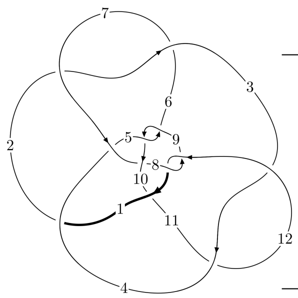
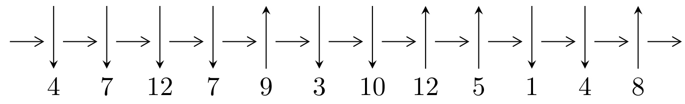
$12n_{0808}$ ($K12n_{0808}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -1117319072383u^{19} + 155977493456u^{18} + \cdots + 31245484335565b - 6750707248079, \\
& -3478787820073u^{19} - 1267593674108u^{18} + \cdots + 1874729060139a - 4936538211880, \\
& u^{20} + 9u^{18} + \cdots + 5u + 1\rangle \\
I_2^u = \langle & 2u^4 - u^3 + 3u^2 + b - 4u + 3,\ a,\ u^5 - u^4 + 2u^3 - 3u^2 + 3u - 1\rangle \\
I_3^u = \langle & -18996421u^{15} - 61047734u^{14} + \cdots + 119799436b - 83873864, \\
& 50129469u^{15} + 202053023u^{14} + \cdots + 119799436a + 472472676,\ u^{16} + 2u^{15} + \cdots - 8u + 4\rangle \\
I_4^u = \langle & -34278227166280u^{15} + 103194516923463u^{14} + \cdots + 205378365871400b - 3319079207393740, \\
& 280790731208697u^{15} - 809250943773254u^{14} + \cdots + 1437648561099800a + 32596276646035500, \\
& u^{16} - 2u^{15} + \cdots + 300u + 100\rangle
\end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 57 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.
$\boldsymbol{I_1^u = \langle -1.12\times10^{12}u^{19}+1.56\times10^{11}u^{18}+\cdots+3.12\times10^{12}b-6.75\times10^{12},\ -3.48\times 10^{12}u^{19}-1.27\times10^{12}u^{18}+\cdots+1.87\times10^{12}a-4.94\times10^{12},\ u^{20}+9u^{18}+\cdots+5u+1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_1 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1.85562u^{19}+0.676148u^{18}+\cdots+2.89591u+2.63320\\0.357594u^{19}-0.0499200u^{18}+\cdots+4.28276u+2.16054\end{pmatrix}$$
$$a_3 = \begin{pmatrix}2.21322u^{19}+0.626228u^{18}+\cdots+7.17867u+4.79374\\0.357594u^{19}-0.0499200u^{18}+\cdots+4.28276u+2.16054\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.428529u^{19}+0.0562364u^{18}+\cdots+3.76713u+0.479192\\0.584730u^{19}+0.277642u^{18}+\cdots+6.15595u+1.31484\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.371174u^{19}+0.479192u^{18}+\cdots+10.0704u+1.73780\\0.371174u^{19}+0.479192u^{18}+\cdots+9.07043u+1.73780\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1.58160u^{19}-0.705052u^{18}+\cdots-9.81943u-1.17548\\1.15307u^{19}-0.648816u^{18}+\cdots-6.05229u-0.696286\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-1.73780u^{19}+0.371174u^{18}+\cdots-0.103654u+0.381445\\-1.73780u^{19}+0.371174u^{18}+\cdots-0.103654u-0.618555\end{pmatrix}$$
$$a_2 = \begin{pmatrix}0.818867u^{19}+0.0944094u^{18}+\cdots-7.05001u+0.973427\\-0.799703u^{19}-0.422955u^{18}+\cdots-6.30330u-1.25860\end{pmatrix}$$
$$a_6 = \begin{pmatrix}1.73780u^{19}-0.371174u^{18}+\cdots+0.103654u-0.381445\\1.73780u^{19}-0.371174u^{18}+\cdots+0.103654u+0.618555\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u\\u\end{pmatrix}$$

(ii) Obstruction class $=-1$

(iii) Cusp Shapes
$= \frac{1120455221723}{240349879505}u^{19} - \frac{471292989666}{240349879505}u^{18} + \cdots + \frac{3691766656988}{240349879505}u + \frac{320606903159}{240349879505}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20}+3u^{19}+\cdots+218u-13$
c_2, c_3, c_6 c_{11}	$u^{20}-u^{19}+\cdots-10u^2-1$
c_4, c_{10}	$u^{20}-8u^{18}+\cdots-4u+1$
c_5, c_8, c_9 c_{12}	$u^{20}+9u^{18}+\cdots+5u+1$
c_7	$u^{20}+u^{19}+\cdots-143u+19$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{20} - 63y^{19} + \cdots - 9564y + 169$
c_2, c_3, c_6 c_{11}	$y^{20} + 5y^{19} + \cdots + 20y + 1$
c_4, c_{10}	$y^{20} - 16y^{19} + \cdots - 18y + 1$
c_5, c_8, c_9 c_{12}	$y^{20} + 18y^{19} + \cdots - 15y + 1$
c_7	$y^{20} - 11y^{19} + \cdots - 15167y + 361$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.400816 + 0.884966I$ $a = -2.72954 + 2.09837I$ $b = -0.949109 - 0.132376I$	$-8.66277 - 4.49166I$	$-15.7192 + 8.9902I$
$u = -0.400816 - 0.884966I$ $a = -2.72954 - 2.09837I$ $b = -0.949109 + 0.132376I$	$-8.66277 + 4.49166I$	$-15.7192 - 8.9902I$
$u = 0.445075 + 0.664586I$ $a = -0.55825 - 1.54756I$ $b = 0.759984 + 0.115147I$	$-6.98935 + 2.26121I$	$-8.63634 - 2.08867I$
$u = 0.445075 - 0.664586I$ $a = -0.55825 + 1.54756I$ $b = 0.759984 - 0.115147I$	$-6.98935 - 2.26121I$	$-8.63634 + 2.08867I$
$u = 0.255620 + 0.731714I$ $a = -1.08398 + 0.96572I$ $b = -0.429423 + 0.879049I$	$-0.07650 + 4.92471I$	$-2.33557 - 12.60053I$
$u = 0.255620 - 0.731714I$ $a = -1.08398 - 0.96572I$ $b = -0.429423 - 0.879049I$	$-0.07650 - 4.92471I$	$-2.33557 + 12.60053I$
$u = -0.012360 + 0.770424I$ $a = 1.81430 - 0.38135I$ $b = 0.562883 - 0.868623I$	$-0.82447 + 2.67386I$	$-9.08540 - 1.69155I$
$u = -0.012360 - 0.770424I$ $a = 1.81430 + 0.38135I$ $b = 0.562883 + 0.868623I$	$-0.82447 - 2.67386I$	$-9.08540 + 1.69155I$
$u = 0.480017 + 0.602509I$ $a = 0.643469 + 0.157584I$ $b = -0.082504 - 0.310448I$	$0.60874 + 1.46463I$	$3.26499 - 6.09999I$
$u = 0.480017 - 0.602509I$ $a = 0.643469 - 0.157584I$ $b = -0.082504 + 0.310448I$	$0.60874 - 1.46463I$	$3.26499 + 6.09999I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.531335 + 1.189620I$ $a = 0.242043 - 0.317433I$ $b = 0.060234 + 0.456251I$	$-3.53143 - 6.83177I$	$-9.5565 + 11.0135I$
$u = -0.531335 - 1.189620I$ $a = 0.242043 + 0.317433I$ $b = 0.060234 - 0.456251I$	$-3.53143 + 6.83177I$	$-9.5565 - 11.0135I$
$u = -1.12739 + 1.01287I$ $a = 0.825387 - 1.140150I$ $b = 0.68802 + 1.97233I$	$8.73704 - 6.60530I$	$-3.07657 + 3.57054I$
$u = -1.12739 - 1.01287I$ $a = 0.825387 + 1.140150I$ $b = 0.68802 - 1.97233I$	$8.73704 + 6.60530I$	$-3.07657 - 3.57054I$
$u = -0.361658$ $a = -0.615435$ $b = -1.63927$	-10.4764	-36.4690
$u = -0.237363$ $a = 1.77115$ $b = 0.677320$	-1.17003	-10.0210
$u = 1.34920 + 1.48354I$ $a = 0.679909 + 0.785418I$ $b = 1.06269 - 2.17951I$	$6.2442 + 13.4988I$	$-4.98661 - 5.91424I$
$u = 1.34920 - 1.48354I$ $a = 0.679909 - 0.785418I$ $b = 1.06269 + 2.17951I$	$6.2442 - 13.4988I$	$-4.98661 + 5.91424I$
$u = -0.15850 + 2.40587I$ $a = -0.911199 + 0.120376I$ $b = -1.69180 - 0.15828I$	$-15.1787 + 0.9594I$	$-7.12357 - 7.70746I$
$u = -0.15850 - 2.40587I$ $a = -0.911199 - 0.120376I$ $b = -1.69180 + 0.15828I$	$-15.1787 - 0.9594I$	$-7.12357 + 7.70746I$

II. $\boldsymbol{I_2^u = \langle 2u^4 - u^3 + 3u^2 + b - 4u + 3,\ a,\ u^5 - u^4 + 2u^3 - 3u^2 + 3u - 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 19u^4 - 9u^3 + 32u^2 - 38u + 32$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_{11}	$u^5 - u^3 + 2u^2 - 2u + 1$
c_3, c_6	$u^5 - u^3 - 2u^2 - 2u - 1$
c_4, c_{10}	$u^5 - 5u^4 + 9u^3 - 9u^2 + 4u - 1$
c_5, c_8	$u^5 + u^4 + 2u^3 + 3u^2 + 3u + 1$
c_7	$u^5 + 2u^4 + u^3 - u^2 - u - 1$
c_9, c_{12}	$u^5 - u^4 + 2u^3 - 3u^2 + 3u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_6, c_{11}	$y^5 - 2y^4 - 3y^3 - 1$
c_4, c_{10}	$y^5 - 7y^4 - y^3 - 19y^2 - 2y - 1$
c_5, c_8, c_9 c_{12}	$y^5 + 3y^4 + 4y^3 + y^2 + 3y - 1$
c_7	$y^5 - 2y^4 + 3y^3 + y^2 - y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.692449 + 0.655213I$ $a = 0$ $b = 0.701186 + 0.377712I$	$-0.075375 + 0.838336I$	$-3.26553 - 0.08174I$
$u = 0.692449 - 0.655213I$ $a = 0$ $b = 0.701186 - 0.377712I$	$-0.075375 - 0.838336I$	$-3.26553 + 0.08174I$
$u = -0.45440 + 1.37619I$ $a = 0$ $b = 0.166160 - 0.938713I$	$-2.98113 - 6.24267I$	$-2.74051 + 3.66349I$
$u = -0.45440 - 1.37619I$ $a = 0$ $b = 0.166160 + 0.938713I$	$-2.98113 + 6.24267I$	$-2.74051 - 3.66349I$
$u = 0.523892$ $a = 0$ $b = -1.73469$	-10.3363	21.0120

III.

$\boldsymbol{I_3^u = \langle -1.90\times 10^{7}u^{15} - 6.10\times 10^{7}u^{14} + \cdots + 1.20\times 10^{8}b - 8.39\times 10^{7},\ 5.01\times 10^{7}u^{15} + 2.02\times 10^{8}u^{14} + \cdots + 1.20\times 10^{8}a + 4.72\times 10^{8},\ u^{16} + 2u^{15} + \cdots - 8u + 4\rangle}$

(i) Arc colorings

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

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

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

$$a_4 = \begin{pmatrix} -0.418445u^{15} - 1.68659u^{14} + \cdots - 6.15108u - 3.94386 \\ 0.158569u^{15} + 0.509583u^{14} + \cdots + 0.0442522u + 0.700119 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.259876u^{15} - 1.17701u^{14} + \cdots - 6.10683u - 3.24374 \\ 0.158569u^{15} + 0.509583u^{14} + \cdots + 0.0442522u + 0.700119 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.519177u^{15} + 1.43811u^{14} + \cdots + 9.32741u + 0.285737 \\ -0.200027u^{15} - 0.613205u^{14} + \cdots - 0.0872469u - 0.165792 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.640403u^{15} + 1.35117u^{14} + \cdots + 10.3615u - 1.47910 \\ -0.0359168u^{15} - 0.479565u^{14} + \cdots + 3.03280u - 1.48337 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.708674u^{15} - 1.89413u^{14} + \cdots - 6.60773u - 3.73765 \\ -0.145182u^{15} - 0.190232u^{14} + \cdots - 2.63374u + 1.34969 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.186181u^{15} - 0.319098u^{14} + \cdots + 0.454556u + 1.41790 \\ 0.267538u^{15} + 0.426352u^{14} + \cdots + 2.44587u - 1.74924 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.685361u^{15} - 3.03767u^{14} + \cdots - 5.13508u - 11.9169 \\ -0.121226u^{15} + 0.0869414u^{14} + \cdots - 1.03413u + 1.76483 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.594605u^{15} - 1.13328u^{14} + \cdots - 2.65622u + 2.06585 \\ -0.140886u^{15} - 0.387830u^{14} + \cdots - 0.664908u - 1.10129 \end{pmatrix}$$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{8429911}{59899718}u^{15} - \frac{17842718}{29949859}u^{14} + \cdots - \frac{218282262}{29949859}u - \frac{26259324}{29949859}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^8 - 8u^7 + 18u^6 + 4u^5 - 59u^4 + 60u^3 - 16u^2 + 8u - 4)^2$
c_2, c_{11}	$u^{16} + 2u^{15} + \cdots - 16u + 4$
c_3, c_6	$u^{16} - 2u^{15} + \cdots + 16u + 4$
c_4, c_{10}	$u^{16} - 2u^{15} + \cdots - 8u + 1$
c_5, c_8	$u^{16} - 2u^{15} + \cdots + 8u + 4$
c_7	$(u^4 - 2u^3 + u^2 + 2u - 1)^4$
c_9, c_{12}	$u^{16} + 2u^{15} + \cdots - 8u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^8 - 28y^7 + \cdots + 64y + 16)^2$
c_2, c_3, c_6 c_{11}	$y^{16} + 2y^{15} + \cdots - 48y + 16$
c_4, c_{10}	$y^{16} - 10y^{15} + \cdots + 8y + 1$
c_5, c_8, c_9 c_{12}	$y^{16} + 14y^{15} + \cdots + 112y + 16$
c_7	$(y^4 - 2y^3 + 7y^2 - 6y + 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.521539 + 0.812354I$ $a = -1.103100 + 0.293517I$ $b = -0.297232 + 0.643334I$	$-0.16449 + 4.11697I$	$-3.58579 - 1.95664I$
$u = 0.521539 - 0.812354I$ $a = -1.103100 - 0.293517I$ $b = -0.297232 - 0.643334I$	$-0.16449 - 4.11697I$	$-3.58579 + 1.95664I$
$u = -0.429596 + 0.954915I$ $a = -0.780096 + 0.350949I$ $b = 0.658899 - 0.384785I$	-7.31723	$-7.76641 + 0.I$
$u = -0.429596 - 0.954915I$ $a = -0.780096 - 0.350949I$ $b = 0.658899 + 0.384785I$	-7.31723	$-7.76641 + 0.I$
$u = -0.186433 + 0.770599I$ $a = 0.669548 - 1.217980I$ $b = 0.606249 - 0.893781I$	$-0.16449 + 4.11697I$	$-3.58579 - 1.95664I$
$u = -0.186433 - 0.770599I$ $a = 0.669548 + 1.217980I$ $b = 0.606249 + 0.893781I$	$-0.16449 - 4.11697I$	$-3.58579 + 1.95664I$
$u = -0.490161 + 1.117010I$ $a = -1.91627 + 1.34689I$ $b = -1.287370 - 0.336211I$	$-8.06018 - 4.11697I$	$-3.58579 + 1.95664I$
$u = -0.490161 - 1.117010I$ $a = -1.91627 - 1.34689I$ $b = -1.287370 + 0.336211I$	$-8.06018 + 4.11697I$	$-3.58579 - 1.95664I$
$u = 0.581942 + 0.493509I$ $a = 0.738930 + 0.871340I$ $b = 0.916003 - 0.507301I$	-0.907436	$-5.06202 + 0.I$
$u = 0.581942 - 0.493509I$ $a = 0.738930 - 0.871340I$ $b = 0.916003 + 0.507301I$	-0.907436	$-5.06202 + 0.I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.362162 + 0.512371I$ $a = -3.12506 - 3.31201I$ $b = 0.478355 + 0.319469I$	$-8.06018 + 4.11697I$	$-3.58579 - 1.95664I$
$u = 0.362162 - 0.512371I$ $a = -3.12506 + 3.31201I$ $b = 0.478355 - 0.319469I$	$-8.06018 - 4.11697I$	$-3.58579 + 1.95664I$
$u = -1.52354 + 0.89039I$ $a = 0.449712 - 0.769502I$ $b = -0.34988 + 2.39621I$	6.98825	$-5.06202 + 0.I$
$u = -1.52354 - 0.89039I$ $a = 0.449712 + 0.769502I$ $b = -0.34988 - 2.39621I$	6.98825	$-5.06202 + 0.I$
$u = 0.16409 + 2.41606I$ $a = -0.933673 - 0.063412I$ $b = -1.72502 + 0.37187I$	-15.2129	$-7.76641 + 0.I$
$u = 0.16409 - 2.41606I$ $a = -0.933673 + 0.063412I$ $b = -1.72502 - 0.37187I$	-15.2129	$-7.76641 + 0.I$

IV. $\boldsymbol{I_4^u = \langle -3.43 \times 10^{13}u^{15} + 1.03 \times 10^{14}u^{14} + \cdots + 2.05 \times 10^{14}b - 3.32 \times 10^{15},\ 2.81 \times 10^{14}u^{15} - 8.09 \times 10^{14}u^{14} + \cdots + 1.44 \times 10^{15}a + 3.26 \times 10^{16},\ u^{16} - 2u^{15} + \cdots + 300u + 100\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.195312u^{15} + 0.562899u^{14} + \cdots - 40.9348u - 22.6733 \\ 0.166903u^{15} - 0.502461u^{14} + \cdots + 33.4081u + 16.1608 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.0284097u^{15} + 0.0604385u^{14} + \cdots - 7.52666u - 6.51252 \\ 0.166903u^{15} - 0.502461u^{14} + \cdots + 33.4081u + 16.1608 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.228188u^{15} + 0.663154u^{14} + \cdots - 49.1027u - 24.8300 \\ 0.358944u^{15} - 1.06222u^{14} + \cdots + 76.6335u + 39.3872 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.0462385u^{15} + 0.116397u^{14} + \cdots - 11.6840u - 6.12062 \\ 0.189267u^{15} - 0.550278u^{14} + \cdots + 39.9708u + 21.1014 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.137787u^{15} - 0.390781u^{14} + \cdots + 30.8679u + 17.1770 \\ 0.0668156u^{15} - 0.188222u^{14} + \cdots + 14.9926u + 7.60864 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.0655664u^{15} + 0.154266u^{14} + \cdots - 16.4167u - 13.4236 \\ 0.0766237u^{15} - 0.229597u^{14} + \cdots + 16.2498u + 7.54204 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.161372u^{15} - 0.474932u^{14} + \cdots + 34.1101u + 18.2214 \\ -0.181949u^{15} + 0.546757u^{14} + \cdots - 37.4187u - 18.7094 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.00353928u^{15} + 0.0318774u^{14} + \cdots + 0.790632u + 3.47522 \\ -0.145729u^{15} + 0.415741u^{14} + \cdots - 31.8758u - 17.4904 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{682071438}{1480097765}u^{15} + \frac{9582518138}{7400488825}u^{14} + \cdots - \frac{28606345540}{296019553}u - \frac{90455921558}{1480097765}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^8 - 4u^7 + 14u^5 - 7u^4 - 14u^3 + 22u^2 - 12u + 4)^2$
c_2, c_3, c_6 c_{11}	$u^{16} + 4u^{15} + \cdots - 1324u + 244$
c_4, c_{10}	$u^{16} - 4u^{15} + \cdots - 136u + 61$
c_5, c_8, c_9 c_{12}	$u^{16} - 2u^{15} + \cdots + 300u + 100$
c_7	$(u^4 - u^2 + 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^8-16y^7+98y^6-264y^5+353y^4-168y^3+92y^2+32y+16)^2$
c_2, c_3, c_6 c_{11}	$y^{16}+38y^{15}+\cdots-463680y+59536$
c_4, c_{10}	$y^{16}+14y^{15}+\cdots+7612y+3721$
c_5, c_8, c_9 c_{12}	$y^{16}-14y^{15}+\cdots-72000y+10000$
c_7	$(y^2-y+1)^8$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.963502 + 0.055502I$ $a = 0.09642 - 1.67377I$ $b = -0.66220 + 2.05898I$	$7.23771 + 2.02988I$	$-4.00000 - 3.46410I$
$u = -0.963502 - 0.055502I$ $a = 0.09642 + 1.67377I$ $b = -0.66220 - 2.05898I$	$7.23771 - 2.02988I$	$-4.00000 + 3.46410I$
$u = 0.303110 + 0.990536I$ $a = 0.570516 + 0.174581I$ $b = 0.364193 - 0.687332I$	$-0.65797 + 2.02988I$	$-4.00000 - 3.46410I$
$u = 0.303110 - 0.990536I$ $a = 0.570516 - 0.174581I$ $b = 0.364193 + 0.687332I$	$-0.65797 - 2.02988I$	$-4.00000 + 3.46410I$
$u = 1.131100 + 0.420575I$ $a = -0.178491 - 0.480034I$ $b = 1.22413 + 1.19906I$	$-0.65797 + 2.02988I$	$-4.00000 - 3.46410I$
$u = 1.131100 - 0.420575I$ $a = -0.178491 + 0.480034I$ $b = 1.22413 - 1.19906I$	$-0.65797 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -0.612127 + 0.162731I$ $a = 0.250693 - 0.943004I$ $b = -0.147418 - 0.121685I$	$-0.65797 + 2.02988I$	$-4.00000 - 3.46410I$
$u = -0.612127 - 0.162731I$ $a = 0.250693 + 0.943004I$ $b = -0.147418 + 0.121685I$	$-0.65797 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -1.44011 + 0.50338I$ $a = 0.133675 - 0.382432I$ $b = 1.79516 + 0.39004I$	$-0.65797 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -1.44011 - 0.50338I$ $a = 0.133675 + 0.382432I$ $b = 1.79516 - 0.39004I$	$-0.65797 + 2.02988I$	$-4.00000 - 3.46410I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.77252 + 0.16127I$ $a = 0.082374 + 0.905350I$ $b = -0.49106 - 2.36800I$	$7.23771 + 2.02988I$	$-4.00000 - 3.46410I$
$u = 1.77252 - 0.16127I$ $a = 0.082374 - 0.905350I$ $b = -0.49106 + 2.36800I$	$7.23771 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -1.15277 + 1.65532I$ $a = 0.658243 - 0.458401I$ $b = 0.19431 + 2.36522I$	$7.23771 - 2.02988I$	$-4.00000 + 3.46410I$
$u = -1.15277 - 1.65532I$ $a = 0.658243 + 0.458401I$ $b = 0.19431 - 2.36522I$	$7.23771 + 2.02988I$	$-4.00000 - 3.46410I$
$u = 1.96178 + 1.36397I$ $a = 0.386573 + 0.556004I$ $b = -0.27711 - 2.67423I$	$7.23771 - 2.02988I$	$-4.00000 + 3.46410I$
$u = 1.96178 - 1.36397I$ $a = 0.386573 - 0.556004I$ $b = -0.27711 + 2.67423I$	$7.23771 + 2.02988I$	$-4.00000 - 3.46410I$

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^5-u^3+2u^2-2u+1)$ $\cdot\,(u^8-8u^7+18u^6+4u^5-59u^4+60u^3-16u^2+8u-4)^2$ $\cdot\,(u^8-4u^7+14u^5-7u^4-14u^3+22u^2-12u+4)^2$ $\cdot\,(u^{20}+3u^{19}+\cdots+218u-13)$
c_2, c_{11}	$(u^5-u^3+2u^2-2u+1)(u^{16}+2u^{15}+\cdots-16u+4)$ $\cdot\,(u^{16}+4u^{15}+\cdots-1324u+244)(u^{20}-u^{19}+\cdots-10u^2-1)$
c_3, c_6	$(u^5-u^3-2u^2-2u-1)(u^{16}-2u^{15}+\cdots+16u+4)$ $\cdot\,(u^{16}+4u^{15}+\cdots-1324u+244)(u^{20}-u^{19}+\cdots-10u^2-1)$
c_4, c_{10}	$(u^5-5u^4+9u^3-9u^2+4u-1)(u^{16}-4u^{15}+\cdots-136u+61)$ $\cdot\,(u^{16}-2u^{15}+\cdots-8u+1)(u^{20}-8u^{18}+\cdots-4u+1)$
c_5, c_8	$(u^5+u^4+2u^3+3u^2+3u+1)(u^{16}-2u^{15}+\cdots+300u+100)$ $\cdot\,(u^{16}-2u^{15}+\cdots+8u+4)(u^{20}+9u^{18}+\cdots+5u+1)$
c_7	$(u^4-u^2+1)^4(u^4-2u^3+u^2+2u-1)^4(u^5+2u^4+u^3-u^2-u-1)$ $\cdot\,(u^{20}+u^{19}+\cdots-143u+19)$
c_9, c_{12}	$(u^5-u^4+2u^3-3u^2+3u-1)(u^{16}-2u^{15}+\cdots+300u+100)$ $\cdot\,(u^{16}+2u^{15}+\cdots-8u+4)(u^{20}+9u^{18}+\cdots+5u+1)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^5-2y^4-3y^3-1)(y^8-28y^7+\cdots+64y+16)^2$ $\cdot(y^8-16y^7+98y^6-264y^5+353y^4-168y^3+92y^2+32y+16)^2$ $\cdot(y^{20}-63y^{19}+\cdots-9564y+169)$
c_2,c_3,c_6 c_{11}	$(y^5-2y^4-3y^3-1)(y^{16}+2y^{15}+\cdots-48y+16)$ $\cdot(y^{16}+38y^{15}+\cdots-463680y+59536)(y^{20}+5y^{19}+\cdots+20y+1)$
c_4,c_{10}	$(y^5-7y^4-y^3-19y^2-2y-1)(y^{16}-10y^{15}+\cdots+8y+1)$ $\cdot(y^{16}+14y^{15}+\cdots+7612y+3721)(y^{20}-16y^{19}+\cdots-18y+1)$
c_5,c_8,c_9 c_{12}	$(y^5+3y^4+4y^3+y^2+3y-1)(y^{16}-14y^{15}+\cdots-72000y+10000)$ $\cdot(y^{16}+14y^{15}+\cdots+112y+16)(y^{20}+18y^{19}+\cdots-15y+1)$
c_7	$((y^2-y+1)^8)(y^4-2y^3+\cdots-6y+1)^4(y^5-2y^4+\cdots-y-1)$ $\cdot(y^{20}-11y^{19}+\cdots-15167y+361)$