102} + \cdots - 30u - 11 \rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -4.32069u^{102} - 10.4888u^{101} + \cdots + 179.840u + 59.7137 \\ -6.09577u^{102} - 15.7154u^{101} + \cdots + 63.8206u + 154.811 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -6.71410u^{102} - 16.7635u^{101} + \cdots + 184.719u + 127.421 \\ -6.80402u^{102} - 17.5816u^{101} + \cdots + 64.6779u + 175.953 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -10.4165u^{102} - 26.2042u^{101} + \cdots + 243.661u + 214.524 \\ -6.09577u^{102} - 15.7154u^{101} + \cdots + 63.8206u + 154.811 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -9.75655u^{102} - 25.0868u^{101} + \cdots + 64.3501u + 243.568 \\ 0.623874u^{102} + 1.58451u^{101} + \cdots - 20.0995u - 19.7696 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -4.30255u^{102} - 11.7953u^{101} + \cdots - 115.645u + 167.369 \\ 4.46999u^{102} + 11.4379u^{101} + \cdots - 48.0748u - 114.185 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -14.1641u^{102} - 36.5893u^{101} + \cdots + 32.7208u + 379.312 \\ -0.623051u^{102} - 1.57175u^{101} + \cdots + 2.42488u + 11.4572 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 3.73375u^{102} + 9.15179u^{101} + \cdots - 141.830u - 66.2722 \\ 1.12589u^{102} + 2.84348u^{101} + \cdots - 12.2490u - 30.2912 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 8.97892u^{102} + 21.2749u^{101} + \cdots - 439.789u - 159.114$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{103} + 5u^{102} + \cdots - 140u - 5$
c_2	$u^{103} - 6u^{102} + \cdots - 2684u - 1763$
c_3, c_8	$u^{103} - 3u^{102} + \cdots - 340u + 41$
c_5, c_6, c_{10}	$u^{103} - 3u^{102} + \cdots - 30u + 11$
c_7	$u^{103} - 6u^{102} + \cdots - 120u - 20$
c_9	$u^{103} - 4u^{102} + \cdots - 558937u - 115993$
c_{11}	$u^{103} + 4u^{102} + \cdots - 37150u - 3953$
c_{12}	$u^{103} + 3u^{102} + \cdots - 3395u + 319$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{103} - 117y^{102} + \cdots + 2440y - 25$
c_2	$y^{103} - 20y^{102} + \cdots - 30171744y - 3108169$
c_3, c_8	$y^{103} - 89y^{102} + \cdots + 19496y - 1681$
c_5, c_6, c_{10}	$y^{103} - 115y^{102} + \cdots + 10294y - 121$
c_7	$y^{103} - 18y^{102} + \cdots + 14360y - 400$
c_9	$y^{103} + 42y^{102} + \cdots - 65353344557y - 13454376049$
c_{11}	$y^{103} - 48y^{102} + \cdots + 1279676770y - 15626209$
c_{12}	$y^{103} + 21y^{102} + \cdots + 6596199y - 101761$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.02714$ $a=-0.871216$ $b=\ \ 1.12945$	-2.83707	0
$u=-0.712753+0.660374I$ $a=\ \ 0.12981-1.48426I$ $b=-1.243000+0.352054I$	$-1.53336+8.26614I$	0
$u=-0.712753-0.660374I$ $a=\ \ 0.12981+1.48426I$ $b=-1.243000-0.352054I$	$-1.53336-8.26614I$	0
$u=\ \ 0.571147+0.776168I$ $a=\ \ 0.698957-0.445070I$ $b=\ \ 0.043595+0.727181I$	$-2.06014+3.60547I$	0
$u=\ \ 0.571147-0.776168I$ $a=\ \ 0.698957+0.445070I$ $b=\ \ 0.043595-0.727181I$	$-2.06014-3.60547I$	0
$u=\ \ 0.922298+0.546376I$ $a=\ \ 0.492087+0.603509I$ $b=-1.352480+0.129722I$	$-6.42162+1.25693I$	0
$u=\ \ 0.922298-0.546376I$ $a=\ \ 0.492087-0.603509I$ $b=-1.352480-0.129722I$	$-6.42162-1.25693I$	0
$u=\ \ 0.696204+0.862353I$ $a=\ \ 0.393640+0.810036I$ $b=-1.202830-0.163141I$	$-3.80047-3.13987I$	0
$u=\ \ 0.696204-0.862353I$ $a=\ \ 0.393640-0.810036I$ $b=-1.202830+0.163141I$	$-3.80047+3.13987I$	0
$u=\ \ 0.519592+0.712577I$ $a=-0.036788+1.108860I$ $b=-0.297248-1.015470I$	$-1.98401-8.53931I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.519592 - 0.712577I$ $a = -0.036788 - 1.108860I$ $b = -0.297248 + 1.015470I$	$-1.98401 + 8.53931I$	0
$u = -0.263680 + 0.825383I$ $a = 0.826687 + 0.113153I$ $b = -1.100060 - 0.204003I$	$-0.18116 - 3.40409I$	0
$u = -0.263680 - 0.825383I$ $a = 0.826687 - 0.113153I$ $b = -1.100060 + 0.204003I$	$-0.18116 + 3.40409I$	0
$u = 0.864517 + 0.038493I$ $a = -0.737989 - 0.406950I$ $b = -1.44132 - 0.20978I$	$-6.85390 - 0.24458I$	0
$u = 0.864517 - 0.038493I$ $a = -0.737989 + 0.406950I$ $b = -1.44132 + 0.20978I$	$-6.85390 + 0.24458I$	0
$u = 0.777485 + 0.829059I$ $a = -0.197802 - 1.189670I$ $b = 1.42684 + 0.40686I$	$-7.3811 - 13.5504I$	0
$u = 0.777485 - 0.829059I$ $a = -0.197802 + 1.189670I$ $b = 1.42684 - 0.40686I$	$-7.3811 + 13.5504I$	0
$u = 0.833384$ $a = 2.76816$ $b = 1.04792$	-3.08922	0
$u = -0.780557 + 0.878110I$ $a = -0.287845 + 0.849782I$ $b = 1.36372 - 0.41744I$	$-8.07615 + 4.22446I$	0
$u = -0.780557 - 0.878110I$ $a = -0.287845 - 0.849782I$ $b = 1.36372 + 0.41744I$	$-8.07615 - 4.22446I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.629722 + 0.992893I$ $a = -0.637158 + 0.631730I$ $b = 1.283490 + 0.135693I$	$-7.56113 + 2.31048I$	0
$u = -0.629722 - 0.992893I$ $a = -0.637158 - 0.631730I$ $b = 1.283490 - 0.135693I$	$-7.56113 - 2.31048I$	0
$u = 0.300171 + 0.742213I$ $a = 1.20411 + 1.29920I$ $b = -1.366820 - 0.263059I$	$-4.56735 - 5.86087I$	0
$u = 0.300171 - 0.742213I$ $a = 1.20411 - 1.29920I$ $b = -1.366820 + 0.263059I$	$-4.56735 + 5.86087I$	0
$u = -0.524235 + 0.540945I$ $a = 0.320803 + 1.183620I$ $b = -0.017847 - 0.806346I$	$2.26250 + 4.10162I$	0
$u = -0.524235 - 0.540945I$ $a = 0.320803 - 1.183620I$ $b = -0.017847 + 0.806346I$	$2.26250 - 4.10162I$	0
$u = 0.336627 + 1.200440I$ $a = -0.602563 + 0.003656I$ $b = 1.278080 - 0.281645I$	$-5.92485 + 7.20612I$	0
$u = 0.336627 - 1.200440I$ $a = -0.602563 - 0.003656I$ $b = 1.278080 + 0.281645I$	$-5.92485 - 7.20612I$	0
$u = 0.739866 + 0.039993I$ $a = -1.076040 - 0.142388I$ $b = 0.274494 - 0.030365I$	$-1.57618 - 0.01678I$	0
$u = 0.739866 - 0.039993I$ $a = -1.076040 + 0.142388I$ $b = 0.274494 + 0.030365I$	$-1.57618 + 0.01678I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.28218$ $a = \ \ 1.40464$ $b = \ \ 0.567004$	-0.874990	0
$u = -0.471069 + 0.500551I$ $a = \ \ 1.149870 - 0.535713I$ $b = \ \ 0.026305 - 0.383365I$	$-3.64799 + 4.14125I$	0
$u = -0.471069 - 0.500551I$ $a = \ \ 1.149870 + 0.535713I$ $b = \ \ 0.026305 + 0.383365I$	$-3.64799 - 4.14125I$	0
$u = -0.406822 + 0.472358I$ $a = -0.96001 - 1.19832I$ $b = -0.145627 + 0.523403I$	$2.54202 - 0.51306I$	$2.93361 + 0.I$
$u = -0.406822 - 0.472358I$ $a = -0.96001 + 1.19832I$ $b = -0.145627 - 0.523403I$	$2.54202 + 0.51306I$	$2.93361 + 0.I$
$u = -1.385410 + 0.083851I$ $a = \ \ 0.148969 + 0.538490I$ $b = \ \ 1.24248 - 0.95308I$	$-6.64538 + 1.45297I$	0
$u = -1.385410 - 0.083851I$ $a = \ \ 0.148969 - 0.538490I$ $b = \ \ 1.24248 + 0.95308I$	$-6.64538 - 1.45297I$	0
$u = -0.588249 + 0.165010I$ $a = \ \ 0.05567 - 2.04220I$ $b = -1.42982 + 0.41387I$	$-8.42839 + 6.91659I$	$-13.4220 - 5.9562I$
$u = -0.588249 - 0.165010I$ $a = \ \ 0.05567 + 2.04220I$ $b = -1.42982 - 0.41387I$	$-8.42839 - 6.91659I$	$-13.4220 + 5.9562I$
$u = -1.387920 + 0.108419I$ $a = \ \ 0.349460 + 0.849831I$ $b = \ \ 0.321495 - 0.915324I$	$-4.66943 + 4.64864I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.387920 - 0.108419I$ $a = 0.349460 - 0.849831I$ $b = 0.321495 + 0.915324I$	$-4.66943 - 4.64864I$	0
$u = 1.413230 + 0.025821I$ $a = -0.491532 + 0.637305I$ $b = -0.164523 - 0.509689I$	$-3.02206 - 0.88769I$	0
$u = 1.413230 - 0.025821I$ $a = -0.491532 - 0.637305I$ $b = -0.164523 + 0.509689I$	$-3.02206 + 0.88769I$	0
$u = 0.202404 + 0.517459I$ $a = -0.45415 - 1.77758I$ $b = 0.185959 + 0.653658I$	$0.35181 - 2.51428I$	$-0.26813 + 6.54682I$
$u = 0.202404 - 0.517459I$ $a = -0.45415 + 1.77758I$ $b = 0.185959 - 0.653658I$	$0.35181 + 2.51428I$	$-0.26813 - 6.54682I$
$u = 0.524734 + 0.179457I$ $a = -0.34303 - 3.63364I$ $b = 1.095430 + 0.095403I$	$-2.66135 - 0.55125I$	$-11.0570 - 24.4501I$
$u = 0.524734 - 0.179457I$ $a = -0.34303 + 3.63364I$ $b = 1.095430 - 0.095403I$	$-2.66135 + 0.55125I$	$-11.0570 + 24.4501I$
$u = -0.378270 + 0.402322I$ $a = -0.18660 + 2.77093I$ $b = 1.250900 - 0.146970I$	$-1.55030 + 1.74305I$	$-1.47413 - 7.39084I$
$u = -0.378270 - 0.402322I$ $a = -0.18660 - 2.77093I$ $b = 1.250900 + 0.146970I$	$-1.55030 - 1.74305I$	$-1.47413 + 7.39084I$
$u = 1.47222$ $a = 0.396859$ $b = 2.75375$	-8.32712	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.47249 + 0.01020I$ $a = 0.358466 + 0.126650I$ $b = 2.66884 - 0.76302I$	$-8.32828 - 0.00094I$	0
$u = 1.47249 - 0.01020I$ $a = 0.358466 - 0.126650I$ $b = 2.66884 + 0.76302I$	$-8.32828 + 0.00094I$	0
$u = -1.46126 + 0.20951I$ $a = -0.46855 - 1.36304I$ $b = -1.44279 + 0.35405I$	$-10.27290 + 9.16958I$	0
$u = -1.46126 - 0.20951I$ $a = -0.46855 + 1.36304I$ $b = -1.44279 - 0.35405I$	$-10.27290 - 9.16958I$	0
$u = 0.324874 + 0.404930I$ $a = -0.696250 - 0.864255I$ $b = 0.059592 + 0.327808I$	$-0.327590 - 1.145130I$	$-4.44806 + 5.32602I$
$u = 0.324874 - 0.404930I$ $a = -0.696250 + 0.864255I$ $b = 0.059592 - 0.327808I$	$-0.327590 + 1.145130I$	$-4.44806 - 5.32602I$
$u = -1.47822 + 0.11344I$ $a = -0.090198 + 0.729338I$ $b = 0.124953 - 0.868255I$	$-6.30597 + 2.96568I$	0
$u = -1.47822 - 0.11344I$ $a = -0.090198 - 0.729338I$ $b = 0.124953 + 0.868255I$	$-6.30597 - 2.96568I$	0
$u = -0.257883 + 0.431811I$ $a = 0.322742 - 0.847082I$ $b = -0.190119 + 1.297650I$	$-3.19960 - 1.12337I$	$-10.6824 - 10.5618I$
$u = -0.257883 - 0.431811I$ $a = 0.322742 + 0.847082I$ $b = -0.190119 - 1.297650I$	$-3.19960 + 1.12337I$	$-10.6824 + 10.5618I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.49764$ $a = -0.874802$ $b = -2.05907$	-10.4823	0
$u = 1.50436 + 0.11483I$ $a = 1.04288 - 1.31009I$ $b = 1.360600 + 0.207898I$	$-7.87558 - 3.55965I$	0
$u = 1.50436 - 0.11483I$ $a = 1.04288 + 1.31009I$ $b = 1.360600 - 0.207898I$	$-7.87558 + 3.55965I$	0
$u = 1.52443 + 0.16772I$ $a = 0.374823 + 0.893625I$ $b = -0.0391754 - 0.0967406I$	$-10.28230 - 6.62865I$	0
$u = 1.52443 - 0.16772I$ $a = 0.374823 - 0.893625I$ $b = -0.0391754 + 0.0967406I$	$-10.28230 + 6.62865I$	0
$u = 1.53416 + 0.00571I$ $a = -1.08498 - 1.19461I$ $b = -1.330510 + 0.027870I$	$-14.5673 - 6.1962I$	0
$u = 1.53416 - 0.00571I$ $a = -1.08498 + 1.19461I$ $b = -1.330510 - 0.027870I$	$-14.5673 + 6.1962I$	0
$u = -1.52421 + 0.22221I$ $a = -0.333823 - 0.630700I$ $b = -0.579117 + 1.196210I$	$-8.6740 + 11.9101I$	0
$u = -1.52421 - 0.22221I$ $a = -0.333823 + 0.630700I$ $b = -0.579117 - 1.196210I$	$-8.6740 - 11.9101I$	0
$u = 1.53334 + 0.16126I$ $a = 0.282129 - 0.634196I$ $b = 0.134070 + 0.995707I$	$-4.57553 - 6.63598I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.53334 - 0.16126I$ $a = 0.282129 + 0.634196I$ $b = 0.134070 - 0.995707I$	$-4.57553 + 6.63598I$	0
$u = -1.54554 + 0.03526I$ $a = 0.52814 + 1.42258I$ $b = 1.212190 - 0.310410I$	$-9.71175 + 1.24822I$	0
$u = -1.54554 - 0.03526I$ $a = 0.52814 - 1.42258I$ $b = 1.212190 + 0.310410I$	$-9.71175 - 1.24822I$	0
$u = 1.56057 + 0.05597I$ $a = -0.579035 + 0.883979I$ $b = -1.60931 - 0.51198I$	$-15.7506 - 7.7744I$	0
$u = 1.56057 - 0.05597I$ $a = -0.579035 - 0.883979I$ $b = -1.60931 + 0.51198I$	$-15.7506 + 7.7744I$	0
$u = -0.432528 + 0.029442I$ $a = -1.52258 - 3.52704I$ $b = -1.298650 - 0.172110I$	$-7.78808 - 6.20487I$	$-13.9822 + 5.6630I$
$u = -0.432528 - 0.029442I$ $a = -1.52258 + 3.52704I$ $b = -1.298650 + 0.172110I$	$-7.78808 + 6.20487I$	$-13.9822 - 5.6630I$
$u = 1.54984 + 0.33274I$ $a = -0.243993 + 0.508809I$ $b = -1.134800 - 0.184103I$	$-5.73052 - 1.37854I$	0
$u = 1.54984 - 0.33274I$ $a = -0.243993 - 0.508809I$ $b = -1.134800 + 0.184103I$	$-5.73052 + 1.37854I$	0
$u = -1.60792 + 0.04446I$ $a = -0.715503 - 0.664078I$ $b = -1.386150 + 0.038694I$	$-15.3821 + 0.1306I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.60792 - 0.04446I$ $a = -0.715503 + 0.664078I$ $b = -1.386150 - 0.038694I$	$-15.3821 - 0.1306I$	0
$u = -1.59236 + 0.26987I$ $a = -0.386964 - 0.928357I$ $b = -1.39050 + 0.32925I$	$-11.28290 + 7.25392I$	0
$u = -1.59236 - 0.26987I$ $a = -0.386964 + 0.928357I$ $b = -1.39050 - 0.32925I$	$-11.28290 - 7.25392I$	0
$u = 1.60706 + 0.20908I$ $a = -0.621581 + 1.155290I$ $b = -1.36323 - 0.40356I$	$-9.2872 - 11.5369I$	0
$u = 1.60706 - 0.20908I$ $a = -0.621581 - 1.155290I$ $b = -1.36323 + 0.40356I$	$-9.2872 + 11.5369I$	0
$u = -1.62705$ $a = -0.818615$ $b = 0.496694$	-9.75984	0
$u = -0.371286 + 0.021894I$ $a = 0.526117 + 0.437761I$ $b = 1.338920 - 0.088809I$	$-2.18166 + 0.01143I$	$-10.62209 + 3.29150I$
$u = -0.371286 - 0.021894I$ $a = 0.526117 - 0.437761I$ $b = 1.338920 + 0.088809I$	$-2.18166 - 0.01143I$	$-10.62209 - 3.29150I$
$u = 1.62612 + 0.25559I$ $a = 0.518267 - 0.841793I$ $b = 1.61663 + 0.47724I$	$-16.0242 - 8.3524I$	0
$u = 1.62612 - 0.25559I$ $a = 0.518267 + 0.841793I$ $b = 1.61663 - 0.47724I$	$-16.0242 + 8.3524I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.61871 + 0.32164I$ $a = 0.227540 - 0.957922I$ $b = 1.356680 + 0.038936I$	$-14.9433 - 7.1365I$	0
$u = 1.61871 - 0.32164I$ $a = 0.227540 + 0.957922I$ $b = 1.356680 - 0.038936I$	$-14.9433 + 7.1365I$	0
$u = -1.63081 + 0.26666I$ $a = 0.573248 + 1.045090I$ $b = 1.55881 - 0.43597I$	$-15.3224 + 17.6791I$	0
$u = -1.63081 - 0.26666I$ $a = 0.573248 - 1.045090I$ $b = 1.55881 + 0.43597I$	$-15.3224 - 17.6791I$	0
$u = -1.65863 + 0.11860I$ $a = 0.034513 - 0.340879I$ $b = 0.207696 + 0.018879I$	$-10.04670 + 0.23980I$	0
$u = -1.65863 - 0.11860I$ $a = 0.034513 + 0.340879I$ $b = 0.207696 - 0.018879I$	$-10.04670 - 0.23980I$	0
$u = -1.68743$ $a = -0.792765$ $b = -1.44820$	-16.0198	0
$u = 0.258505$ $a = -2.15575$ $b = -1.92945$	-4.36674	7.82600
$u = -0.258232$ $a = -5.52541$ $b = 0.0746109$	2.71902	22.6240
$u = 0.192817 + 0.141272I$ $a = -3.14244 - 0.71357I$ $b = 1.005980 + 0.329602I$	$-1.79614 - 0.74156I$	$-0.145145 + 1.121615I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.192817 - 0.141272I$ $a = -3.14244 + 0.71357I$ $b = 1.005980 - 0.329602I$	$-1.79614 + 0.74156I$	$-0.145145 - 1.121615I$
$u = -1.91993 + 0.23729I$ $a = 0.482015 + 0.321775I$ $b = 1.271850 + 0.009500I$	$-13.53340 + 0.19028I$	0
$u = -1.91993 - 0.23729I$ $a = 0.482015 - 0.321775I$ $b = 1.271850 - 0.009500I$	$-13.53340 - 0.19028I$	0

II.
$\boldsymbol{I_2^u = \langle u^{13}+2u^{12}+\cdots+b-2,\ -6u^{13}-9u^{12}+\cdots+a+17,\ u^{14}+u^{13}+\cdots-u+1\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}6u^{13}+9u^{12}+\cdots-14u-17\\-u^{13}-2u^{12}+\cdots+3u+2\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}4u^{13}+5u^{12}+\cdots-9u-11\\-2u^{13}-3u^{12}+\cdots+6u+4\end{pmatrix}$$
$$a_1 = \begin{pmatrix}5u^{13}+7u^{12}+\cdots-11u-15\\-u^{13}-2u^{12}+\cdots+3u+2\end{pmatrix}$$
$$a_4 = \begin{pmatrix}7u^{13}+6u^{12}+\cdots-20u-11\\-4u^{12}+34u^{10}+\cdots+4u+7\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-2u^{13}-4u^{12}+\cdots+3u+12\\3u^{13}+4u^{12}+\cdots-11u-7\end{pmatrix}$$
$$a_8 = \begin{pmatrix}2u^{12}-u^{11}+\cdots-10u+1\\-2u^{13}+17u^{11}+\cdots+4u+2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}3u^{13}+3u^{12}+\cdots-17u-4\\-u^{13}-2u^{12}+\cdots+3u+1\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -47u^{13}-3u^{12}+392u^{11}-44u^{10}-1096u^9+177u^8+1045u^7-20u^6+126u^5-250u^4-555u^3+62u^2+97u-26$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{14} - 40y^{13} + \cdots - 61y + 1$
c_2	$y^{14} - 35y^{13} + \cdots - 6y + 1$
c_3, c_8	$y^{14} - 16y^{13} + \cdots - 14y + 1$
c_5, c_6, c_{10}	$y^{14} - 19y^{13} + \cdots - 21y + 1$
c_7	$y^{14} - 27y^{13} + \cdots - 164y + 25$
c_9	$y^{14} + 3y^{13} + \cdots - 13y + 1$
c_{11}	$y^{14} - 11y^{13} + \cdots - 4y + 1$
c_{12}	$y^{14} - 7y^{13} + \cdots - 34y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.041995 + 0.809993I$ $a = -1.344060 + 0.026852I$ $b = 1.264380 - 0.271420I$	$-6.26906 + 6.17855I$	$-9.91494 - 4.69414I$
$u = -0.041995 - 0.809993I$ $a = -1.344060 - 0.026852I$ $b = 1.264380 + 0.271420I$	$-6.26906 - 6.17855I$	$-9.91494 + 4.69414I$
$u = -0.809847$ $a = -0.605793$ $b = 1.48781$	-5.03348	-9.02450
$u = -1.22502$ $a = 1.34057$ $b = 0.162959$	-0.336250	4.57820
$u = -1.45185$ $a = -0.212486$ $b = -5.02868$	-8.30808	458.040
$u = 1.45372 + 0.20790I$ $a = -0.329363 + 0.632179I$ $b = -1.132490 - 0.288555I$	$-5.25130 - 1.24855I$	$-3.88671 - 0.79369I$
$u = 1.45372 - 0.20790I$ $a = -0.329363 - 0.632179I$ $b = -1.132490 + 0.288555I$	$-5.25130 + 1.24855I$	$-3.88671 + 0.79369I$
$u = 1.48805 + 0.23094I$ $a = 0.127982 - 1.175550I$ $b = 1.327500 + 0.419823I$	$-11.7013 - 9.6047I$	$-13.0076 + 8.0736I$
$u = 1.48805 - 0.23094I$ $a = 0.127982 + 1.175550I$ $b = 1.327500 - 0.419823I$	$-11.7013 + 9.6047I$	$-13.0076 - 8.0736I$
$u = 0.405276 + 0.018783I$ $a = 0.68516 + 2.08226I$ $b = -1.069550 - 0.376548I$	$-2.21239 - 0.64026I$	$-17.0015 - 2.7974I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.405276 - 0.018783I$ $a = 0.68516 - 2.08226I$ $b = -1.069550 + 0.376548I$	$-2.21239 + 0.64026I$	$-17.0015 + 2.7974I$
$u = -0.379798$ $a = -3.82894$ $b = -0.316150$	2.56739	-30.6950
$u = -1.64496$ $a = 0.649623$ $b = -0.358139$	-9.69171	39.2320
$u = -2.09863$ $a = 0.377591$ $b = 1.27250$	-13.8663	-28.5140

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

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ -1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ -a-1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} a-1 \\ -1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ -1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} a-1 \\ a+1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -a-2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -17$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.00000$ $a = \quad 0.618034$ $b = -1.00000$	-3.28987	-17.0000
$u = \quad 1.00000$ $a = -1.61803$ $b = -1.00000$	-3.28987	-17.0000

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

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_7	y
c_2, c_3, c_5 c_6, c_8, c_9 c_{10}, c_{11}, c_{12}	$y-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.00000$ $a = -1.00000$ $b = \qquad 0$	-1.64493	-6.00000

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u-1)^2(u^{14}-2u^{13}+\cdots-u-1)(u^{103}+5u^{102}+\cdots-140u-5)$
c_2	$(u+1)(u^2+u-1)(u^{14}+7u^{13}+\cdots-3u^2+1)$ $\cdot(u^{103}-6u^{102}+\cdots-2684u-1763)$
c_3	$(u+1)(u^2+u-1)(u^{14}-8u^{12}+\cdots-2u-1)$ $\cdot(u^{103}-3u^{102}+\cdots-340u+41)$
c_4	$u(u+1)^2(u^{14}+2u^{13}+\cdots+u-1)(u^{103}+5u^{102}+\cdots-140u-5)$
c_5, c_6	$((u-1)^2)(u+1)(u^{14}+u^{13}+\cdots-u+1)(u^{103}-3u^{102}+\cdots-30u+11)$
c_7	$u^3(u^{14}-5u^{13}+\cdots-12u-5)(u^{103}-6u^{102}+\cdots-120u-20)$
c_8	$(u+1)(u^2-u-1)(u^{14}-8u^{12}+\cdots+2u-1)$ $\cdot(u^{103}-3u^{102}+\cdots-340u+41)$
c_9	$(u+1)(u^2-u-1)(u^{14}-u^{13}+\cdots-3u-1)$ $\cdot(u^{103}-4u^{102}+\cdots-558937u-115993)$
c_{10}	$((u+1)^3)(u^{14}-u^{13}+\cdots+u+1)(u^{103}-3u^{102}+\cdots-30u+11)$
c_{11}	$(u-1)(u^2-u-1)(u^{14}+3u^{13}+\cdots+2u-1)$ $\cdot(u^{103}+4u^{102}+\cdots-37150u-3953)$
c_{12}	$((u+1)^3)(u^{14}+5u^{13}+\cdots-8u-1)(u^{103}+3u^{102}+\cdots-3395u+319)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y(y-1)^2(y^{14} - 40y^{13} + \cdots - 61y + 1)$ $\cdot (y^{103} - 117y^{102} + \cdots + 2440y - 25)$
c_2	$(y-1)(y^2 - 3y + 1)(y^{14} - 35y^{13} + \cdots - 6y + 1)$ $\cdot (y^{103} - 20y^{102} + \cdots - 30171744y - 3108169)$
c_3, c_8	$(y-1)(y^2 - 3y + 1)(y^{14} - 16y^{13} + \cdots - 14y + 1)$ $\cdot (y^{103} - 89y^{102} + \cdots + 19496y - 1681)$
c_5, c_6, c_{10}	$((y-1)^3)(y^{14} - 19y^{13} + \cdots - 21y + 1)$ $\cdot (y^{103} - 115y^{102} + \cdots + 10294y - 121)$
c_7	$y^3(y^{14} - 27y^{13} + \cdots - 164y + 25)(y^{103} - 18y^{102} + \cdots + 14360y - 400)$
c_9	$(y-1)(y^2 - 3y + 1)(y^{14} + 3y^{13} + \cdots - 13y + 1)$ $\cdot (y^{103} + 42y^{102} + \cdots - 65353344557y - 13454376049)$
c_{11}	$(y-1)(y^2 - 3y + 1)(y^{14} - 11y^{13} + \cdots - 4y + 1)$ $\cdot (y^{103} - 48y^{102} + \cdots + 1279676770y - 15626209)$
c_{12}	$((y-1)^3)(y^{14} - 7y^{13} + \cdots - 34y + 1)$ $\cdot (y^{103} + 21y^{102} + \cdots + 6596199y - 101761)$