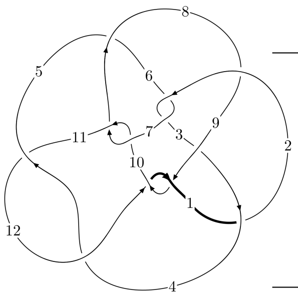
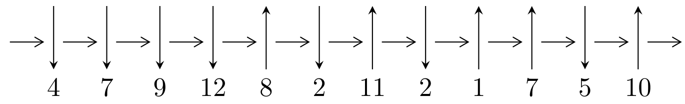
$12n_{0780}$ ($K12n_{0780}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & 2.42402 \times 10^{224} u^{66} + 2.00218 \times 10^{225} u^{65} + \cdots + 1.65127 \times 10^{226} b - 1.54654 \times 10^{227}, \\
& - 8.95512 \times 10^{225} u^{66} - 7.50188 \times 10^{226} u^{65} + \cdots + 9.90762 \times 10^{226} a + 5.44058 \times 10^{227}, \\
& u^{67} + 8u^{66} + \cdots - 598u - 48 \rangle \\
I_2^u = \langle & -2.15444 \times 10^{23} u^{24} + 2.41942 \times 10^{24} u^{23} + \cdots + 2.49434 \times 10^{24} b + 2.77494 \times 10^{24}, \\
& - 3.61629 \times 10^{24} u^{24} + 3.77069 \times 10^{25} u^{23} + \cdots + 1.74604 \times 10^{25} a + 3.58327 \times 10^{24}, \\
& u^{25} - 11u^{24} + \cdots + 51u - 7 \rangle
\end{aligned}$$

$$I_1^v = \langle a,\ 2b - v + 1,\ v^2 - 3v + 4 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 94 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. $\boldsymbol{I_1^u = \langle 2.42 \times 10^{224} u^{66} + 2.00 \times 10^{225} u^{65} + \cdots + 1.65 \times 10^{226} b - 1.55 \times 10^{227},\ -8.96 \times 10^{225} u^{66} - 7.50 \times 10^{226} u^{65} + \cdots + 9.91 \times 10^{226} a + 5.44 \times 10^{227},\ u^{67} + 8u^{66} + \cdots - 598u - 48 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.0903862u^{66} + 0.757183u^{65} + \cdots - 100.129u - 5.49131 \\ -0.0146797u^{66} - 0.121251u^{65} + \cdots + 90.1351u + 9.36578 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.105066u^{66} + 0.878433u^{65} + \cdots - 190.264u - 14.8571 \\ -0.0146797u^{66} - 0.121251u^{65} + \cdots + 90.1351u + 9.36578 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.316944u^{66} - 2.33594u^{65} + \cdots + 34.2884u - 1.14896 \\ 0.0203404u^{66} + 0.157212u^{65} + \cdots - 22.0154u - 2.92085 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.138386u^{66} + 1.12730u^{65} + \cdots - 127.840u - 7.31080 \\ -0.0267518u^{66} - 0.203790u^{65} + \cdots + 81.1568u + 8.51674 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.120970u^{66} - 0.923504u^{65} + \cdots + 155.057u + 11.2619 \\ -0.0601185u^{66} - 0.457036u^{65} + \cdots + 28.2253u - 3.11159 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.0176294u^{66} + 0.156245u^{65} + \cdots - 141.488u - 18.4618 \\ 0.131111u^{66} + 1.00844u^{65} + \cdots - 242.412u - 24.2320 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.0853676u^{66} - 0.733079u^{65} + \cdots + 209.833u + 19.9855 \\ 0.0109540u^{66} + 0.0742912u^{65} + \cdots + 25.5932u + 2.90497 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.0720095u^{66} + 0.637377u^{65} + \cdots - 191.893u - 18.0819 \\ 0.00236196u^{66} + 0.0159828u^{65} + \cdots - 32.0071u - 3.14112 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -0.0406592u^{66} - 0.381310u^{65} + \cdots + 150.160u + 14.6740 \\ 0.00155579u^{66} + 0.00725932u^{65} + \cdots + 24.2117u + 2.62182 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.129023u^{66} + 1.04913u^{65} + \cdots - 649.812u - 68.5329$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{67} - 8u^{66} + \cdots - 598u + 48$
c_2, c_6	$u^{67} - 2u^{66} + \cdots - 184950u + 8611$
c_3	$u^{67} - 2u^{66} + \cdots + 506387u + 120502$
c_4, c_{11}	$u^{67} + 2u^{66} + \cdots - 1717u + 199$
c_5	$2(2u^{67} + 3u^{66} + \cdots + 3752u + 1330)$
c_7, c_{10}	$u^{67} - 2u^{66} + \cdots + 1457u + 111$
c_8	$2(2u^{67} + u^{66} + \cdots + 100416u + 88717)$
c_9, c_{12}	$2(2u^{67} + 9u^{66} + \cdots + 273u + 49)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{67} + 2y^{66} + \cdots - 58268y - 2304$
c_2, c_6	$y^{67} + 88y^{66} + \cdots + 11021281668y - 74149321$
c_3	$y^{67} + 30y^{66} + \cdots - 216276728819y - 14520732004$
c_4, c_{11}	$y^{67} + 56y^{66} + \cdots + 831923y - 39601$
c_5	$4(4y^{67} - 381y^{66} + \cdots + 1.04728 \times 10^{8}y - 1768900)$
c_7, c_{10}	$y^{67} - 56y^{66} + \cdots + 1050589y - 12321$
c_8	$4(4y^{67} + 383y^{66} + \cdots - 1.06484 \times 10^{10}y - 7.87071 \times 10^{9})$
c_9, c_{12}	$4(4y^{67} + 151y^{66} + \cdots + 46305y - 2401)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.724892 + 0.650339I$ $a = -0.45501 + 1.66338I$ $b = 0.708973 + 1.177730I$	$2.68181 + 8.64984I$	0
$u = -0.724892 - 0.650339I$ $a = -0.45501 - 1.66338I$ $b = 0.708973 - 1.177730I$	$2.68181 - 8.64984I$	0
$u = -0.925311 + 0.518203I$ $a = -0.236215 + 0.952903I$ $b = -0.45135 + 1.57905I$	$5.65075 - 2.56848I$	0
$u = -0.925311 - 0.518203I$ $a = -0.236215 - 0.952903I$ $b = -0.45135 - 1.57905I$	$5.65075 + 2.56848I$	0
$u = -0.567450 + 0.740677I$ $a = -0.227677 - 0.429310I$ $b = 0.476350 - 0.786922I$	$3.15388 + 0.99673I$	0
$u = -0.567450 - 0.740677I$ $a = -0.227677 + 0.429310I$ $b = 0.476350 + 0.786922I$	$3.15388 - 0.99673I$	0
$u = 0.748232 + 0.765006I$ $a = 0.557690 + 0.645886I$ $b = -0.600409 + 1.115360I$	$-1.01345 - 4.59612I$	0
$u = 0.748232 - 0.765006I$ $a = 0.557690 - 0.645886I$ $b = -0.600409 - 1.115360I$	$-1.01345 + 4.59612I$	0
$u = -0.669280 + 0.518896I$ $a = 0.27800 - 1.92075I$ $b = -0.504373 - 1.113640I$	$-0.16240 + 3.55156I$	$-2.00000 - 2.68185I$
$u = -0.669280 - 0.518896I$ $a = 0.27800 + 1.92075I$ $b = -0.504373 + 1.113640I$	$-0.16240 - 3.55156I$	$-2.00000 + 2.68185I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.094927 + 0.818059I$ $a = -0.199188 - 0.197329I$ $b = -0.914468 + 0.289293I$	$2.29919 - 1.44328I$	$0. + 4.87495I$
$u = \quad 0.094927 - 0.818059I$ $a = -0.199188 + 0.197329I$ $b = -0.914468 - 0.289293I$	$2.29919 + 1.44328I$	$0. - 4.87495I$
$u = -0.835696 + 0.854025I$ $a = \quad 0.340039 - 0.512207I$ $b = -1.027810 + 0.126765I$	$10.80940 + 3.04943I$	0
$u = -0.835696 - 0.854025I$ $a = \quad 0.340039 + 0.512207I$ $b = -1.027810 - 0.126765I$	$10.80940 - 3.04943I$	0
$u = \quad 0.426807 + 0.561222I$ $a = \quad 2.47624 + 1.14400I$ $b = -0.368194 + 0.763988I$	$0.086574 - 0.675649I$	$0.57492 + 6.89256I$
$u = \quad 0.426807 - 0.561222I$ $a = \quad 2.47624 - 1.14400I$ $b = -0.368194 - 0.763988I$	$0.086574 + 0.675649I$	$0.57492 - 6.89256I$
$u = -0.211898 + 1.285080I$ $a = \quad 0.324960 - 0.022923I$ $b = \quad 0.412381 - 0.725580I$	$5.14094 - 4.36853I$	0
$u = -0.211898 - 1.285080I$ $a = \quad 0.324960 + 0.022923I$ $b = \quad 0.412381 + 0.725580I$	$5.14094 + 4.36853I$	0
$u = -0.148016 + 1.299050I$ $a = -0.487670 - 0.430571I$ $b = \quad 0.476579 + 1.076290I$	$12.03620 + 0.40499I$	0
$u = -0.148016 - 1.299050I$ $a = -0.487670 + 0.430571I$ $b = \quad 0.476579 - 1.076290I$	$12.03620 - 0.40499I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.813988 + 1.032320I$ $a = 0.151949 - 0.237008I$ $b = 1.314940 - 0.427650I$	$15.7564 + 8.7654I$	0
$u = -0.813988 - 1.032320I$ $a = 0.151949 + 0.237008I$ $b = 1.314940 + 0.427650I$	$15.7564 - 8.7654I$	0
$u = -0.133283 + 0.663172I$ $a = 1.81112 - 0.09469I$ $b = -0.447751 - 0.987023I$	$-0.79766 + 2.78003I$	$0.63579 - 1.56020I$
$u = -0.133283 - 0.663172I$ $a = 1.81112 + 0.09469I$ $b = -0.447751 + 0.987023I$	$-0.79766 - 2.78003I$	$0.63579 + 1.56020I$
$u = 0.468554 + 0.460116I$ $a = 0.447575 + 0.766561I$ $b = 1.54432 + 0.45161I$	$5.57514 + 1.10673I$	$1.35083 + 4.91539I$
$u = 0.468554 - 0.460116I$ $a = 0.447575 - 0.766561I$ $b = 1.54432 - 0.45161I$	$5.57514 - 1.10673I$	$1.35083 - 4.91539I$
$u = -0.250308 + 1.328670I$ $a = 0.337131 + 0.456800I$ $b = -0.252963 - 0.418558I$	$8.44639 + 2.67875I$	0
$u = -0.250308 - 1.328670I$ $a = 0.337131 - 0.456800I$ $b = -0.252963 + 0.418558I$	$8.44639 - 2.67875I$	0
$u = 1.051200 + 0.850832I$ $a = -0.779289 - 0.897029I$ $b = 0.086402 - 1.119550I$	$-3.58384 - 0.97175I$	0
$u = 1.051200 - 0.850832I$ $a = -0.779289 + 0.897029I$ $b = 0.086402 + 1.119550I$	$-3.58384 + 0.97175I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.945508 + 0.971914I$ $a = -0.792434 + 0.981469I$ $b = 0.472404 + 0.891290I$	$2.86919 + 4.89934I$	0
$u = -0.945508 - 0.971914I$ $a = -0.792434 - 0.981469I$ $b = 0.472404 - 0.891290I$	$2.86919 - 4.89934I$	0
$u = 0.980558 + 0.951830I$ $a = -0.40866 - 1.80636I$ $b = 0.528089 - 0.965307I$	$4.86085 - 6.32955I$	0
$u = 0.980558 - 0.951830I$ $a = -0.40866 + 1.80636I$ $b = 0.528089 + 0.965307I$	$4.86085 + 6.32955I$	0
$u = -0.757255 + 1.144680I$ $a = 1.067290 - 0.843683I$ $b = -0.600703 - 1.255410I$	$7.43131 + 8.78239I$	0
$u = -0.757255 - 1.144680I$ $a = 1.067290 + 0.843683I$ $b = -0.600703 + 1.255410I$	$7.43131 - 8.78239I$	0
$u = -0.503451 + 0.296390I$ $a = -1.42130 + 1.77557I$ $b = 0.045681 + 1.055430I$	$-2.32732 - 1.50510I$	$-3.62508 + 4.84160I$
$u = -0.503451 - 0.296390I$ $a = -1.42130 - 1.77557I$ $b = 0.045681 - 1.055430I$	$-2.32732 + 1.50510I$	$-3.62508 - 4.84160I$
$u = -0.408007 + 0.388335I$ $a = 0.41552 + 2.37315I$ $b = 0.461414 + 1.065220I$	$4.05029 - 0.69376I$	$-0.95573 + 1.56415I$
$u = -0.408007 - 0.388335I$ $a = 0.41552 - 2.37315I$ $b = 0.461414 - 1.065220I$	$4.05029 + 0.69376I$	$-0.95573 - 1.56415I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.270314 + 0.480681I$ $a = -4.96634 - 0.63452I$ $b = 0.404961 - 0.576990I$	$13.7431 - 3.4268I$	$5.66546 + 7.15698I$
$u = -0.270314 - 0.480681I$ $a = -4.96634 + 0.63452I$ $b = 0.404961 + 0.576990I$	$13.7431 + 3.4268I$	$5.66546 - 7.15698I$
$u = 1.01283 + 1.06302I$ $a = 0.306569 + 1.174990I$ $b = -0.46399 + 1.41018I$	$-2.96983 - 6.50647I$	0
$u = 1.01283 - 1.06302I$ $a = 0.306569 - 1.174990I$ $b = -0.46399 - 1.41018I$	$-2.96983 + 6.50647I$	0
$u = 0.522826$ $a = -0.906766$ $b = 0.155835$	-0.851902	-11.8250
$u = -1.38220 + 0.58366I$ $a = -0.06273 + 1.82082I$ $b = 0.493648 + 0.588432I$	$14.0188 - 2.1719I$	0
$u = -1.38220 - 0.58366I$ $a = -0.06273 - 1.82082I$ $b = 0.493648 - 0.588432I$	$14.0188 + 2.1719I$	0
$u = 0.61363 + 1.42565I$ $a = 0.191494 + 0.172346I$ $b = 0.511973 + 0.704030I$	$5.71379 - 2.08750I$	0
$u = 0.61363 - 1.42565I$ $a = 0.191494 - 0.172346I$ $b = 0.511973 - 0.704030I$	$5.71379 + 2.08750I$	0
$u = 1.31384 + 0.87886I$ $a = -0.186926 - 1.174250I$ $b = 0.751276 - 1.187270I$	$3.15397 - 6.00794I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.31384 - 0.87886I$ $a = -0.186926 + 1.174250I$ $b = 0.751276 + 1.187270I$	$3.15397 + 6.00794I$	0
$u = 0.042146 + 0.364830I$ $a = 0.616885 - 1.221060I$ $b = -0.622839 - 0.246111I$	$1.50095 + 0.26981I$	$5.70736 - 1.09398I$
$u = 0.042146 - 0.364830I$ $a = 0.616885 + 1.221060I$ $b = -0.622839 + 0.246111I$	$1.50095 - 0.26981I$	$5.70736 + 1.09398I$
$u = 1.62809 + 0.28245I$ $a = -0.631173 - 1.101710I$ $b = -0.014280 - 0.901427I$	$-3.75621 + 0.09719I$	0
$u = 1.62809 - 0.28245I$ $a = -0.631173 + 1.101710I$ $b = -0.014280 + 0.901427I$	$-3.75621 - 0.09719I$	0
$u = -1.13711 + 1.26548I$ $a = -0.449814 + 1.224260I$ $b = 0.76542 + 1.28283I$	$12.9901 + 15.9614I$	0
$u = -1.13711 - 1.26548I$ $a = -0.449814 - 1.224260I$ $b = 0.76542 - 1.28283I$	$12.9901 - 15.9614I$	0
$u = -0.178247 + 0.217967I$ $a = 1.47892 + 1.81066I$ $b = -0.05878 + 1.95338I$	$4.44006 - 0.58389I$	$0.23132 - 12.75139I$
$u = -0.178247 - 0.217967I$ $a = 1.47892 - 1.81066I$ $b = -0.05878 - 1.95338I$	$4.44006 + 0.58389I$	$0.23132 + 12.75139I$
$u = -0.81250 + 1.51648I$ $a = -0.044626 + 0.509445I$ $b = -0.645926 + 0.509503I$	$9.29444 + 2.41886I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.81250 - 1.51648I$ $a = -0.044626 - 0.509445I$ $b = -0.645926 - 0.509503I$	$9.29444 - 2.41886I$	0
$u = 1.85972 + 0.09589I$ $a = -0.133611 - 1.239450I$ $b = -0.237674 - 0.886602I$	$-4.56426 + 0.98558I$	0
$u = 1.85972 - 0.09589I$ $a = -0.133611 + 1.239450I$ $b = -0.237674 + 0.886602I$	$-4.56426 - 0.98558I$	0
$u = -1.38760 + 1.28625I$ $a = 0.306616 - 1.314680I$ $b = -0.603081 - 1.058240I$	$7.65998 + 7.36772I$	0
$u = -1.38760 - 1.28625I$ $a = 0.306616 + 1.314680I$ $b = -0.603081 + 1.058240I$	$7.65998 - 7.36772I$	0
$u = -1.43963 + 1.35722I$ $a = 0.286381 - 0.678767I$ $b = 0.531858 - 1.051630I$	$12.50620 - 6.44912I$	0
$u = -1.43963 - 1.35722I$ $a = 0.286381 + 0.678767I$ $b = 0.531858 + 1.051630I$	$12.50620 + 6.44912I$	0

II. $\boldsymbol{I^u_2 = \langle -2.15 \times 10^{23}u^{24} + 2.42 \times 10^{24}u^{23} + \cdots + 2.49 \times 10^{24}b + 2.77 \times 10^{24},\ -3.62 \times 10^{24}u^{24} + 3.77 \times 10^{25}u^{23} + \cdots + 1.75 \times 10^{25}a + 3.58 \times 10^{24},\ u^{25} - 11u^{24} + \cdots + 51u - 7\rangle}$

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.207114u^{24} - 2.15957u^{23} + \cdots + 0.893359u - 0.205222 \\ 0.0863732u^{24} - 0.969963u^{23} + \cdots + 0.963679u - 1.11249 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.120740u^{24} - 1.18960u^{23} + \cdots - 0.0703196u + 0.907269 \\ 0.0863732u^{24} - 0.969963u^{23} + \cdots + 0.963679u - 1.11249 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.161700u^{24} + 1.67399u^{23} + \cdots + 9.49049u - 1.34021 \\ 0.146730u^{24} - 1.50806u^{23} + \cdots - 8.85768u + 1.02341 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.165263u^{24} - 1.62427u^{23} + \cdots + 7.11373u - 1.17500 \\ 0.149537u^{24} - 1.57324u^{23} + \cdots - 1.53381u - 0.726923 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.389064u^{24} - 4.16420u^{23} + \cdots - 44.1399u + 6.12234 \\ 0.242863u^{24} - 2.70271u^{23} + \cdots - 49.7547u + 7.52376 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.301472u^{24} + 3.18495u^{23} + \cdots + 4.97739u + 0.806735 \\ -0.261937u^{24} + 2.85038u^{23} + \cdots + 15.6017u + 0.776526 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.126122u^{24} + 1.41715u^{23} + \cdots + 25.6831u - 4.32152 \\ 0.117110u^{24} - 1.23278u^{23} + \cdots - 3.36207u + 0.462233 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.207012u^{24} - 2.14134u^{23} + \cdots - 9.69981u + 2.11080 \\ 0.0785433u^{24} - 0.874037u^{23} + \cdots + 0.310348u - 0.875109 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.196251u^{24} + 2.17415u^{23} + \cdots + 26.6422u - 4.57511 \\ 0.142085u^{24} - 1.49552u^{23} + \cdots - 3.11722u + 0.361246 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{4632133958374614897414942}{2494343012093848286566241}u^{24} + \frac{5138278686774449562165776 4}{2494343012093848286566241}u^{23} + \cdots + \frac{6625002518133010729005329 63}{2494343012093848286566241}u - \frac{7894252908400809157133292 6}{2494343012093848286566241}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{25} - 11u^{24} + \cdots + 51u - 7$
c_2	$u^{25} + u^{24} + \cdots - 2u - 1$
c_3	$u^{25} + u^{23} + \cdots + u^2 + 1$
c_4	$u^{25} - 3u^{24} + \cdots - 11u + 11$
c_5	$u^{25} + 16u^{24} + \cdots + 153u + 31$
c_6	$u^{25} - u^{24} + \cdots - 2u + 1$
c_7	$u^{25} - 7u^{24} + \cdots - 5u + 1$
c_8	$u^{25} + 5u^{23} + \cdots + 33u + 11$
c_9	$u^{25} + 2u^{24} + \cdots + 2u^2 + 1$
c_{10}	$u^{25} + 7u^{24} + \cdots - 5u - 1$
c_{11}	$u^{25} + 3u^{24} + \cdots - 11u - 11$
c_{12}	$u^{25} - 2u^{24} + \cdots - 2u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{25} - 7y^{24} + \cdots - 535y - 49$
c_2, c_6	$y^{25} + 17y^{24} + \cdots + 10y - 1$
c_3	$y^{25} + 2y^{24} + \cdots - 2y - 1$
c_4, c_{11}	$y^{25} + 21y^{24} + \cdots - 1155y - 121$
c_5	$y^{25} - 32y^{24} + \cdots + 5801y - 961$
c_7, c_{10}	$y^{25} - 11y^{24} + \cdots + 11y - 1$
c_8	$y^{25} + 10y^{24} + \cdots + 4851y - 121$
c_9, c_{12}	$y^{25} + 20y^{24} + \cdots - 4y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.873017 + 0.521357I$ $a = -2.17789 + 2.09736I$ $b = -0.118295 + 0.555686I$	$13.21080 - 2.99397I$	$-3.88960 + 0.65192I$
$u = -0.873017 - 0.521357I$ $a = -2.17789 - 2.09736I$ $b = -0.118295 - 0.555686I$	$13.21080 + 2.99397I$	$-3.88960 - 0.65192I$
$u = 0.638842 + 0.658318I$ $a = -1.262000 - 0.515540I$ $b = 0.517828 - 1.026310I$	$-1.63015 - 3.73279I$	$-3.58443 + 3.77316I$
$u = 0.638842 - 0.658318I$ $a = -1.262000 + 0.515540I$ $b = 0.517828 + 1.026310I$	$-1.63015 + 3.73279I$	$-3.58443 - 3.77316I$
$u = 0.285038 + 1.141820I$ $a = -0.653935 + 0.058789I$ $b = -0.317460 - 0.222677I$	$5.23338 - 3.15853I$	$-0.40044 + 3.09681I$
$u = 0.285038 - 1.141820I$ $a = -0.653935 - 0.058789I$ $b = -0.317460 + 0.222677I$	$5.23338 + 3.15853I$	$-0.40044 - 3.09681I$
$u = 1.110010 + 0.556593I$ $a = 0.11010 + 1.42617I$ $b = -0.657406 + 1.201350I$	$1.60179 - 8.35296I$	$-2.83402 + 5.66180I$
$u = 1.110010 - 0.556593I$ $a = 0.11010 - 1.42617I$ $b = -0.657406 - 1.201350I$	$1.60179 + 8.35296I$	$-2.83402 - 5.66180I$
$u = 0.859581 + 0.916668I$ $a = 0.934455 + 0.778615I$ $b = -0.140802 + 1.213470I$	$-3.05368 - 0.24758I$	$-0.95829 - 1.44670I$
$u = 0.859581 - 0.916668I$ $a = 0.934455 - 0.778615I$ $b = -0.140802 - 1.213470I$	$-3.05368 + 0.24758I$	$-0.95829 + 1.44670I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.885359 + 0.961472I$ $a = -0.667102 + 1.139400I$ $b = 0.624827 + 0.961509I$	$3.43246 + 5.41653I$	$3.68615 - 6.97433I$
$u = -0.885359 - 0.961472I$ $a = -0.667102 - 1.139400I$ $b = 0.624827 - 0.961509I$	$3.43246 - 5.41653I$	$3.68615 + 6.97433I$
$u = -0.297921 + 0.582459I$ $a = 0.349297 - 0.385458I$ $b = 1.14999 - 0.96619I$	$3.78337 - 0.31702I$	$5.23660 - 3.93151I$
$u = -0.297921 - 0.582459I$ $a = 0.349297 + 0.385458I$ $b = 1.14999 + 0.96619I$	$3.78337 + 0.31702I$	$5.23660 + 3.93151I$
$u = 0.95238 + 1.05184I$ $a = -0.343147 - 1.153870I$ $b = 0.47644 - 1.45581I$	$-2.58834 - 6.55163I$	$6.70727 + 8.22356I$
$u = 0.95238 - 1.05184I$ $a = -0.343147 + 1.153870I$ $b = 0.47644 + 1.45581I$	$-2.58834 + 6.55163I$	$6.70727 - 8.22356I$
$u = 0.475102$ $a = 1.15437$ $b = 0.355743$	0.389428	-2.67250
$u = -0.26586 + 1.57538I$ $a = 0.303847 + 0.011380I$ $b = -0.180186 - 0.761078I$	$7.76670 + 2.88354I$	$-2.00000 - 4.28447I$
$u = -0.26586 - 1.57538I$ $a = 0.303847 - 0.011380I$ $b = -0.180186 + 0.761078I$	$7.76670 - 2.88354I$	$-2.00000 + 4.28447I$
$u = 0.115239 + 0.324580I$ $a = 0.30974 + 1.92571I$ $b = -0.96787 + 1.84409I$	$4.66627 + 0.68818I$	$22.6012 + 6.6797I$

Solutions to I_2^u		$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.115239 - 0.324580I$		
$a =$	$0.30974 - 1.92571I$	$4.66627 - 0.68818I$	$22.6012 - 6.6797I$
$b =$	$-0.96787 - 1.84409I$		
$u =$	$1.77458 + 0.26650I$		
$a =$	$0.404449 + 1.197080I$	$-4.90145 + 0.19049I$	$-9.88934 + 0.I$
$b =$	$0.036023 + 0.937294I$		
$u =$	$1.77458 - 0.26650I$		
$a =$	$0.404449 - 1.197080I$	$-4.90145 - 0.19049I$	$-9.88934 + 0.I$
$b =$	$0.036023 - 0.937294I$		
$u =$	$1.84893 + 0.28181I$		
$a =$	$0.186439 + 1.197460I$	$-3.04190 + 1.64191I$	0
$b =$	$0.399041 + 0.896974I$		
$u =$	$1.84893 - 0.28181I$		
$a =$	$0.186439 - 1.197460I$	$-3.04190 - 1.64191I$	0
$b =$	$0.399041 - 0.896974I$		

III. $I_1^v = \langle a,\ 2b - v + 1,\ v^2 - 3v + 4\rangle$

(i) Arc colorings

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

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

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

$$a_{10} = \begin{pmatrix} 0 \\ \frac{1}{2}v - \frac{1}{2} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{1}{2}v + \frac{1}{2} \\ \frac{1}{2}v - \frac{1}{2} \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} 0 \\ \frac{1}{2}v - \frac{1}{2} \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ \frac{1}{4}v - \frac{3}{4} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} v - 1 \\ -\frac{1}{4}v + \frac{3}{4} \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -v + 2 \\ \frac{1}{2}v - \frac{3}{2} \end{pmatrix}$$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{45}{16}v - \frac{91}{16}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v =$	$1.50000 + 1.32288I$		
$a =$	0	0	$-1.46875 + 3.72059I$
$b =$	$0.250000 + 0.661438I$		
$v =$	$1.50000 - 1.32288I$		
$a =$	0	0	$-1.46875 - 3.72059I$
$b =$	$0.250000 - 0.661438I$		

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^2(u^{25} - 11u^{24} + \cdots + 51u - 7)(u^{67} - 8u^{66} + \cdots - 598u + 48)$
c_2	$((u-1)^2)(u^{25} + u^{24} + \cdots - 2u - 1)(u^{67} - 2u^{66} + \cdots - 184950u + 8611)$
c_3	$(u^2 + u + 2)(u^{25} + u^{23} + \cdots + u^2 + 1)$ $\cdot (u^{67} - 2u^{66} + \cdots + 506387u + 120502)$
c_4	$((u+1)^2)(u^{25} - 3u^{24} + \cdots - 11u + 11)(u^{67} + 2u^{66} + \cdots - 1717u + 199)$
c_5	$4(2u^2 + 3u + 2)(u^{25} + 16u^{24} + \cdots + 153u + 31)$ $\cdot (2u^{67} + 3u^{66} + \cdots + 3752u + 1330)$
c_6	$((u+1)^2)(u^{25} - u^{24} + \cdots - 2u + 1)(u^{67} - 2u^{66} + \cdots - 184950u + 8611)$
c_7	$((u+1)^2)(u^{25} - 7u^{24} + \cdots - 5u + 1)(u^{67} - 2u^{66} + \cdots + 1457u + 111)$
c_8	$4(2u^2 + u + 1)(u^{25} + 5u^{23} + \cdots + 33u + 11)$ $\cdot (2u^{67} + u^{66} + \cdots + 100416u + 88717)$
c_9	$4(2u^2 + u + 1)(u^{25} + 2u^{24} + \cdots + 2u^2 + 1)$ $\cdot (2u^{67} + 9u^{66} + \cdots + 273u + 49)$
c_{10}	$((u-1)^2)(u^{25} + 7u^{24} + \cdots - 5u - 1)(u^{67} - 2u^{66} + \cdots + 1457u + 111)$
c_{11}	$((u-1)^2)(u^{25} + 3u^{24} + \cdots - 11u - 11)(u^{67} + 2u^{66} + \cdots - 1717u + 199)$
c_{12}	$4(2u^2 - u + 1)(u^{25} - 2u^{24} + \cdots - 2u^2 - 1)$ $\cdot (2u^{67} + 9u^{66} + \cdots + 273u + 49)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^2(y^{25} - 7y^{24} + \cdots - 535y - 49)(y^{67} + 2y^{66} + \cdots - 58268y - 2304)$
c_2, c_6	$((y-1)^2)(y^{25} + 17y^{24} + \cdots + 10y - 1)$ $\cdot (y^{67} + 88y^{66} + \cdots + 11021281668y - 74149321)$
c_3	$(y^2 + 3y + 4)(y^{25} + 2y^{24} + \cdots - 2y - 1)$ $\cdot (y^{67} + 30y^{66} + \cdots - 216276728819y - 14520732004)$
c_4, c_{11}	$((y-1)^2)(y^{25} + 21y^{24} + \cdots - 1155y - 121)$ $\cdot (y^{67} + 56y^{66} + \cdots + 831923y - 39601)$
c_5	$16(4y^2 - y + 4)(y^{25} - 32y^{24} + \cdots + 5801y - 961)$ $\cdot (4y^{67} - 381y^{66} + \cdots + 104727644y - 1768900)$
c_7, c_{10}	$((y-1)^2)(y^{25} - 11y^{24} + \cdots + 11y - 1)$ $\cdot (y^{67} - 56y^{66} + \cdots + 1050589y - 12321)$
c_8	$16(4y^2 + 3y + 1)(y^{25} + 10y^{24} + \cdots + 4851y - 121)$ $\cdot (4y^{67} + 383y^{66} + \cdots - 10648370372y - 7870706089)$
c_9, c_{12}	$16(4y^2 + 3y + 1)(y^{25} + 20y^{24} + \cdots - 4y - 1)$ $\cdot (4y^{67} + 151y^{66} + \cdots + 46305y - 2401)$