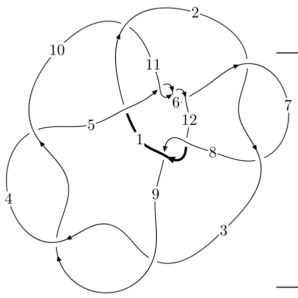
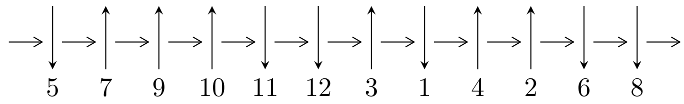
$12a_{1260}$ $(K12a_{1260})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -4.25260 \times 10^{169} u^{87} + 4.64928 \times 10^{169} u^{86} + \cdots + 1.00310 \times 10^{170} b - 5.41733 \times 10^{169}, \\
& -1.51686 \times 10^{169} u^{87} - 8.93383 \times 10^{169} u^{86} + \cdots + 1.00310 \times 10^{170} a - 4.70692 \times 10^{171}, \\
& u^{88} - 45u^{86} + \cdots + 44u - 1 \rangle \\
I_2^u = \langle & -29u^{15} - 34u^{14} + \cdots + 73b - 87,\ -82u^{15} + 70u^{14} + \cdots + 73a + 119, \\
& u^{16} - 9u^{14} + 34u^{12} - u^{11} - 72u^{10} + 7u^9 + 95u^8 - 19u^7 - 76u^6 + 24u^5 + 26u^4 - 12u^3 + 4u^2 - 1 \rangle \\
I_3^u = \langle & b,\ a - 1,\ u + 1 \rangle \\
I_4^u = \langle & b - 1,\ a,\ u + 1 \rangle \\
I_5^u = \langle & b + 1,\ a - 1,\ u - 1 \rangle
\end{aligned}$$

$$I_1^v = \langle a,\ b - 1,\ v + 1 \rangle$$

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 108 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. $\boldsymbol{I_1^u = \langle -4.25 \times 10^{169} u^{87} + 4.65 \times 10^{169} u^{86} + \cdots + 1.00 \times 10^{170} b - 5.42 \times 10^{169},\ -1.52 \times 10^{169} u^{87} - 8.93 \times 10^{169} u^{86} + \cdots + 1.00 \times 10^{170} a - 4.71 \times 10^{171},\ u^{88} - 45u^{86} + \cdots + 44u - 1 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.151218u^{87} + 0.890626u^{86} + \cdots + 92.0941u + 46.9239 \\ 0.423948u^{87} - 0.463494u^{86} + \cdots + 16.2841u + 0.540062 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.289659u^{87} + 1.45974u^{86} + \cdots + 185.969u + 46.5951 \\ 0.352924u^{87} - 0.532037u^{86} + \cdots + 16.0338u + 0.601752 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.0632654u^{87} + 1.99177u^{86} + \cdots + 169.935u + 45.9934 \\ 0.352924u^{87} - 0.532037u^{86} + \cdots + 16.0338u + 0.601752 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.232052u^{87} + 1.30060u^{86} + \cdots + 80.2068u + 46.2469 \\ 0.257568u^{87} - 0.257637u^{86} + \cdots + 11.0024u + 0.658405 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 2.82460u^{87} - 2.45778u^{86} + \cdots + 259.385u + 42.0583 \\ -0.158379u^{87} + 0.283717u^{86} + \cdots - 2.29390u + 0.979181 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 2.32651u^{87} - 2.66880u^{86} + \cdots + 154.491u - 6.36215 \\ -0.123834u^{87} + 0.152593u^{86} + \cdots + 0.0420976u - 0.0772851 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 2.90389u^{87} - 3.07386u^{86} + \cdots + 116.798u + 43.8565 \\ -0.0923931u^{87} + 0.118452u^{86} + \cdots - 3.90791u + 0.961875 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 1.12053u^{87} - 1.26633u^{86} + \cdots + 131.631u - 8.78215$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{88} + 8u^{87} + \cdots + 24u - 7$
c_2, c_7	$u^{88} + 2u^{87} + \cdots + 2042u + 301$
c_3, c_4, c_9	$u^{88} - 45u^{86} + \cdots - 44u - 1$
c_5, c_6, c_{11}	$u^{88} - 45u^{86} + \cdots + 44u - 1$
c_8, c_{12}	$u^{88} - 2u^{87} + \cdots - 2042u + 301$
c_{10}	$u^{88} - 8u^{87} + \cdots - 24u - 7$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{88} - 8y^{87} + \cdots - 8654y + 49$
c_2, c_7, c_8 c_{12}	$y^{88} - 52y^{87} + \cdots - 2985028y + 90601$
c_3, c_4, c_5 c_6, c_9, c_{11}	$y^{88} - 90y^{87} + \cdots - 2260y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.544396 + 0.875051I$ $a = 0.172978 - 1.352960I$ $b = -0.73139 - 1.57973I$	$-6.7713 + 12.4764I$	0
$u = 0.544396 - 0.875051I$ $a = 0.172978 + 1.352960I$ $b = -0.73139 + 1.57973I$	$-6.7713 - 12.4764I$	0
$u = -0.956317$ $a = 0.992268$ $b = 0.0789854$	1.64464	0
$u = -0.550886 + 0.922977I$ $a = 0.155827 + 1.167370I$ $b = -0.80126 + 1.56648I$	$-7.97391I$	0
$u = -0.550886 - 0.922977I$ $a = 0.155827 - 1.167370I$ $b = -0.80126 - 1.56648I$	$7.97391I$	0
$u = 1.044190 + 0.280270I$ $a = 1.230330 - 0.059806I$ $b = 0.217785 - 0.468266I$	$-3.22549 - 0.27919I$	0
$u = 1.044190 - 0.280270I$ $a = 1.230330 + 0.059806I$ $b = 0.217785 + 0.468266I$	$-3.22549 + 0.27919I$	0
$u = 0.626742 + 0.927794I$ $a = -0.821523 + 0.627692I$ $b = -0.11768 + 1.41906I$	$-6.58637 - 6.59944I$	0
$u = 0.626742 - 0.927794I$ $a = -0.821523 - 0.627692I$ $b = -0.11768 - 1.41906I$	$-6.58637 + 6.59944I$	0
$u = -0.526613 + 0.684785I$ $a = -0.70312 - 1.33388I$ $b = -0.07245 - 1.51969I$	$-10.02960 - 5.54243I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.526613 - 0.684785I$ $a = -0.70312 + 1.33388I$ $b = -0.07245 + 1.51969I$	$-10.02960 + 5.54243I$	0
$u = -0.805240$ $a = 0.391426$ $b = 0.460790$	1.79603	4.53920
$u = -0.490581 + 0.616011I$ $a = 1.06304 + 1.42760I$ $b = -0.392573 + 1.100110I$	$-10.08020 + 1.09732I$	$-7.74441 + 1.20458I$
$u = -0.490581 - 0.616011I$ $a = 1.06304 - 1.42760I$ $b = -0.392573 - 1.100110I$	$-10.08020 - 1.09732I$	$-7.74441 - 1.20458I$
$u = 0.380832 + 0.662466I$ $a = -0.403337 + 1.333500I$ $b = -0.048598 + 1.374050I$	$-3.00788 + 3.35782I$	$-5.57246 - 6.97970I$
$u = 0.380832 - 0.662466I$ $a = -0.403337 - 1.333500I$ $b = -0.048598 - 1.374050I$	$-3.00788 - 3.35782I$	$-5.57246 + 6.97970I$
$u = 0.626620 + 0.396753I$ $a = -0.672933 - 0.809314I$ $b = 0.130586 + 0.547089I$	$3.00788 + 3.35782I$	$5.57246 - 6.97970I$
$u = 0.626620 - 0.396753I$ $a = -0.672933 + 0.809314I$ $b = 0.130586 - 0.547089I$	$3.00788 - 3.35782I$	$5.57246 + 6.97970I$
$u = 0.632191 + 0.322594I$ $a = 1.203060 + 0.462563I$ $b = 0.381995 - 0.016239I$	$-3.16087 + 0.64620I$	$-1.05710 - 2.19885I$
$u = 0.632191 - 0.322594I$ $a = 1.203060 - 0.462563I$ $b = 0.381995 + 0.016239I$	$-3.16087 - 0.64620I$	$-1.05710 + 2.19885I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.290410 + 0.165984I$ $a = -0.757711 - 1.016430I$ $b = 0.65828 - 1.36329I$	$-2.30892 - 6.65783I$	0
$u = -1.290410 - 0.165984I$ $a = -0.757711 + 1.016430I$ $b = 0.65828 + 1.36329I$	$-2.30892 + 6.65783I$	0
$u = 0.256030 + 0.614830I$ $a = 0.80597 + 1.28225I$ $b = 0.303511 + 0.806251I$	$-4.48010 + 2.66437I$	$-3.74602 - 3.99855I$
$u = 0.256030 - 0.614830I$ $a = 0.80597 - 1.28225I$ $b = 0.303511 - 0.806251I$	$-4.48010 - 2.66437I$	$-3.74602 + 3.99855I$
$u = -1.332760 + 0.075603I$ $a = 0.383553 - 0.133032I$ $b = -0.72980 - 2.09934I$	$-0.73946 - 5.72891I$	0
$u = -1.332760 - 0.075603I$ $a = 0.383553 + 0.133032I$ $b = -0.72980 + 2.09934I$	$-0.73946 + 5.72891I$	0
$u = 0.046403 + 0.655074I$ $a = 0.97658 + 2.01070I$ $b = 0.346649 + 1.136090I$	$-6.33662 + 3.76157I$	$-7.20888 - 3.14007I$
$u = 0.046403 - 0.655074I$ $a = 0.97658 - 2.01070I$ $b = 0.346649 - 1.136090I$	$-6.33662 - 3.76157I$	$-7.20888 + 3.14007I$
$u = 1.351740 + 0.050237I$ $a = 0.442915 + 0.276216I$ $b = -0.28906 + 1.51830I$	$4.48010 + 2.66437I$	0
$u = 1.351740 - 0.050237I$ $a = 0.442915 - 0.276216I$ $b = -0.28906 - 1.51830I$	$4.48010 - 2.66437I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.056050 + 0.642532I$ $a = -0.290198 + 0.685997I$ $b = -0.896143 + 1.090400I$	$-4.40917 + 3.69922I$	$-5.51020 - 1.14634I$
$u = -0.056050 - 0.642532I$ $a = -0.290198 - 0.685997I$ $b = -0.896143 - 1.090400I$	$-4.40917 - 3.69922I$	$-5.51020 + 1.14634I$
$u = -0.460085 + 0.450465I$ $a = -1.32663 + 1.18708I$ $b = -0.076543 - 0.470061I$	$-3.10880 - 6.58471I$	$-0.37873 + 8.01558I$
$u = -0.460085 - 0.450465I$ $a = -1.32663 - 1.18708I$ $b = -0.076543 + 0.470061I$	$-3.10880 + 6.58471I$	$-0.37873 - 8.01558I$
$u = -1.36627$ $a = -1.73217$ $b = 0.905398$	-5.98531	0
$u = -0.065579 + 1.364860I$ $a = -0.206231 - 0.675181I$ $b = -0.46530 - 1.83137I$	$0.948873I$	0
$u = -0.065579 - 1.364860I$ $a = -0.206231 + 0.675181I$ $b = -0.46530 + 1.83137I$	$-0.948873I$	0
$u = -1.369400 + 0.028835I$ $a = 0.631175 + 0.431447I$ $b = -0.235673 + 0.962981I$	$3.16087 - 0.64620I$	0
$u = -1.369400 - 0.028835I$ $a = 0.631175 - 0.431447I$ $b = -0.235673 - 0.962981I$	$3.16087 + 0.64620I$	0
$u = 1.363230 + 0.171215I$ $a = -0.660268 + 0.782881I$ $b = 0.82120 + 1.43394I$	$3.73467 + 5.37166I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.363230 - 0.171215I$ $a = -0.660268 - 0.782881I$ $b = 0.82120 - 1.43394I$	$3.73467 - 5.37166I$	0
$u = 1.389570 + 0.149869I$ $a = 0.927337 - 0.538716I$ $b = -0.314300 - 0.811935I$	$-4.13711 + 1.41359I$	0
$u = 1.389570 - 0.149869I$ $a = 0.927337 + 0.538716I$ $b = -0.314300 + 0.811935I$	$-4.13711 - 1.41359I$	0
$u = 1.372250 + 0.279237I$ $a = -0.344312 + 0.347855I$ $b = 0.74007 + 1.38034I$	$4.40917 + 3.69922I$	0
$u = 1.372250 - 0.279237I$ $a = -0.344312 - 0.347855I$ $b = 0.74007 - 1.38034I$	$4.40917 - 3.69922I$	0
$u = 1.407000 + 0.024006I$ $a = -1.034020 + 0.207877I$ $b = 1.75773 + 0.53215I$	$3.22549 + 0.27919I$	0
$u = 1.407000 - 0.024006I$ $a = -1.034020 - 0.207877I$ $b = 1.75773 - 0.53215I$	$3.22549 - 0.27919I$	0
$u = -1.388970 + 0.229409I$ $a = -0.261110 - 0.746581I$ $b = 0.79581 - 1.49955I$	$0.73946 - 5.72891I$	0
$u = -1.388970 - 0.229409I$ $a = -0.261110 + 0.746581I$ $b = 0.79581 + 1.49955I$	$0.73946 + 5.72891I$	0
$u = -0.130840 + 0.573179I$ $a = 0.65890 - 1.98220I$ $b = 0.322237 - 1.086800I$	$-0.97901 - 2.75841I$	$-5.08126 + 8.14150I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.130840-0.573179I$ $a=\ 0.65890+1.98220I$ $b=\ 0.322237+1.086800I$	$-0.97901+2.75841I$	$-5.08126-8.14150I$
$u=-1.42591+0.06818I$ $a=-0.840803-0.415925I$ $b=\ 1.60696-1.35434I$	$6.33662-3.76157I$	0
$u=-1.42591-0.06818I$ $a=-0.840803+0.415925I$ $b=\ 1.60696+1.35434I$	$6.33662+3.76157I$	0
$u=\ 1.46647+0.10093I$ $a=-0.704842+0.468820I$ $b=\ 1.31192+1.93849I$	$2.30892+6.65783I$	0
$u=\ 1.46647-0.10093I$ $a=-0.704842-0.468820I$ $b=\ 1.31192-1.93849I$	$2.30892-6.65783I$	0
$u=\ 1.48446+0.17012I$ $a=-0.374254-1.009550I$ $b=-0.110571-0.245328I$	$3.24810+8.93881I$	0
$u=\ 1.48446-0.17012I$ $a=-0.374254+1.009550I$ $b=-0.110571+0.245328I$	$3.24810-8.93881I$	0
$u=-1.48499+0.22879I$ $a=-0.609177-0.432217I$ $b=\ 0.57535-1.65583I$	$3.10880-6.58471I$	0
$u=-1.48499-0.22879I$ $a=-0.609177+0.432217I$ $b=\ 0.57535+1.65583I$	$3.10880+6.58471I$	0
$u=-1.52326+0.15630I$ $a=-0.269851+0.813956I$ $b=-0.008636+0.188776I$	$10.02960-5.54243I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.52326-0.15630I$ $a=-0.269851-0.813956I$ $b=-0.008636-0.188776I$	$10.02960+5.54243I$	0
$u=\ 0.468416$ $a=\ 2.02913$ $b=-0.161207$	-1.79603	-4.53920
$u=-0.182968+0.414714I$ $a=\ 0.673912-0.473992I$ $b=-0.069737-0.313513I$	$-0.980224I$	$0.+6.52429I$
$u=-0.182968-0.414714I$ $a=\ 0.673912+0.473992I$ $b=-0.069737+0.313513I$	$0.980224I$	$0.-6.52429I$
$u=-1.55146+0.00460I$ $a=\ 0.297746+0.497410I$ $b=\ 0.480380+0.525913I$	$4.13711+1.41359I$	0
$u=-1.55146-0.00460I$ $a=\ 0.297746-0.497410I$ $b=\ 0.480380-0.525913I$	$4.13711-1.41359I$	0
$u=\ 1.53602+0.23736I$ $a=-0.684226+0.390252I$ $b=\ 0.35439+1.70908I$	$-3.24810+8.93881I$	0
$u=\ 1.53602-0.23736I$ $a=-0.684226-0.390252I$ $b=\ 0.35439-1.70908I$	$-3.24810-8.93881I$	0
$u=\ 1.57317+0.11593I$ $a=-0.111468-0.568515I$ $b=\ 0.197956-0.165965I$	$10.08020+1.09732I$	0
$u=\ 1.57317-0.11593I$ $a=-0.111468+0.568515I$ $b=\ 0.197956+0.165965I$	$10.08020-1.09732I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.54660 + 0.31427I$ $a = 0.747261 + 0.663781I$ $b = -1.24413 + 1.53270I$	$-16.8310I$	0
$u = -1.54660 - 0.31427I$ $a = 0.747261 - 0.663781I$ $b = -1.24413 - 1.53270I$	$16.8310I$	0
$u = 1.54727 + 0.32090I$ $a = 0.722696 - 0.612610I$ $b = -1.36798 - 1.43406I$	$6.7713 + 12.4764I$	0
$u = 1.54727 - 0.32090I$ $a = 0.722696 + 0.612610I$ $b = -1.36798 + 1.43406I$	$6.7713 - 12.4764I$	0
$u = 1.38964 + 0.76538I$ $a = 0.549515 - 0.498041I$ $b = -1.61522 - 1.16668I$	$-0.735733 + 0.805121I$	0
$u = 1.38964 - 0.76538I$ $a = 0.549515 + 0.498041I$ $b = -1.61522 + 1.16668I$	$-0.735733 - 0.805121I$	0
$u = -1.55532 + 0.34766I$ $a = 0.703144 + 0.533864I$ $b = -1.50202 + 1.24799I$	$6.58637 - 6.59944I$	0
$u = -1.55532 - 0.34766I$ $a = 0.703144 - 0.533864I$ $b = -1.50202 - 1.24799I$	$6.58637 + 6.59944I$	0
$u = -0.348838 + 0.201607I$ $a = -1.17988 - 2.19577I$ $b = 0.56615 - 1.70296I$	$-3.73467 - 5.37166I$	$1.55911 + 10.05150I$
$u = -0.348838 - 0.201607I$ $a = -1.17988 + 2.19577I$ $b = 0.56615 + 1.70296I$	$-3.73467 + 5.37166I$	$1.55911 - 10.05150I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.63729$ $a = 0.262527$ $b = 0.714802$	10.1814	0
$u = -1.64283$ $a = 0.472631$ $b = 0.932162$	5.98531	0
$u = -1.51949 + 0.77167I$ $a = -0.441116 - 0.137343I$ $b = 0.690791 - 1.226660I$	$0.735733 + 0.805121I$	0
$u = -1.51949 - 0.77167I$ $a = -0.441116 + 0.137343I$ $b = 0.690791 + 1.226660I$	$0.735733 - 0.805121I$	0
$u = 0.181951 + 0.204552I$ $a = -1.19475 + 3.33617I$ $b = 0.85351 + 1.27926I$	$0.97901 + 2.75841I$	$5.08126 - 8.14150I$
$u = 0.181951 - 0.204552I$ $a = -1.19475 - 3.33617I$ $b = 0.85351 - 1.27926I$	$0.97901 - 2.75841I$	$5.08126 + 8.14150I$
$u = -0.194507$ $a = 9.99722$ $b = 0.121019$	-10.1814	-34.6250
$u = 0.0211852$ $a = 48.6786$ $b = 0.899609$	-1.64464	-6.06420

II. $\boldsymbol{I_2^u = \langle -29u^{15} - 34u^{14} + \cdots + 73b - 87,\ -82u^{15} + 70u^{14} + \cdots + 73a + 119,\ u^{16} - 9u^{14} + \cdots + 4u^2 - 1\rangle}$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

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

$$a_1 = \begin{pmatrix} 1.12329u^{15} - 0.958904u^{14} + \cdots + 8.10959u - 1.63014 \\ 0.397260u^{15} + 0.465753u^{14} + \cdots - 0.424658u + 1.19178 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.767123u^{15} - 0.410959u^{14} + \cdots + 14.9041u - 3.69863 \\ 0.0410959u^{15} + 0.0136986u^{14} + \cdots + 0.369863u + 1.12329 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.726027u^{15} - 0.424658u^{14} + \cdots + 14.5342u - 4.82192 \\ 0.0410959u^{15} + 0.0136986u^{14} + \cdots + 0.369863u + 1.12329 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.712329u^{15} - 1.09589u^{14} + \cdots + 7.41096u - 1.86301 \\ 0.410959u^{15} + 0.136986u^{14} + \cdots + 0.698630u + 1.23288 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.98630u^{15} - 0.671233u^{14} + \cdots + 12.8767u - 4.04110 \\ -0.123288u^{15} - 0.0410959u^{14} + \cdots - 0.109589u - 0.369863 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2.32877u^{15} + 1.89041u^{14} + \cdots - 20.9589u + 8.01370 \\ 0.397260u^{15} + 0.465753u^{14} + \cdots - 0.424658u + 0.191781 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.75342u^{15} - 0.917808u^{14} + \cdots - 15.7808u + 4.73973 \\ 0.232877u^{15} - 0.589041u^{14} + \cdots + 4.09589u + 0.698630 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{216}{73}u^{15} + \frac{512}{73}u^{14} + \cdots - \frac{2163}{73}u + \frac{1031}{73}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} - 4u^{14} + \cdots + 11u^2 - 1$
c_2, c_{12}	$u^{16} - 8u^{14} + \cdots - 8u^2 + 1$
c_3, c_4, c_{11}	$u^{16} - 9u^{14} + \cdots + 4u^2 - 1$
c_5, c_6, c_9	$u^{16} - 9u^{14} + \cdots + 4u^2 - 1$
c_7, c_8	$u^{16} - 8u^{14} + \cdots - 8u^2 + 1$
c_{10}	$u^{16} - 4u^{14} + \cdots + 11u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{16} - 8y^{15} + \cdots - 22y + 1$
c_2, c_7, c_8 c_{12}	$y^{16} - 16y^{15} + \cdots - 16y + 1$
c_3, c_4, c_5 c_6, c_9, c_{11}	$y^{16} - 18y^{15} + \cdots - 8y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.894685 + 0.648291I$ $a = -0.656433 + 0.813225I$ $b = 1.24838 + 1.12322I$	$-0.557316 + 1.056450I$	$5.51626 - 2.99054I$
$u = 0.894685 - 0.648291I$ $a = -0.656433 - 0.813225I$ $b = 1.24838 - 1.12322I$	$-0.557316 - 1.056450I$	$5.51626 + 2.99054I$
$u = 1.22010$ $a = 1.20116$ $b = -0.366933$	0.897993	-6.66870
$u = -1.067690 + 0.693113I$ $a = 0.647664 + 0.208291I$ $b = -0.248375 + 1.123220I$	$0.557316 + 1.056450I$	$-5.51626 - 2.99054I$
$u = -1.067690 - 0.693113I$ $a = 0.647664 - 0.208291I$ $b = -0.248375 - 1.123220I$	$0.557316 - 1.056450I$	$-5.51626 + 2.99054I$
$u = -1.30286$ $a = 1.70377$ $b = -0.383986$	-6.60449	-9.40630
$u = 1.369670 + 0.150834I$ $a = -0.384982 + 0.615185I$ $b = 0.50000 + 2.14104I$	$6.87722I$	$0. - 8.46108I$
$u = 1.369670 - 0.150834I$ $a = -0.384982 - 0.615185I$ $b = 0.50000 - 2.14104I$	$- 6.87722I$	$0. + 8.46108I$
$u = -1.374980 + 0.206345I$ $a = -0.574248 - 0.595246I$ $b = 1.03532 - 1.60052I$	$4.39499 - 4.91926I$	$6.70456 + 5.16183I$
$u = -1.374980 - 0.206345I$ $a = -0.574248 + 0.595246I$ $b = 1.03532 + 1.60052I$	$4.39499 + 4.91926I$	$6.70456 - 5.16183I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.532809$ $a = 1.28066$ $b = 1.36693$	-0.897993	6.66870
$u = 0.089624 + 0.423008I$ $a = 1.52824 - 1.30726I$ $b = -0.03532 - 1.60052I$	$-4.39499 - 4.91926I$	$-6.70456 + 5.16183I$
$u = 0.089624 - 0.423008I$ $a = 1.52824 + 1.30726I$ $b = -0.03532 + 1.60052I$	$-4.39499 + 4.91926I$	$-6.70456 - 5.16183I$
$u = -1.59630$ $a = 0.282214$ $b = 1.38399$	6.60449	9.40630
$u = 1.65321$ $a = 0.311106$ $b = 0.565962$	10.0542	-28.6190
$u = -0.329576$ $a = -5.89940$ $b = 0.434038$	-10.0542	28.6190

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

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

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

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

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

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

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

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

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

$$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = 1.00000$ $b = 0$	1.64493	6.00000

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

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

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

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

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

$$a_8 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

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

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

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

$$a_{12} = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

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

V. $I_5^u = \langle b+1,\ a-1,\ u-1 \rangle$

(i) Arc colorings

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

$a_9 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$

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

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

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

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

$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

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

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

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

$a_{12} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_5	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = 1.00000$ $b = -1.00000$	-1.64493	-6.00000

VI. $I_1^v = \langle a,\ b-1,\ v+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(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_{10}, c_{11}, c_{12}	$y - 1$
c_3, c_4, c_9	y

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = 1.00000$	-1.64493	-6.00000

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u-1)^3(u^{16}-4u^{14}+\cdots+11u^2-1)(u^{88}+8u^{87}+\cdots+24u-7)$
c_2	$u(u-1)^2(u+1)(u^{16}-8u^{14}+\cdots-8u^2+1)$ $\cdot(u^{88}+2u^{87}+\cdots+2042u+301)$
c_3, c_4	$u(u-1)^2(u+1)(u^{16}-9u^{14}+\cdots+4u^2-1)$ $\cdot(u^{88}-45u^{86}+\cdots-44u-1)$
c_5, c_6	$u(u-1)(u+1)^2(u^{16}-9u^{14}+\cdots+4u^2-1)$ $\cdot(u^{88}-45u^{86}+\cdots+44u-1)$
c_7	$u(u-1)^2(u+1)(u^{16}-8u^{14}+\cdots-8u^2+1)$ $\cdot(u^{88}+2u^{87}+\cdots+2042u+301)$
c_8	$u(u-1)(u+1)^2(u^{16}-8u^{14}+\cdots-8u^2+1)$ $\cdot(u^{88}-2u^{87}+\cdots-2042u+301)$
c_9	$u(u-1)^2(u+1)(u^{16}-9u^{14}+\cdots+4u^2-1)$ $\cdot(u^{88}-45u^{86}+\cdots-44u-1)$
c_{10}	$u(u+1)^3(u^{16}-4u^{14}+\cdots+11u^2-1)(u^{88}-8u^{87}+\cdots-24u-7)$
c_{11}	$u(u-1)(u+1)^2(u^{16}-9u^{14}+\cdots+4u^2-1)$ $\cdot(u^{88}-45u^{86}+\cdots+44u-1)$
c_{12}	$u(u-1)(u+1)^2(u^{16}-8u^{14}+\cdots-8u^2+1)$ $\cdot(u^{88}-2u^{87}+\cdots-2042u+301)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y(y-1)^3(y^{16}-8y^{15}+\cdots-22y+1)(y^{88}-8y^{87}+\cdots-8654y+49)$
c_2, c_7, c_8 c_{12}	$y(y-1)^3(y^{16}-16y^{15}+\cdots-16y+1)$ $\cdot\,(y^{88}-52y^{87}+\cdots-2985028y+90601)$
c_3, c_4, c_5 c_6, c_9, c_{11}	$y(y-1)^3(y^{16}-18y^{15}+\cdots-8y+1)(y^{88}-90y^{87}+\cdots-2260y+1)$