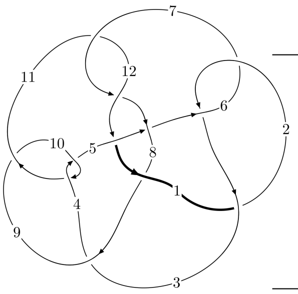
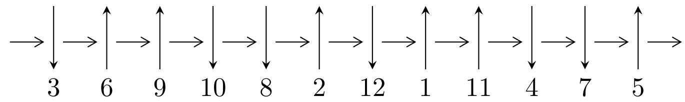
$12a_{0388}$ $(K12a_{0388})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 1.10245 \times 10^{200} u^{137} - 2.70350 \times 10^{199} u^{136} + \cdots + 2.26798 \times 10^{199} b - 2.98834 \times 10^{200}, \\
& - 2.02152 \times 10^{201} u^{137} - 2.45020 \times 10^{201} u^{136} + \cdots + 1.13399 \times 10^{200} a - 5.74431 \times 10^{201}, \\
& u^{138} + u^{137} + \cdots + 2u + 1 \rangle \\
I_2^u = \langle & u^{28} + 4u^{26} + \cdots + b - 6,\ -9u^{28} - 67u^{26} + \cdots + a - 13,\ u^{30} + 8u^{28} + \cdots + 6u^2 + 1 \rangle \\
I_3^u = \langle & u^2 + b,\ a - 1,\ u^{12} - u^{11} + 2u^{10} - u^9 + u^7 - 3u^6 + 3u^5 - 2u^4 + 2u^2 - 2u + 1 \rangle \\
I_4^u = \langle & b - u - 1,\ a - 1,\ u^2 + u + 1 \rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 182 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. $\boldsymbol{I^u_1 = \langle 1.10 \times 10^{200} u^{137} - 2.70 \times 10^{199} u^{136} + \cdots + 2.27 \times 10^{199} b - 2.99 \times 10^{200},\ -2.02 \times 10^{201} u^{137} - 2.45 \times 10^{201} u^{136} + \cdots + 1.13 \times 10^{200} a - 5.74 \times 10^{201},\ u^{138} + u^{137} + \cdots + 2u + 1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 17.8266u^{137} + 21.6069u^{136} + \cdots + 72.5125u + 50.6558 \\ -4.86092u^{137} + 1.19203u^{136} + \cdots - 22.3388u + 13.1762 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^5 - 2u^3 - u \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 7.31158u^{137} + 10.8364u^{136} + \cdots + 42.2872u + 21.2695 \\ -11.0373u^{137} - 10.6810u^{136} + \cdots - 47.1603u - 19.8102 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 15.0024u^{137} + 5.16035u^{136} + \cdots + 39.1591u - 6.06825 \\ 4.75355u^{137} + 8.15710u^{136} + \cdots + 22.1169u + 23.1999 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 21.6197u^{137} + 26.0663u^{136} + \cdots + 86.8487u + 61.5268 \\ -9.77139u^{137} - 3.70248u^{136} + \cdots - 41.5049u + 3.02636 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 25.2621u^{137} + 27.9992u^{136} + \cdots + 102.662u + 62.2454 \\ -11.1523u^{137} - 4.87631u^{136} + \cdots - 47.1386u + 0.543510 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 10.2508u^{137} + 17.9698u^{136} + \cdots + 70.9462u + 35.0066 \\ -0.698140u^{137} - 6.12399u^{136} + \cdots - 5.26299u - 19.2641 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.31574u^{137} - 10.1454u^{136} + \cdots - 6.22611u - 51.1687$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{138} + 57u^{137} + \cdots + 4078944u + 222784$
c_2, c_6	$u^{138} + 7u^{137} + \cdots + 976u + 472$
c_3	$u^{138} + u^{137} + \cdots + 1500u + 84625$
c_4, c_{10}	$u^{138} - u^{137} + \cdots - 2u + 1$
c_5	$u^{138} - 4u^{137} + \cdots - 50u + 1$
c_7, c_{11}	$u^{138} + 3u^{137} + \cdots + 32098u + 2479$
c_8	$u^{138} - u^{137} + \cdots - 312712u + 21829$
c_9	$u^{138} - 73u^{137} + \cdots - 12u + 1$
c_{12}	$u^{138} - 3u^{137} + \cdots + 126u + 107$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{138} + 57y^{137} + \cdots + 592047023616y + 49632710656$
c_2, c_6	$y^{138} + 57y^{137} + \cdots + 4078944y + 222784$
c_3	$y^{138} - 63y^{137} + \cdots + 1166513601250y + 7161390625$
c_4, c_{10}	$y^{138} + 73y^{137} + \cdots + 12y + 1$
c_5	$y^{138} - 6y^{137} + \cdots - 84y + 1$
c_7, c_{11}	$y^{138} - 89y^{137} + \cdots - 992898284y + 6145441$
c_8	$y^{138} - 33y^{137} + \cdots - 25000518340y + 476505241$
c_9	$y^{138} + 5y^{137} + \cdots + 56y + 1$
c_{12}	$y^{138} + 13y^{137} + \cdots + 1100348y + 11449$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.748280+0.644042I$ $a=-0.610770-0.383166I$ $b=\ \ 0.279919+0.054730I$	$-3.23015-1.44711I$	0
$u=-0.748280-0.644042I$ $a=-0.610770+0.383166I$ $b=\ \ 0.279919-0.054730I$	$-3.23015+1.44711I$	0
$u=-0.932996+0.397354I$ $a=-0.560435-0.059752I$ $b=\ \ 0.675164-0.194043I$	$-0.20912-4.87826I$	0
$u=-0.932996-0.397354I$ $a=-0.560435+0.059752I$ $b=\ \ 0.675164+0.194043I$	$-0.20912+4.87826I$	0
$u=-0.639139+0.717002I$ $a=-0.526322-0.610491I$ $b=\ \ 0.065518+0.290224I$	$-3.14704-1.39877I$	0
$u=-0.639139-0.717002I$ $a=-0.526322+0.610491I$ $b=\ \ 0.065518-0.290224I$	$-3.14704+1.39877I$	0
$u=\ \ 0.507689+0.814153I$ $a=\ \ 0.460248-0.369612I$ $b=-0.259173+0.658419I$	$0.62104-2.03888I$	0
$u=\ \ 0.507689-0.814153I$ $a=\ \ 0.460248+0.369612I$ $b=-0.259173-0.658419I$	$0.62104+2.03888I$	0
$u=-0.657750+0.812749I$ $a=-0.759257+0.080546I$ $b=\ \ 0.147457+0.240247I$	$-2.90258+6.42158I$	0
$u=-0.657750-0.812749I$ $a=-0.759257-0.080546I$ $b=\ \ 0.147457-0.240247I$	$-2.90258-6.42158I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.900380 + 0.306762I$ $a = -0.533987 - 0.027012I$ $b = 0.675781 + 0.175122I$	$0.319495 - 0.269839I$	0
$u = 0.900380 - 0.306762I$ $a = -0.533987 + 0.027012I$ $b = 0.675781 - 0.175122I$	$0.319495 + 0.269839I$	0
$u = -0.505496 + 0.784641I$ $a = 0.155415 - 0.211164I$ $b = 0.813512 - 0.448155I$	$-3.41327 + 2.08249I$	0
$u = -0.505496 - 0.784641I$ $a = 0.155415 + 0.211164I$ $b = 0.813512 + 0.448155I$	$-3.41327 - 2.08249I$	0
$u = -0.002295 + 0.933167I$ $a = 0.348407 - 1.168260I$ $b = 1.02831 + 1.09047I$	$-2.58537 - 3.57558I$	0
$u = -0.002295 - 0.933167I$ $a = 0.348407 + 1.168260I$ $b = 1.02831 - 1.09047I$	$-2.58537 + 3.57558I$	0
$u = -0.586344 + 0.712656I$ $a = 0.256709 + 0.327840I$ $b = -0.216062 - 1.112430I$	$-0.42447 + 6.42817I$	0
$u = -0.586344 - 0.712656I$ $a = 0.256709 - 0.327840I$ $b = -0.216062 + 1.112430I$	$-0.42447 - 6.42817I$	0
$u = -0.876763 + 0.277742I$ $a = -2.01971 + 0.48046I$ $b = 1.70197 - 0.89884I$	$-1.8751 - 14.3871I$	0
$u = -0.876763 - 0.277742I$ $a = -2.01971 - 0.48046I$ $b = 1.70197 + 0.89884I$	$-1.8751 + 14.3871I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.675148 + 0.623419I$ $a = -0.628890 - 0.768440I$ $b = -0.218688 - 0.249187I$	$-7.79238 - 3.57360I$	0
$u = 0.675148 - 0.623419I$ $a = -0.628890 + 0.768440I$ $b = -0.218688 + 0.249187I$	$-7.79238 + 3.57360I$	0
$u = -0.308930 + 1.036300I$ $a = -0.26750 - 1.81985I$ $b = 2.33740 + 0.80264I$	$-2.46898 - 3.18569I$	0
$u = -0.308930 - 1.036300I$ $a = -0.26750 + 1.81985I$ $b = 2.33740 - 0.80264I$	$-2.46898 + 3.18569I$	0
$u = 0.351642 + 0.833956I$ $a = 0.842916 - 0.075164I$ $b = 0.141774 - 0.101162I$	$0.32671 - 1.54792I$	0
$u = 0.351642 - 0.833956I$ $a = 0.842916 + 0.075164I$ $b = 0.141774 + 0.101162I$	$0.32671 + 1.54792I$	0
$u = 0.762004 + 0.807024I$ $a = -0.441904 - 0.113955I$ $b = 0.141367 - 0.472899I$	$-5.04826 - 11.36710I$	0
$u = 0.762004 - 0.807024I$ $a = -0.441904 + 0.113955I$ $b = 0.141367 + 0.472899I$	$-5.04826 + 11.36710I$	0
$u = -0.459758 + 1.015400I$ $a = 1.39876 - 2.58387I$ $b = 1.97149 + 1.80899I$	$-2.96281 - 1.00766I$	0
$u = -0.459758 - 1.015400I$ $a = 1.39876 + 2.58387I$ $b = 1.97149 - 1.80899I$	$-2.96281 + 1.00766I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.833669 + 0.246306I$ $a = -2.07608 - 0.62945I$ $b = 1.59871 + 0.86388I$	$0.18672 + 8.44910I$	0
$u = 0.833669 - 0.246306I$ $a = -2.07608 + 0.62945I$ $b = 1.59871 - 0.86388I$	$0.18672 - 8.44910I$	0
$u = 0.631156 + 0.942527I$ $a = 0.032130 + 0.523672I$ $b = -0.562343 - 0.343106I$	$-6.87135 - 1.44864I$	0
$u = 0.631156 - 0.942527I$ $a = 0.032130 - 0.523672I$ $b = -0.562343 + 0.343106I$	$-6.87135 + 1.44864I$	0
$u = -0.359853 + 0.779267I$ $a = -1.64500 - 1.09008I$ $b = 0.90099 - 1.77749I$	$-3.04538 + 5.83097I$	0
$u = -0.359853 - 0.779267I$ $a = -1.64500 + 1.09008I$ $b = 0.90099 + 1.77749I$	$-3.04538 - 5.83097I$	0
$u = 0.784849 + 0.833178I$ $a = -0.336576 + 0.331522I$ $b = -0.187643 + 0.128653I$	$-4.99993 + 5.64141I$	0
$u = 0.784849 - 0.833178I$ $a = -0.336576 - 0.331522I$ $b = -0.187643 - 0.128653I$	$-4.99993 - 5.64141I$	0
$u = 0.055678 + 0.850726I$ $a = 0.331880 + 0.528641I$ $b = 0.585870 + 0.867197I$	$1.17077 - 1.75880I$	0
$u = 0.055678 - 0.850726I$ $a = 0.331880 - 0.528641I$ $b = 0.585870 - 0.867197I$	$1.17077 + 1.75880I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.414877 + 1.070120I$ $a = 0.55316 - 1.36199I$ $b = -1.52236 + 0.17162I$	$1.25960 - 1.39359I$	0
$u = 0.414877 - 1.070120I$ $a = 0.55316 + 1.36199I$ $b = -1.52236 - 0.17162I$	$1.25960 + 1.39359I$	0
$u = -0.540226 + 1.032780I$ $a = -0.60369 - 2.18713I$ $b = 2.20825 - 0.06733I$	$-3.53762 + 6.87962I$	0
$u = -0.540226 - 1.032780I$ $a = -0.60369 + 2.18713I$ $b = 2.20825 + 0.06733I$	$-3.53762 - 6.87962I$	0
$u = -0.437879 + 1.081410I$ $a = 0.79631 - 1.65724I$ $b = 0.25068 + 1.53384I$	$2.95472 + 0.07846I$	0
$u = -0.437879 - 1.081410I$ $a = 0.79631 + 1.65724I$ $b = 0.25068 - 1.53384I$	$2.95472 - 0.07846I$	0
$u = 0.717790 + 0.415508I$ $a = -1.151190 + 0.406748I$ $b = 1.206330 - 0.686473I$	$-4.57232 - 0.12230I$	0
$u = 0.717790 - 0.415508I$ $a = -1.151190 - 0.406748I$ $b = 1.206330 + 0.686473I$	$-4.57232 + 0.12230I$	0
$u = 0.477056 + 1.070260I$ $a = 0.53665 + 1.77130I$ $b = 1.56832 - 0.83541I$	$0.02851 - 3.36557I$	0
$u = 0.477056 - 1.070260I$ $a = 0.53665 - 1.77130I$ $b = 1.56832 + 0.83541I$	$0.02851 + 3.36557I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.646252 + 0.512234I$ $a = -1.71957 - 0.10186I$ $b = 1.71208 - 0.29986I$	$-5.07463 - 2.23565I$	0
$u = -0.646252 - 0.512234I$ $a = -1.71957 + 0.10186I$ $b = 1.71208 + 0.29986I$	$-5.07463 + 2.23565I$	0
$u = -0.466150 + 1.083490I$ $a = -1.23938 - 0.94255I$ $b = 0.268720 - 0.691177I$	$-0.09519 + 5.03975I$	0
$u = -0.466150 - 1.083490I$ $a = -1.23938 + 0.94255I$ $b = 0.268720 + 0.691177I$	$-0.09519 - 5.03975I$	0
$u = 0.775971 + 0.259276I$ $a = 2.06204 + 0.43638I$ $b = -1.77887 - 0.94228I$	$1.75979 + 7.99239I$	0
$u = 0.775971 - 0.259276I$ $a = 2.06204 - 0.43638I$ $b = -1.77887 + 0.94228I$	$1.75979 - 7.99239I$	0
$u = -0.608762 + 1.020920I$ $a = -0.691827 - 0.686455I$ $b = 0.699993 - 0.018161I$	$-2.00844 + 6.60279I$	0
$u = -0.608762 - 1.020920I$ $a = -0.691827 + 0.686455I$ $b = 0.699993 + 0.018161I$	$-2.00844 - 6.60279I$	0
$u = -0.157115 + 1.183080I$ $a = 0.546397 - 0.569497I$ $b = 0.424413 + 0.447750I$	$5.45597 - 2.08589I$	0
$u = -0.157115 - 1.183080I$ $a = 0.546397 + 0.569497I$ $b = 0.424413 - 0.447750I$	$5.45597 + 2.08589I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.481072 + 1.093010I$ $a = -0.697789 - 0.457258I$ $b = 1.79379 - 0.78867I$	$2.62273 + 7.06472I$	0
$u = -0.481072 - 1.093010I$ $a = -0.697789 + 0.457258I$ $b = 1.79379 + 0.78867I$	$2.62273 - 7.06472I$	0
$u = 0.426878 + 1.121990I$ $a = -0.869950 + 0.927785I$ $b = 2.29389 + 0.55773I$	$4.24755 - 0.55395I$	0
$u = 0.426878 - 1.121990I$ $a = -0.869950 - 0.927785I$ $b = 2.29389 - 0.55773I$	$4.24755 + 0.55395I$	0
$u = 0.482092 + 1.102240I$ $a = -0.73817 - 1.73876I$ $b = -1.75836 + 1.68519I$	$0.73692 - 5.83263I$	0
$u = 0.482092 - 1.102240I$ $a = -0.73817 + 1.73876I$ $b = -1.75836 - 1.68519I$	$0.73692 + 5.83263I$	0
$u = -0.722215 + 0.333026I$ $a = -2.60247 + 0.51955I$ $b = 1.43509 - 1.10683I$	$-6.52298 - 5.63767I$	$-6.96561 + 5.54235I$
$u = -0.722215 - 0.333026I$ $a = -2.60247 - 0.51955I$ $b = 1.43509 + 1.10683I$	$-6.52298 + 5.63767I$	$-6.96561 - 5.54235I$
$u = 0.224822 + 1.184760I$ $a = 0.639971 + 0.617614I$ $b = 0.537226 - 0.485258I$	$5.44782 - 3.44229I$	0
$u = 0.224822 - 1.184760I$ $a = 0.639971 - 0.617614I$ $b = 0.537226 + 0.485258I$	$5.44782 + 3.44229I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.294523 + 1.173140I$ $a = 0.02129 - 1.59871I$ $b = -1.75952 + 0.05382I$	$6.12367 + 4.70777I$	0
$u = 0.294523 - 1.173140I$ $a = 0.02129 + 1.59871I$ $b = -1.75952 - 0.05382I$	$6.12367 - 4.70777I$	0
$u = -0.766583 + 0.191365I$ $a = 1.95474 - 0.48334I$ $b = -1.60377 + 0.72697I$	$3.31803 - 2.71598I$	$2.61257 + 1.91367I$
$u = -0.766583 - 0.191365I$ $a = 1.95474 + 0.48334I$ $b = -1.60377 - 0.72697I$	$3.31803 + 2.71598I$	$2.61257 - 1.91367I$
$u = 0.468517 + 1.121520I$ $a = 0.73584 + 2.02735I$ $b = 1.05117 - 1.85791I$	$3.95618 - 7.12231I$	0
$u = 0.468517 - 1.121520I$ $a = 0.73584 - 2.02735I$ $b = 1.05117 + 1.85791I$	$3.95618 + 7.12231I$	0
$u = 0.576038 + 1.083480I$ $a = -1.07623 + 1.16309I$ $b = 1.017400 + 0.804040I$	$-2.61627 - 4.82946I$	0
$u = 0.576038 - 1.083480I$ $a = -1.07623 - 1.16309I$ $b = 1.017400 - 0.804040I$	$-2.61627 + 4.82946I$	0
$u = -0.340294 + 1.182050I$ $a = 0.11787 + 1.48216I$ $b = -1.81420 - 0.09781I$	$7.41416 + 0.88258I$	0
$u = -0.340294 - 1.182050I$ $a = 0.11787 - 1.48216I$ $b = -1.81420 + 0.09781I$	$7.41416 - 0.88258I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.502474 + 1.125750I$ $a = -1.20050 + 1.00972I$ $b = 0.396619 + 0.918271I$	$-0.86260 - 9.72934I$	0
$u = 0.502474 - 1.125750I$ $a = -1.20050 - 1.00972I$ $b = 0.396619 - 0.918271I$	$-0.86260 + 9.72934I$	0
$u = 0.386148 + 1.172850I$ $a = -0.35243 - 1.62014I$ $b = -0.77820 + 1.44305I$	$2.87431 + 1.77348I$	0
$u = 0.386148 - 1.172850I$ $a = -0.35243 + 1.62014I$ $b = -0.77820 - 1.44305I$	$2.87431 - 1.77348I$	0
$u = -0.547313 + 1.117630I$ $a = 0.13739 - 2.31147I$ $b = 2.28237 + 1.68690I$	$-4.22099 + 10.47690I$	0
$u = -0.547313 - 1.117630I$ $a = 0.13739 + 2.31147I$ $b = 2.28237 - 1.68690I$	$-4.22099 - 10.47690I$	0
$u = -0.449881 + 1.169470I$ $a = 0.36792 + 1.45628I$ $b = -2.09251 - 0.54636I$	$5.41259 + 4.06951I$	0
$u = -0.449881 - 1.169470I$ $a = 0.36792 - 1.45628I$ $b = -2.09251 + 0.54636I$	$5.41259 - 4.06951I$	0
$u = 0.285497 + 1.221200I$ $a = -0.230904 + 1.209670I$ $b = 1.80867 - 0.03426I$	$4.83744 + 4.88572I$	0
$u = 0.285497 - 1.221200I$ $a = -0.230904 - 1.209670I$ $b = 1.80867 + 0.03426I$	$4.83744 - 4.88572I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.730810 + 0.132013I$ $a = 1.87462 - 1.41487I$ $b = -1.236480 + 0.030970I$	$-0.86799 + 5.55501I$	$-2.80187 - 9.67670I$
$u = 0.730810 - 0.132013I$ $a = 1.87462 + 1.41487I$ $b = -1.236480 - 0.030970I$	$-0.86799 - 5.55501I$	$-2.80187 + 9.67670I$
$u = -0.448095 + 1.174840I$ $a = -0.03447 + 1.70384I$ $b = -1.71767 - 1.10560I$	$5.42668 + 4.33154I$	0
$u = -0.448095 - 1.174840I$ $a = -0.03447 - 1.70384I$ $b = -1.71767 + 1.10560I$	$5.42668 - 4.33154I$	0
$u = 0.497105 + 1.165690I$ $a = 0.925864 - 1.025280I$ $b = -2.50249 - 0.12633I$	$2.09741 - 10.13010I$	0
$u = 0.497105 - 1.165690I$ $a = 0.925864 + 1.025280I$ $b = -2.50249 + 0.12633I$	$2.09741 + 10.13010I$	0
$u = -0.522583 + 1.164700I$ $a = -0.22839 + 1.93063I$ $b = -2.13174 - 1.04573I$	$6.15514 + 7.51354I$	0
$u = -0.522583 - 1.164700I$ $a = -0.22839 - 1.93063I$ $b = -2.13174 + 1.04573I$	$6.15514 - 7.51354I$	0
$u = 0.548798 + 1.152780I$ $a = -0.21673 - 2.09239I$ $b = -2.39986 + 1.08477I$	$4.38020 - 12.94910I$	0
$u = 0.548798 - 1.152780I$ $a = -0.21673 + 2.09239I$ $b = -2.39986 - 1.08477I$	$4.38020 + 12.94910I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.248104 + 1.253880I$ $a = -0.154460 - 1.192250I$ $b = 1.67226 + 0.00902I$	$3.16083 - 10.80730I$	0
$u = -0.248104 - 1.253880I$ $a = -0.154460 + 1.192250I$ $b = 1.67226 - 0.00902I$	$3.16083 + 10.80730I$	0
$u = 0.293542 + 1.254710I$ $a = -0.151828 - 0.808528I$ $b = -0.721605 + 0.587668I$	$4.75967 - 1.92423I$	0
$u = 0.293542 - 1.254710I$ $a = -0.151828 + 0.808528I$ $b = -0.721605 - 0.587668I$	$4.75967 + 1.92423I$	0
$u = -0.708822 + 0.004951I$ $a = 2.10491 - 0.44492I$ $b = -1.243620 + 0.135970I$	$2.11780 - 0.11834I$	$5.78477 - 1.37253I$
$u = -0.708822 - 0.004951I$ $a = 2.10491 + 0.44492I$ $b = -1.243620 - 0.135970I$	$2.11780 + 0.11834I$	$5.78477 + 1.37253I$
$u = 0.558720 + 1.175300I$ $a = 0.13252 + 2.01240I$ $b = 2.10150 - 1.22147I$	$2.95049 - 13.58640I$	0
$u = 0.558720 - 1.175300I$ $a = 0.13252 - 2.01240I$ $b = 2.10150 + 1.22147I$	$2.95049 + 13.58640I$	0
$u = -0.429069 + 0.548426I$ $a = -2.61601 + 1.37717I$ $b = 1.24058 - 1.77812I$	$-4.39438 + 4.82308I$	$-10.38560 - 5.04175I$
$u = -0.429069 - 0.548426I$ $a = -2.61601 - 1.37717I$ $b = 1.24058 + 1.77812I$	$-4.39438 - 4.82308I$	$-10.38560 + 5.04175I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.579159 + 1.177870I$ $a = 0.024201 + 0.904316I$ $b = 1.100910 - 0.321350I$	$3.00385 - 5.11858I$	0
$u = 0.579159 - 1.177870I$ $a = 0.024201 - 0.904316I$ $b = 1.100910 + 0.321350I$	$3.00385 + 5.11858I$	0
$u = 0.543120 + 1.200300I$ $a = 0.087330 - 1.019690I$ $b = -1.43281 + 0.63924I$	$3.06326 - 7.20126I$	0
$u = 0.543120 - 1.200300I$ $a = 0.087330 + 1.019690I$ $b = -1.43281 - 0.63924I$	$3.06326 + 7.20126I$	0
$u = -0.582221 + 1.182340I$ $a = 0.05040 - 1.97553I$ $b = 2.22544 + 1.11961I$	$0.8461 + 19.7395I$	0
$u = -0.582221 - 1.182340I$ $a = 0.05040 + 1.97553I$ $b = 2.22544 - 1.11961I$	$0.8461 - 19.7395I$	0
$u = -0.623937 + 1.174950I$ $a = -0.062411 - 0.799544I$ $b = 1.061170 + 0.303779I$	$2.22475 + 10.58040I$	0
$u = -0.623937 - 1.174950I$ $a = -0.062411 + 0.799544I$ $b = 1.061170 - 0.303779I$	$2.22475 - 10.58040I$	0
$u = 0.624402 + 0.206178I$ $a = -1.105290 + 0.218004I$ $b = 0.74744 - 1.22310I$	$-3.43127 + 5.31891I$	$-6.29076 - 6.91043I$
$u = 0.624402 - 0.206178I$ $a = -1.105290 - 0.218004I$ $b = 0.74744 + 1.22310I$	$-3.43127 - 5.31891I$	$-6.29076 + 6.91043I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.363913 + 1.298840I$ $a = -0.105812 + 0.902255I$ $b = -0.990308 - 0.484973I$	$4.60967 + 6.67560I$	0
$u = -0.363913 - 1.298840I$ $a = -0.105812 - 0.902255I$ $b = -0.990308 + 0.484973I$	$4.60967 - 6.67560I$	0
$u = -0.499268 + 1.261840I$ $a = -0.011363 + 1.002050I$ $b = -1.37029 - 0.58117I$	$3.68537 + 3.20150I$	0
$u = -0.499268 - 1.261840I$ $a = -0.011363 - 1.002050I$ $b = -1.37029 + 0.58117I$	$3.68537 - 3.20150I$	0
$u = 0.505819 + 0.352651I$ $a = -1.24079 - 1.10135I$ $b = 0.803144 + 0.875121I$	$-1.99560 - 0.70011I$	$-4.35713 + 1.30447I$
$u = 0.505819 - 0.352651I$ $a = -1.24079 + 1.10135I$ $b = 0.803144 - 0.875121I$	$-1.99560 + 0.70011I$	$-4.35713 - 1.30447I$
$u = -0.478311 + 0.336035I$ $a = 0.28167 - 1.69381I$ $b = 0.930911 + 0.100143I$	$0.40745 - 2.99983I$	$-0.954528 + 0.448338I$
$u = -0.478311 - 0.336035I$ $a = 0.28167 + 1.69381I$ $b = 0.930911 - 0.100143I$	$0.40745 + 2.99983I$	$-0.954528 - 0.448338I$
$u = 0.527857 + 0.198947I$ $a = 1.91461 + 1.02859I$ $b = -0.736355 - 1.192170I$	$-1.69466 + 1.71272I$	$-4.34506 - 3.60692I$
$u = 0.527857 - 0.198947I$ $a = 1.91461 - 1.02859I$ $b = -0.736355 + 1.192170I$	$-1.69466 - 1.71272I$	$-4.34506 + 3.60692I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.539125 + 0.071339I$ $a = -2.09790 - 2.35871I$ $b = 0.948439 + 0.596914I$	$1.23439 + 3.10248I$	$2.36075 - 5.53634I$
$u = 0.539125 - 0.071339I$ $a = -2.09790 + 2.35871I$ $b = 0.948439 - 0.596914I$	$1.23439 - 3.10248I$	$2.36075 + 5.53634I$
$u = -0.356421 + 0.373474I$ $a = -1.65904 - 0.72027I$ $b = 0.337797 + 1.014410I$	$-2.23739 - 1.23228I$	$-2.80069 + 0.70900I$
$u = -0.356421 - 0.373474I$ $a = -1.65904 + 0.72027I$ $b = 0.337797 - 1.014410I$	$-2.23739 + 1.23228I$	$-2.80069 - 0.70900I$
$u = -0.207907 + 0.471398I$ $a = -3.59702 + 1.23551I$ $b = 0.017720 - 0.151733I$	$0.83738 + 3.30070I$	$-3.80847 - 6.42732I$
$u = -0.207907 - 0.471398I$ $a = -3.59702 - 1.23551I$ $b = 0.017720 + 0.151733I$	$0.83738 - 3.30070I$	$-3.80847 + 6.42732I$
$u = -0.273359 + 0.413276I$ $a = 0.669858 - 0.328400I$ $b = 0.32739 - 1.37687I$	$-2.12218 + 1.58093I$	$-5.81944 - 0.94709I$
$u = -0.273359 - 0.413276I$ $a = 0.669858 + 0.328400I$ $b = 0.32739 + 1.37687I$	$-2.12218 - 1.58093I$	$-5.81944 + 0.94709I$

II. $I_2^u =$
$\langle u^{28}+4u^{26}+\cdots+b-6,\ -9u^{28}-67u^{26}+\cdots+a-13,\ u^{30}+8u^{28}+\cdots+6u^2+1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u \\ u^3+u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u^2+1 \\ -u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 9u^{28}+67u^{26}+\cdots+60u^2+13 \\ -u^{28}-4u^{26}+\cdots+18u^2+6 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^5-2u^3-u \\ u^5+u^3+u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 2u^{29}-6u^{28}+\cdots+u-14 \\ 5u^{28}+u^{27}+\cdots+u+7 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -3u^{29}-6u^{28}+\cdots-13u-8 \\ -2u^{29}+u^{28}+\cdots+4u+1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 10u^{28}+74u^{26}+\cdots+65u^2+14 \\ -3u^{28}-20u^{26}+\cdots-3u^2+1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 9u^{28}+68u^{26}+\cdots+68u^2+16 \\ -2u^{28}-12u^{26}+\cdots+7u^2+3 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} u^{29}-10u^{28}+\cdots+u-20 \\ u^{28}+8u^{26}+\cdots+17u^4+6u^2 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes
$= 7u^{29}+19u^{28}+50u^{27}+150u^{26}+180u^{25}+600u^{24}+418u^{23}+1499u^{22}+721u^{21}+2545u^{20}+1042u^{19}+2979u^{18}+1396u^{17}+2374u^{16}+1729u^{15}+1223u^{14}+1818u^{13}+476u^{12}+1472u^{11}+389u^{10}+861u^9+578u^8+343u^7+615u^6+102u^5+474u^4+29u^3+232u^2+12u+58$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 15u^{29} + \cdots - 17u + 1$
c_2	$u^{30} - u^{29} + \cdots - u + 1$
c_3	$u^{30} - 8u^{28} + \cdots - 2u + 1$
c_4	$u^{30} + 8u^{28} + \cdots + 6u^2 + 1$
c_5	$u^{30} - 7u^{29} + \cdots - 4u^2 + 1$
c_6	$u^{30} + u^{29} + \cdots + u + 1$
c_7	$u^{30} + 2u^{29} + \cdots + 2u + 1$
c_8	$u^{30} + 5u^{28} + \cdots + 4u^4 + 1$
c_9	$u^{30} + 16u^{29} + \cdots + 12u + 1$
c_{10}	$u^{30} + 8u^{28} + \cdots + 6u^2 + 1$
c_{11}	$u^{30} - 2u^{29} + \cdots - 2u + 1$
c_{12}	$u^{30} + 4u^{28} + \cdots + 4u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} + 15y^{29} + \cdots + 5y + 1$
c_2, c_6	$y^{30} + 15y^{29} + \cdots + 17y + 1$
c_3	$y^{30} - 16y^{29} + \cdots + 22y + 1$
c_4, c_{10}	$y^{30} + 16y^{29} + \cdots + 12y + 1$
c_5	$y^{30} - 7y^{29} + \cdots - 8y + 1$
c_7, c_{11}	$y^{30} - 22y^{29} + \cdots - 28y + 1$
c_8	$y^{30} + 10y^{29} + \cdots + 8y^2 + 1$
c_9	$y^{30} + 32y^{28} + \cdots - 4y + 1$
c_{12}	$y^{30} + 8y^{29} + \cdots + 8y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.362041 + 0.987203I$ $a = 1.51664 - 0.38078I$ $b = 0.375856 - 0.977584I$	$-0.547482 - 0.512730I$	$-3.22724 - 1.51095I$
$u = 0.362041 - 0.987203I$ $a = 1.51664 + 0.38078I$ $b = 0.375856 + 0.977584I$	$-0.547482 + 0.512730I$	$-3.22724 + 1.51095I$
$u = -0.413618 + 1.000500I$ $a = 1.24771 - 1.67399I$ $b = 2.04480 + 1.66601I$	$-2.37609 - 1.81579I$	$-2.08168 + 1.76632I$
$u = -0.413618 - 1.000500I$ $a = 1.24771 + 1.67399I$ $b = 2.04480 - 1.66601I$	$-2.37609 + 1.81579I$	$-2.08168 - 1.76632I$
$u = -0.894280 + 0.121882I$ $a = 0.791854 + 0.329906I$ $b = -0.723001 - 0.005696I$	$0.626627 + 0.892293I$	$3.84481 - 1.79915I$
$u = -0.894280 - 0.121882I$ $a = 0.791854 - 0.329906I$ $b = -0.723001 + 0.005696I$	$0.626627 - 0.892293I$	$3.84481 + 1.79915I$
$u = 0.666637 + 0.580978I$ $a = -0.381919 + 0.678655I$ $b = 0.306802 - 0.830390I$	$-3.51466 + 0.68129I$	$-6.93877 + 2.81693I$
$u = 0.666637 - 0.580978I$ $a = -0.381919 - 0.678655I$ $b = 0.306802 + 0.830390I$	$-3.51466 - 0.68129I$	$-6.93877 - 2.81693I$
$u = 0.806987 + 0.293907I$ $a = 0.314050 - 0.712820I$ $b = -0.542772 + 0.002378I$	$-0.42021 + 4.20885I$	$-3.00114 - 2.00285I$
$u = 0.806987 - 0.293907I$ $a = 0.314050 + 0.712820I$ $b = -0.542772 - 0.002378I$	$-0.42021 - 4.20885I$	$-3.00114 + 2.00285I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.532069 + 1.023780I$ $a = -1.56467 - 1.74925I$ $b = 1.94201 - 0.64296I$	$-3.24092 + 7.83132I$	$-3.79845 - 11.44918I$
$u = -0.532069 - 1.023780I$ $a = -1.56467 + 1.74925I$ $b = 1.94201 + 0.64296I$	$-3.24092 - 7.83132I$	$-3.79845 + 11.44918I$
$u = -0.565384 + 0.601457I$ $a = -1.27510 - 1.51897I$ $b = 1.37657 + 0.62582I$	$-4.58349 - 3.40871I$	$-6.47467 + 4.45050I$
$u = -0.565384 - 0.601457I$ $a = -1.27510 + 1.51897I$ $b = 1.37657 - 0.62582I$	$-4.58349 + 3.40871I$	$-6.47467 - 4.45050I$
$u = 0.358138 + 1.123810I$ $a = -0.693261 - 1.094840I$ $b = 0.116361 + 1.243460I$	$3.61177 + 1.15606I$	$5.87778 - 2.10913I$
$u = 0.358138 - 1.123810I$ $a = -0.693261 + 1.094840I$ $b = 0.116361 - 1.243460I$	$3.61177 - 1.15606I$	$5.87778 + 2.10913I$
$u = 0.236290 + 0.784176I$ $a = 0.323758 - 1.085050I$ $b = 0.319778 + 1.248470I$	$-1.44492 - 2.15650I$	$1.18067 + 4.86459I$
$u = 0.236290 - 0.784176I$ $a = 0.323758 + 1.085050I$ $b = 0.319778 - 1.248470I$	$-1.44492 + 2.15650I$	$1.18067 - 4.86459I$
$u = 0.569463 + 1.038150I$ $a = -1.245740 + 0.459303I$ $b = 0.370992 + 0.947636I$	$-2.08324 - 5.49920I$	$-2.48960 + 5.73420I$
$u = 0.569463 - 1.038150I$ $a = -1.245740 - 0.459303I$ $b = 0.370992 - 0.947636I$	$-2.08324 + 5.49920I$	$-2.48960 - 5.73420I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.311733+0.704205I$ $a=-1.54901-0.07390I$ $b=\ \ 1.18261-1.89006I$	$-3.50132+5.02428I$	$-3.57390-5.95135I$
$u=-0.311733-0.704205I$ $a=-1.54901+0.07390I$ $b=\ \ 1.18261+1.89006I$	$-3.50132-5.02428I$	$-3.57390+5.95135I$
$u=-0.397016+1.196750I$ $a=-0.382753+1.247280I$ $b=-0.94850-1.07461I$	$4.72226+4.99351I$	$2.97622-5.72956I$
$u=-0.397016-1.196750I$ $a=-0.382753-1.247280I$ $b=-0.94850+1.07461I$	$4.72226-4.99351I$	$2.97622+5.72956I$
$u=\ \ 0.532105+1.164830I$ $a=\ \ 0.416740-0.477413I$ $b=-1.42928-0.07832I$	$2.27468-9.18953I$	$1.19515+5.88178I$
$u=\ \ 0.532105-1.164830I$ $a=\ \ 0.416740+0.477413I$ $b=-1.42928+0.07832I$	$2.27468+9.18953I$	$1.19515-5.88178I$
$u=\ \ 0.060909+0.716731I$ $a=\ \ 2.44743+0.13430I$ $b=\ \ 0.977492+0.313749I$	$1.42990-3.22675I$	$10.31401+5.97849I$
$u=\ \ 0.060909-0.716731I$ $a=\ \ 2.44743-0.13430I$ $b=\ \ 0.977492-0.313749I$	$1.42990+3.22675I$	$10.31401-5.97849I$
$u=-0.478469+1.225040I$ $a=\ \ 0.034275+0.929796I$ $b=-1.36972-0.51567I$	$4.11229+4.02079I$	$4.19683-5.30760I$
$u=-0.478469-1.225040I$ $a=\ \ 0.034275-0.929796I$ $b=-1.36972+0.51567I$	$4.11229-4.02079I$	$4.19683+5.30760I$

III. $I_3^u = \langle u^2 + b,\ a - 1,\ u^{12} - u^{11} + \cdots - 2u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_5 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

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

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

$$a_3 = \begin{pmatrix} -u^5 - 2u^3 - u \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^4 + u^2 + 1 \\ u^6 - u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^7 - 2u^3 - 2u \\ -u^9 - u^7 + u^5 + 2u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{11} + u^{10} + u^9 + 3u^8 - u^7 + 3u^6 - 3u^5 - 3u^2 + 2u \\ -u^{11} - u^9 - 2u^8 + u^7 - 3u^6 + 3u^5 - u^4 + 2u^2 - 2u + 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^7 - 4u^5 + 4u - 2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2+u+1)^6$
c_2, c_6	$(u^2-u+1)^6$
c_3, c_5	$u^{12}-u^{11}-6u^{10}+3u^9+16u^8-3u^7-13u^6-3u^5+4u^3+8u^2-6u+1$
c_4, c_{10}, c_{12}	$u^{12}+u^{11}+2u^{10}+u^9-u^7-3u^6-3u^5-2u^4+2u^2+2u+1$
c_7, c_9, c_{11}	$u^{12}-3u^{11}+2u^{10}+5u^9-8u^8-u^7+9u^6-3u^5-4u^4+2u^3+1$
c_8	$u^{12}-5u^{11}+\cdots-8u^2+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6	$(y^2 + y + 1)^6$
c_3, c_5	$y^{12} - 13y^{11} + \cdots - 20y + 1$
c_4, c_{10}, c_{12}	$y^{12} + 3y^{11} + 2y^{10} - 5y^9 - 8y^8 + y^7 + 9y^6 + 3y^5 - 4y^4 - 2y^3 + 1$
c_7, c_9, c_{11}	$y^{12} - 5y^{11} + \cdots - 8y^2 + 1$
c_8	$y^{12} + 11y^{11} + \cdots - 16y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.975107+0.094413I$ $a=\quad 1.00000$ $b=-0.941920+0.184126I$	$2.02988I$	$0.-3.46410I$
$u=-0.975107-0.094413I$ $a=\quad 1.00000$ $b=-0.941920-0.184126I$	$-2.02988I$	$0.+3.46410I$
$u=\quad 0.143629+1.043280I$ $a=\quad 1.00000$ $b=\quad 1.067800-0.299691I$	$-2.02988I$	$0.+3.46410I$
$u=\quad 0.143629-1.043280I$ $a=\quad 1.00000$ $b=\quad 1.067800+0.299691I$	$2.02988I$	$0.-3.46410I$
$u=\quad 0.891573+0.185983I$ $a=\quad 1.00000$ $b=-0.760313-0.331634I$	$2.02988I$	$0.-3.46410I$
$u=\quad 0.891573-0.185983I$ $a=\quad 1.00000$ $b=-0.760313+0.331634I$	$-2.02988I$	$0.+3.46410I$
$u=-0.453586+1.080490I$ $a=\quad 1.00000$ $b=\quad 0.961710+0.980187I$	$2.02988I$	$0.-3.46410I$
$u=-0.453586-1.080490I$ $a=\quad 1.00000$ $b=\quad 0.961710-0.980187I$	$-2.02988I$	$0.+3.46410I$
$u=\quad 0.380623+1.119860I$ $a=\quad 1.00000$ $b=\quad 1.109210-0.852489I$	$2.02988I$	$0.-3.46410I$
$u=\quad 0.380623-1.119860I$ $a=\quad 1.00000$ $b=\quad 1.109210+0.852489I$	$-2.02988I$	$0.+3.46410I$

	Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.512868 + 0.571437I$		
$a =$	1.00000	$-2.02988I$	$0. + 3.46410I$
$b =$	$0.063506 - 0.586144I$		
$u =$	$0.512868 - 0.571437I$		
$a =$	1.00000	$2.02988I$	$0. - 3.46410I$
$b =$	$0.063506 + 0.586144I$		

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

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} 1 \\ u+1 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -u \\ u+1 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2u \\ u+2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u-2 \\ -u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u \\ u+1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u+2 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ u+1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4u + 2$

(iv) u-Polynomials at the component

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

(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 c_{10}, c_{11}, c_{12}	$y^2 + y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.500000 + 0.866025I$ $a = \quad 1.00000$ $b = \quad 0.500000 + 0.866025I$	$-\ 2.02988I$	$0. + 3.46410I$
$u = -0.500000 - 0.866025I$ $a = \quad 1.00000$ $b = \quad 0.500000 - 0.866025I$	$2.02988I$	$0. - 3.46410I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2+u+1)^7)(u^{30}-15u^{29}+\cdots-17u+1)$ $\cdot(u^{138}+57u^{137}+\cdots+4078944u+222784)$
c_2	$((u^2-u+1)^7)(u^{30}-u^{29}+\cdots-u+1)(u^{138}+7u^{137}+\cdots+976u+472)$
c_3	(u^2+u+1) $\cdot(u^{12}-u^{11}-6u^{10}+3u^9+16u^8-3u^7-13u^6-3u^5+4u^3+8u^2-6u+1)$ $\cdot(u^{30}-8u^{28}+\cdots-2u+1)(u^{138}+u^{137}+\cdots+1500u+84625)$
c_4	$(u^2-u+1)(u^{12}+u^{11}+\cdots+2u+1)$ $\cdot(u^{30}+8u^{28}+\cdots+6u^2+1)(u^{138}-u^{137}+\cdots-2u+1)$
c_5	(u^2+u+1) $\cdot(u^{12}-u^{11}-6u^{10}+3u^9+16u^8-3u^7-13u^6-3u^5+4u^3+8u^2-6u+1)$ $\cdot(u^{30}-7u^{29}+\cdots-4u^2+1)(u^{138}-4u^{137}+\cdots-50u+1)$
c_6	$((u^2-u+1)^7)(u^{30}+u^{29}+\cdots+u+1)(u^{138}+7u^{137}+\cdots+976u+472)$
c_7	(u^2-u+1) $\cdot(u^{12}-3u^{11}+2u^{10}+5u^9-8u^8-u^7+9u^6-3u^5-4u^4+2u^3+1)$ $\cdot(u^{30}+2u^{29}+\cdots+2u+1)(u^{138}+3u^{137}+\cdots+32098u+2479)$
c_8	$(u^2+u+1)(u^{12}-5u^{11}+\cdots-8u^2+1)(u^{30}+5u^{28}+\cdots+4u^4+1)$ $\cdot(u^{138}-u^{137}+\cdots-312712u+21829)$
c_9	(u^2-u+1) $\cdot(u^{12}-3u^{11}+2u^{10}+5u^9-8u^8-u^7+9u^6-3u^5-4u^4+2u^3+1)$ $\cdot(u^{30}+16u^{29}+\cdots+12u+1)(u^{138}-73u^{137}+\cdots-12u+1)$
c_{10}	$(u^2-u+1)(u^{12}+u^{11}+\cdots+2u+1)$ $\cdot(u^{30}+8u^{28}+\cdots+6u^2+1)(u^{138}-u^{137}+\cdots-2u+1)$
c_{11}	(u^2-u+1) $\cdot(u^{12}-3u^{11}+2u^{10}+5u^9-8u^8-u^7+9u^6-3u^5-4u^4+2u^3+1)$ $\cdot(u^{30}-2u^{29}+\cdots-2u+1)(u^{138}+3u^{137}+\cdots+32098u+2479)$
c_{12}	$(u^2-u+1)(u^{12}+u^{11}+\cdots+2u+1)$ $\cdot(u^{30}+4u^{28}+\cdots+4u^2+1)(u^{138}-3u^{137}+\cdots+126u+107)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^7)(y^{30}+15y^{29}+\cdots+5y+1)$ $\cdot\,(y^{138}+57y^{137}+\cdots+592047023616y+49632710656)$
c_2, c_6	$((y^2+y+1)^7)(y^{30}+15y^{29}+\cdots+17y+1)$ $\cdot\,(y^{138}+57y^{137}+\cdots+4078944y+222784)$
c_3	$(y^2+y+1)(y^{12}-13y^{11}+\cdots-20y+1)(y^{30}-16y^{29}+\cdots+22y+1)$ $\cdot\,(y^{138}-63y^{137}+\cdots+1166513601250y+7161390625)$
c_4, c_{10}	(y^2+y+1) $\cdot\,(y^{12}+3y^{11}+2y^{10}-5y^9-8y^8+y^7+9y^6+3y^5-4y^4-2y^3+1)$ $\cdot\,(y^{30}+16y^{29}+\cdots+12y+1)(y^{138}+73y^{137}+\cdots+12y+1)$
c_5	$(y^2+y+1)(y^{12}-13y^{11}+\cdots-20y+1)(y^{30}-7y^{29}+\cdots-8y+1)$ $\cdot\,(y^{138}-6y^{137}+\cdots-84y+1)$
c_7, c_{11}	$(y^2+y+1)(y^{12}-5y^{11}+\cdots-8y^2+1)(y^{30}-22y^{29}+\cdots-28y+1)$ $\cdot\,(y^{138}-89y^{137}+\cdots-992898284y+6145441)$
c_8	$(y^2+y+1)(y^{12}+11y^{11}+\cdots-16y+1)(y^{30}+10y^{29}+\cdots+8y^2+1)$ $\cdot\,(y^{138}-33y^{137}+\cdots-25000518340y+476505241)$
c_9	$(y^2+y+1)(y^{12}-5y^{11}+\cdots-8y^2+1)(y^{30}+32y^{28}+\cdots-4y+1)$ $\cdot\,(y^{138}+5y^{137}+\cdots+56y+1)$
c_{12}	(y^2+y+1) $\cdot\,(y^{12}+3y^{11}+2y^{10}-5y^9-8y^8+y^7+9y^6+3y^5-4y^4-2y^3+1)$ $\cdot\,(y^{30}+8y^{29}+\cdots+8y+1)(y^{138}+13y^{137}+\cdots+1100348y+11449)$