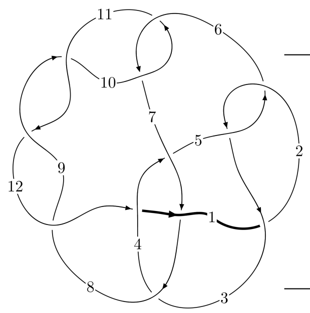
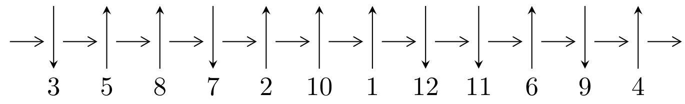
$12a_{0135}$ ($K12a_{0135}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle &-1.72692 \times 10^{119} u^{90} - 4.57225 \times 10^{119} u^{89} + \cdots + 9.30165 \times 10^{118} b + 8.53692 \times 10^{118}, \\
&- 2.15215 \times 10^{118} u^{90} + 2.31866 \times 10^{118} u^{89} + \cdots + 9.30165 \times 10^{118} a + 4.34610 \times 10^{119}, \\
&u^{91} + 3u^{90} + \cdots + 6u - 1 \rangle \\
I_2^u = \langle &b + u,\ a - u + 3,\ u^2 - u + 1 \rangle \\
I_3^u = \langle &b - u + 1,\ a + 1,\ u^2 - u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 95 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. $\boldsymbol{I_1^u = \langle -1.73 \times 10^{119} u^{90} - 4.57 \times 10^{119} u^{89} + \cdots + 9.30 \times 10^{118} b + 8.54 \times 10^{118},\ -2.15 \times 10^{118} u^{90} + 2.32 \times 10^{118} u^{89} + \cdots + 9.30 \times 10^{118} a + 4.35 \times 10^{119},\ u^{91} + 3u^{90} + \cdots + 6u - 1 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.231373u^{90} - 0.249274u^{89} + \cdots + 24.4495u - 4.67240 \\ 1.85658u^{90} + 4.91553u^{89} + \cdots + 13.7608u - 0.917786 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1.62521u^{90} - 5.16481u^{89} + \cdots + 10.6888u - 3.75462 \\ 1.85658u^{90} + 4.91553u^{89} + \cdots + 13.7608u - 0.917786 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.458050u^{90} + 3.21372u^{89} + \cdots + 32.7962u + 1.43676 \\ -2.25080u^{90} - 6.04356u^{89} + \cdots - 19.0753u + 2.63567 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -4.09748u^{90} - 7.94122u^{89} + \cdots + 15.9952u + 4.35003 \\ -4.11933u^{90} - 11.4435u^{89} + \cdots - 31.3514u + 4.60999 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.0190941u^{90} + 0.310953u^{89} + \cdots + 23.5765u - 3.48020 \\ -1.31966u^{90} - 2.74606u^{89} + \cdots + 8.20849u - 0.608729 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.121914u^{90} - 0.846999u^{89} + \cdots - 17.1093u - 3.46520 \\ 0.988446u^{90} + 2.53453u^{89} + \cdots + 11.9943u - 1.32525 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -1.53320u^{90} - 3.62439u^{89} + \cdots - 4.26452u - 0.301799 \\ -1.15828u^{90} - 3.43455u^{89} + \cdots - 0.939083u + 0.245751 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0831505u^{90} + 2.13230u^{89} + \cdots - 61.4353u + 6.79727$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{91} + 33u^{90} + \cdots - 118u - 1$
c_2, c_5	$u^{91} + 3u^{90} + \cdots + 6u - 1$
c_3	$u^{91} - 2u^{90} + \cdots - 13743u - 1847$
c_4	$u^{91} - 4u^{90} + \cdots - 2610301u - 1139239$
c_6, c_{10}	$u^{91} - 3u^{90} + \cdots + 8u - 1$
c_7	$u^{91} + 7u^{90} + \cdots + u^2 - 1$
c_8, c_9, c_{11}	$u^{91} + 21u^{90} + \cdots + 2u - 1$
c_{12}	$u^{91} + 9u^{90} + \cdots - 48u - 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{91} + 53y^{90} + \cdots + 3722y - 1$
c_2, c_5	$y^{91} + 33y^{90} + \cdots - 118y - 1$
c_3	$y^{91} - 126y^{90} + \cdots + 130933353y - 3411409$
c_4	$y^{91} - 58y^{90} + \cdots - 17761718980039y - 1297865499121$
c_6, c_{10}	$y^{91} + 21y^{90} + \cdots + 2y - 1$
c_7	$y^{91} - 7y^{90} + \cdots + 2y - 1$
c_8, c_9, c_{11}	$y^{91} + 101y^{90} + \cdots - 174y - 1$
c_{12}	$y^{91} - 25y^{90} + \cdots + 1664y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.849901 + 0.532640I$ $a = -0.963557 - 0.039990I$ $b = -0.501919 - 0.972635I$	$2.60124 + 7.64482I$	0
$u = -0.849901 - 0.532640I$ $a = -0.963557 + 0.039990I$ $b = -0.501919 + 0.972635I$	$2.60124 - 7.64482I$	0
$u = -0.817325 + 0.615518I$ $a = -1.232520 + 0.074616I$ $b = -0.740788 + 0.415458I$	$4.41799 + 3.11359I$	0
$u = -0.817325 - 0.615518I$ $a = -1.232520 - 0.074616I$ $b = -0.740788 - 0.415458I$	$4.41799 - 3.11359I$	0
$u = 0.519619 + 0.884274I$ $a = 5.36046 - 1.09932I$ $b = 0.388031 + 0.748802I$	$-0.12886 + 3.65979I$	0
$u = 0.519619 - 0.884274I$ $a = 5.36046 + 1.09932I$ $b = 0.388031 - 0.748802I$	$-0.12886 - 3.65979I$	0
$u = 0.510616 + 0.827287I$ $a = 2.72439 - 2.64972I$ $b = 0.405786 - 0.690615I$	$0.060399 + 0.518242I$	0
$u = 0.510616 - 0.827287I$ $a = 2.72439 + 2.64972I$ $b = 0.405786 + 0.690615I$	$0.060399 - 0.518242I$	0
$u = -0.692631 + 0.759883I$ $a = 0.656579 + 0.844041I$ $b = 0.770775 + 0.266041I$	$3.68029 + 0.01829I$	0
$u = -0.692631 - 0.759883I$ $a = 0.656579 - 0.844041I$ $b = 0.770775 - 0.266041I$	$3.68029 - 0.01829I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.617883 + 0.826016I$ $a = 1.83951 + 0.89847I$ $b = 0.426311 - 1.065410I$	$1.05247 - 4.32716I$	0
$u = -0.617883 - 0.826016I$ $a = 1.83951 - 0.89847I$ $b = 0.426311 + 1.065410I$	$1.05247 + 4.32716I$	0
$u = -0.726000 + 0.745604I$ $a = -1.29706 - 0.82696I$ $b = -0.872823 - 0.989713I$	$10.44210 + 3.74493I$	0
$u = -0.726000 - 0.745604I$ $a = -1.29706 + 0.82696I$ $b = -0.872823 + 0.989713I$	$10.44210 - 3.74493I$	0
$u = 0.602511 + 0.853945I$ $a = -0.234195 + 0.139093I$ $b = 0.230041 + 0.140089I$	$0.59146 + 2.37151I$	0
$u = 0.602511 - 0.853945I$ $a = -0.234195 - 0.139093I$ $b = 0.230041 - 0.140089I$	$0.59146 - 2.37151I$	0
$u = 0.599752 + 0.859541I$ $a = -1.43361 + 3.11843I$ $b = -0.863708 + 0.907500I$	$7.32016 - 0.83535I$	0
$u = 0.599752 - 0.859541I$ $a = -1.43361 - 3.11843I$ $b = -0.863708 - 0.907500I$	$7.32016 + 0.83535I$	0
$u = 0.877497 + 0.363830I$ $a = -1.038190 - 0.060966I$ $b = -0.508067 + 0.669065I$	$2.84624 - 0.28140I$	0
$u = 0.877497 - 0.363830I$ $a = -1.038190 + 0.060966I$ $b = -0.508067 - 0.669065I$	$2.84624 + 0.28140I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.431094 + 0.846214I$ $a = -1.09578 + 3.27982I$ $b = 0.259700 - 0.740101I$	$-0.645516 + 0.537865I$	0
$u = 0.431094 - 0.846214I$ $a = -1.09578 - 3.27982I$ $b = 0.259700 + 0.740101I$	$-0.645516 - 0.537865I$	0
$u = 0.596746 + 0.874010I$ $a = -4.24870 - 0.23202I$ $b = -0.857433 - 0.922091I$	$7.27361 + 5.54804I$	0
$u = 0.596746 - 0.874010I$ $a = -4.24870 + 0.23202I$ $b = -0.857433 + 0.922091I$	$7.27361 - 5.54804I$	0
$u = 0.894016 + 0.581594I$ $a = -1.121050 + 0.001326I$ $b = -0.496497 - 0.735231I$	$2.63988 + 3.58113I$	0
$u = 0.894016 - 0.581594I$ $a = -1.121050 - 0.001326I$ $b = -0.496497 + 0.735231I$	$2.63988 - 3.58113I$	0
$u = -0.733854 + 0.776716I$ $a = -1.82619 + 0.31741I$ $b = -0.934033 + 0.867541I$	$10.83630 - 2.90148I$	0
$u = -0.733854 - 0.776716I$ $a = -1.82619 - 0.31741I$ $b = -0.934033 - 0.867541I$	$10.83630 + 2.90148I$	0
$u = -0.280961 + 0.884040I$ $a = 2.09555 + 1.09791I$ $b = 0.647761 - 0.936156I$	$-1.00500 - 3.64630I$	0
$u = -0.280961 - 0.884040I$ $a = 2.09555 - 1.09791I$ $b = 0.647761 + 0.936156I$	$-1.00500 + 3.64630I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.112513 + 1.073590I$ $a = -0.327040 - 0.315830I$ $b = -0.504186 + 0.242565I$	$-1.94008 + 2.47820I$	0
$u = 0.112513 - 1.073590I$ $a = -0.327040 + 0.315830I$ $b = -0.504186 - 0.242565I$	$-1.94008 - 2.47820I$	0
$u = -0.093647 + 1.075460I$ $a = -0.92238 - 1.67542I$ $b = -0.116466 + 0.924714I$	$-5.30788 + 0.87494I$	0
$u = -0.093647 - 1.075460I$ $a = -0.92238 + 1.67542I$ $b = -0.116466 - 0.924714I$	$-5.30788 - 0.87494I$	0
$u = -0.612905 + 0.889404I$ $a = 0.290577 - 0.103085I$ $b = 0.499503 + 1.060910I$	$0.851704 - 0.510059I$	0
$u = -0.612905 - 0.889404I$ $a = 0.290577 + 0.103085I$ $b = 0.499503 - 1.060910I$	$0.851704 + 0.510059I$	0
$u = 0.184750 + 0.886590I$ $a = 0.13634 - 1.47179I$ $b = -0.836064 + 0.881099I$	$5.34127 - 1.26788I$	0
$u = 0.184750 - 0.886590I$ $a = 0.13634 + 1.47179I$ $b = -0.836064 - 0.881099I$	$5.34127 + 1.26788I$	0
$u = 0.131289 + 0.875525I$ $a = 0.360689 + 1.151290I$ $b = -0.819487 - 0.926120I$	$5.19890 + 4.91121I$	0
$u = 0.131289 - 0.875525I$ $a = 0.360689 - 1.151290I$ $b = -0.819487 + 0.926120I$	$5.19890 - 4.91121I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.970603 + 0.569422I$ $a = 1.70225 + 0.58793I$ $b = 0.861320 + 0.981783I$	$11.5861 + 11.3303I$	0
$u = -0.970603 - 0.569422I$ $a = 1.70225 - 0.58793I$ $b = 0.861320 - 0.981783I$	$11.5861 - 11.3303I$	0
$u = -0.963311 + 0.587822I$ $a = 1.64789 - 0.70694I$ $b = 0.917846 - 0.864762I$	$11.96280 + 4.76976I$	0
$u = -0.963311 - 0.587822I$ $a = 1.64789 + 0.70694I$ $b = 0.917846 + 0.864762I$	$11.96280 - 4.76976I$	0
$u = 0.456158 + 1.037480I$ $a = -0.389843 - 1.240120I$ $b = -0.031963 + 0.662712I$	$-1.30740 + 2.81413I$	0
$u = 0.456158 - 1.037480I$ $a = -0.389843 + 1.240120I$ $b = -0.031963 - 0.662712I$	$-1.30740 - 2.81413I$	0
$u = -0.616797 + 0.586810I$ $a = -0.630115 - 0.593051I$ $b = 0.091943 + 1.003370I$	$-0.77636 + 2.15470I$	$0. - 4.37699I$
$u = -0.616797 - 0.586810I$ $a = -0.630115 + 0.593051I$ $b = 0.091943 - 1.003370I$	$-0.77636 - 2.15470I$	$0. + 4.37699I$
$u = -0.669127 + 0.933812I$ $a = 1.053490 + 0.257114I$ $b = 0.805821 - 0.356822I$	$3.14957 - 5.27168I$	0
$u = -0.669127 - 0.933812I$ $a = 1.053490 - 0.257114I$ $b = 0.805821 + 0.356822I$	$3.14957 + 5.27168I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.709401 + 0.929341I$ $a = -0.43176 - 1.36082I$ $b = -0.933066 - 0.835236I$	$10.37540 - 2.59766I$	0
$u = -0.709401 - 0.929341I$ $a = -0.43176 + 1.36082I$ $b = -0.933066 + 0.835236I$	$10.37540 + 2.59766I$	0
$u = -0.692398 + 0.948673I$ $a = -2.37573 - 0.68073I$ $b = -0.851462 + 1.006150I$	$9.82767 - 9.16908I$	0
$u = -0.692398 - 0.948673I$ $a = -2.37573 + 0.68073I$ $b = -0.851462 - 1.006150I$	$9.82767 + 9.16908I$	0
$u = -0.623895 + 1.011700I$ $a = 0.785245 + 0.975928I$ $b = 0.015722 - 1.059090I$	$-2.01032 - 7.11313I$	0
$u = -0.623895 - 1.011700I$ $a = 0.785245 - 0.975928I$ $b = 0.015722 + 1.059090I$	$-2.01032 + 7.11313I$	0
$u = 0.045555 + 1.214720I$ $a = -0.484074 + 1.318660I$ $b = -0.393566 - 0.910947I$	$-3.80581 + 5.86634I$	0
$u = 0.045555 - 1.214720I$ $a = -0.484074 - 1.318660I$ $b = -0.393566 + 0.910947I$	$-3.80581 - 5.86634I$	0
$u = 1.123530 + 0.473437I$ $a = 1.55666 - 0.70599I$ $b = 0.876538 - 0.914912I$	$10.72650 - 1.33898I$	0
$u = 1.123530 - 0.473437I$ $a = 1.55666 + 0.70599I$ $b = 0.876538 + 0.914912I$	$10.72650 + 1.33898I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.120930 + 0.505165I$ $a = 1.76081 + 0.51486I$ $b = 0.871819 + 0.925682I$	$10.69210 + 5.13030I$	0
$u = 1.120930 - 0.505165I$ $a = 1.76081 - 0.51486I$ $b = 0.871819 - 0.925682I$	$10.69210 - 5.13030I$	0
$u = -0.168598 + 0.743687I$ $a = 0.097075 + 1.148460I$ $b = 0.670818 + 0.683333I$	$-0.26065 + 1.43849I$	$0.70027 - 4.68099I$
$u = -0.168598 - 0.743687I$ $a = 0.097075 - 1.148460I$ $b = 0.670818 - 0.683333I$	$-0.26065 - 1.43849I$	$0.70027 + 4.68099I$
$u = 0.736403 + 1.009620I$ $a = -0.468158 + 0.400540I$ $b = -0.461532 + 0.563896I$	$1.39201 + 2.41084I$	0
$u = 0.736403 - 1.009620I$ $a = -0.468158 - 0.400540I$ $b = -0.461532 - 0.563896I$	$1.39201 - 2.41084I$	0
$u = -0.694222 + 1.040550I$ $a = -0.493234 - 0.817494I$ $b = -0.777850 - 0.351434I$	$3.13774 - 8.78147I$	0
$u = -0.694222 - 1.040550I$ $a = -0.493234 + 0.817494I$ $b = -0.777850 + 0.351434I$	$3.13774 + 8.78147I$	0
$u = -0.679106 + 1.081570I$ $a = -1.80508 - 1.00277I$ $b = -0.479881 + 1.014780I$	$0.95712 - 13.32860I$	0
$u = -0.679106 - 1.081570I$ $a = -1.80508 + 1.00277I$ $b = -0.479881 - 1.014780I$	$0.95712 + 13.32860I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.677796 + 1.129590I$ $a = -1.54909 + 0.92864I$ $b = -0.450776 - 0.810377I$	$0.62133 + 6.00662I$	0
$u = 0.677796 - 1.129590I$ $a = -1.54909 - 0.92864I$ $b = -0.450776 + 0.810377I$	$0.62133 - 6.00662I$	0
$u = -0.737965 + 1.109330I$ $a = 0.373964 + 1.297730I$ $b = 0.924889 + 0.849007I$	$10.3406 - 10.9824I$	0
$u = -0.737965 - 1.109330I$ $a = 0.373964 - 1.297730I$ $b = 0.924889 - 0.849007I$	$10.3406 + 10.9824I$	0
$u = -0.732281 + 1.119710I$ $a = 2.32450 + 0.72732I$ $b = 0.854775 - 0.993855I$	$9.8747 - 17.5410I$	0
$u = -0.732281 - 1.119710I$ $a = 2.32450 - 0.72732I$ $b = 0.854775 + 0.993855I$	$9.8747 + 17.5410I$	0
$u = 0.170676 + 1.332070I$ $a = 0.458693 + 0.026516I$ $b = 0.870624 - 0.869699I$	$4.13893 + 2.77531I$	0
$u = 0.170676 - 1.332070I$ $a = 0.458693 - 0.026516I$ $b = 0.870624 + 0.869699I$	$4.13893 - 2.77531I$	0
$u = 0.142280 + 1.341810I$ $a = 1.011260 - 0.660914I$ $b = 0.839387 + 0.951411I$	$3.88236 + 9.12117I$	0
$u = 0.142280 - 1.341810I$ $a = 1.011260 + 0.660914I$ $b = 0.839387 - 0.951411I$	$3.88236 - 9.12117I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.83039 + 1.16802I$ $a = 0.753412 - 0.993533I$ $b = 0.875904 - 0.899008I$	$8.69301 + 1.80931I$	0
$u = 0.83039 - 1.16802I$ $a = 0.753412 + 0.993533I$ $b = 0.875904 + 0.899008I$	$8.69301 - 1.80931I$	0
$u = 0.81554 + 1.18606I$ $a = 2.04788 - 0.32644I$ $b = 0.860429 + 0.935867I$	$8.57613 + 8.24005I$	0
$u = 0.81554 - 1.18606I$ $a = 2.04788 + 0.32644I$ $b = 0.860429 - 0.935867I$	$8.57613 - 8.24005I$	0
$u = 0.415409 + 0.024323I$ $a = -0.706081 + 0.179155I$ $b = -0.869012 - 0.918163I$	$7.77250 + 3.21828I$	$2.11566 - 2.54802I$
$u = 0.415409 - 0.024323I$ $a = -0.706081 - 0.179155I$ $b = -0.869012 + 0.918163I$	$7.77250 - 3.21828I$	$2.11566 + 2.54802I$
$u = -0.044199 + 0.410306I$ $a = -1.99379 - 1.34973I$ $b = 0.212536 + 0.852464I$	$-1.04777 + 1.86288I$	$-1.60939 - 6.09866I$
$u = -0.044199 - 0.410306I$ $a = -1.99379 + 1.34973I$ $b = 0.212536 - 0.852464I$	$-1.04777 - 1.86288I$	$-1.60939 + 6.09866I$
$u = 0.397940$ $a = -0.800897$ $b = 0.344230$	1.04464	10.2590
$u = 0.0329684 + 0.1267360I$ $a = -3.56956 + 2.34469I$ $b = 0.450187 + 0.740986I$	$0.03826 + 1.72895I$	$0.38702 - 4.59278I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.0329684 - 0.1267360I$ $a = -3.56956 - 2.34469I$ $b = \ \ 0.450187 - 0.740986I$	$0.03826 - 1.72895I$	$0.38702 + 4.59278I$

II. $I_2^u = \langle b + u,\ a - u + 3,\ u^2 - u + 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u - 1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} u \\ u - 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u - 3 \\ -u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u - 3 \\ -u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u - 1 \\ -u + 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -2u \\ -u + 1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u - 1 \\ -u + 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8u + 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.500000 + 0.866025I$ $a = -2.50000 + 0.86603I$ $b = -0.500000 - 0.866025I$	$4.05977I$	$3.00000 - 6.92820I$
$u = \quad 0.500000 - 0.866025I$ $a = -2.50000 - 0.86603I$ $b = -0.500000 + 0.866025I$	$-4.05977I$	$3.00000 + 6.92820I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(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}	$y^2 + y + 1$
c_{12}	y^2

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = -1.00000$ $b = -0.500000 + 0.866025I$	0	0
$u = 0.500000 - 0.866025I$ $a = -1.00000$ $b = -0.500000 - 0.866025I$	0	0

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^2)(u^{91}+33u^{90}+\cdots-118u-1)$
c_2	$((u^2+u+1)^2)(u^{91}+3u^{90}+\cdots+6u-1)$
c_3	$((u+1)^2)(u^2-u+1)(u^{91}-2u^{90}+\cdots-13743u-1847)$
c_4	$((u+1)^2)(u^2-u+1)(u^{91}-4u^{90}+\cdots-2610301u-1139239)$
c_5	$((u^2-u+1)^2)(u^{91}+3u^{90}+\cdots+6u-1)$
c_6	$((u^2+u+1)^2)(u^{91}-3u^{90}+\cdots+8u-1)$
c_7	$((u^2-u+1)^2)(u^{91}+7u^{90}+\cdots+u^2-1)$
c_8, c_9	$((u^2-u+1)^2)(u^{91}+21u^{90}+\cdots+2u-1)$
c_{10}	$((u^2-u+1)^2)(u^{91}-3u^{90}+\cdots+8u-1)$
c_{11}	$((u^2+u+1)^2)(u^{91}+21u^{90}+\cdots+2u-1)$
c_{12}	$u^4(u^{91}+9u^{90}+\cdots-48u-16)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^2)(y^{91}+53y^{90}+\cdots+3722y-1)$
c_2, c_5	$((y^2+y+1)^2)(y^{91}+33y^{90}+\cdots-118y-1)$
c_3	$((y-1)^2)(y^2+y+1)(y^{91}-126y^{90}+\cdots+1.30933\times 10^8 y-3411409)$
c_4	$(y-1)^2(y^2+y+1)$ $\cdot(y^{91}-58y^{90}+\cdots-17761718980039y-1297865499121)$
c_6, c_{10}	$((y^2+y+1)^2)(y^{91}+21y^{90}+\cdots+2y-1)$
c_7	$((y^2+y+1)^2)(y^{91}-7y^{90}+\cdots+2y-1)$
c_8, c_9, c_{11}	$((y^2+y+1)^2)(y^{91}+101y^{90}+\cdots-174y-1)$
c_{12}	$y^4(y^{91}-25y^{90}+\cdots+1664y-256)$