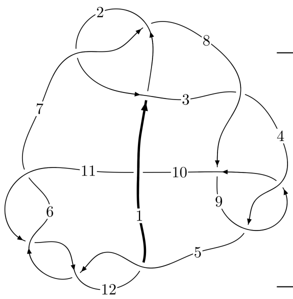
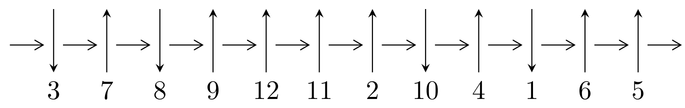
$12a_{0525}$ ($K12a_{0525}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -u^{27} + u^{26} + \cdots + 4b + 1,\ u^{27} - u^{26} + \cdots + 4a + 3,\ u^{28} + 7u^{26} + \cdots + u + 1\rangle$$

$$I_2^u = \langle 716399893584u^{45} + 1564714832102u^{44} + \cdots + 143114437009150b - 42121557729620,$$
$$- 1246408210566u^{45} - 1464820132004u^{44} + \cdots + 14311443700915a - 50730055068599,$$
$$u^{46} - u^{45} + \cdots - 6u + 5\rangle$$

$$I_3^u = \langle b + a + 1,\ a^2 + au + 2a + u + 2,\ u^2 + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 78 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.

$$I^u_1 = \langle -u^{27}+u^{26}+\cdots+4b+1,\ u^{27}-u^{26}+\cdots+4a+3,\ u^{28}+7u^{26}+\cdots+u+1\rangle$$

(i) Arc colorings

$$a_5 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-\frac{1}{4}u^{27}+\frac{1}{4}u^{26}+\cdots-\frac{1}{2}u^4-\frac{3}{4}\\ \frac{1}{4}u^{27}-\frac{1}{4}u^{26}+\cdots-u^2-\frac{1}{4}\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}\frac{5}{4}u^{27}+\frac{3}{4}u^{26}+\cdots+3u+\frac{5}{4}\\ -u^{27}-\frac{1}{2}u^{26}+\cdots-\frac{3}{2}u-1\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u^3\\u^5+u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^6-u^4+1\\-u^8-2u^6-2u^4\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-\frac{1}{4}u^{27}+\frac{1}{4}u^{26}+\cdots+u^2-\frac{3}{4}\\ \frac{1}{4}u^{27}-\frac{1}{4}u^{26}+\cdots-u^2-\frac{1}{4}\end{pmatrix}$$
$$a_7 = \begin{pmatrix}\frac{1}{4}u^{27}+\frac{1}{4}u^{26}+\cdots-\frac{1}{2}u+\frac{1}{4}\\ -\frac{1}{4}u^{27}-\frac{1}{4}u^{26}+\cdots+\frac{1}{2}u-\frac{1}{4}\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-\frac{1}{2}u^{27}+\frac{1}{2}u^{26}+\cdots+u^2-\frac{1}{2}\\ \frac{1}{4}u^{27}-\frac{1}{4}u^{26}+\cdots-u^2-\frac{1}{4}\end{pmatrix}$$
$$a_6 = \begin{pmatrix}\frac{5}{4}u^{27}-\frac{5}{4}u^{26}+\cdots-\frac{5}{2}u^4-\frac{5}{4}\\ -\frac{1}{2}u^{27}+\frac{1}{2}u^{26}+\cdots-\frac{1}{2}u^2+1\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6u^{27}-3u^{26}+41u^{25}-15u^{24}+144u^{23}-42u^{22}+311u^{21}-64u^{20}+447u^{19}-54u^{18}+417u^{17}+12u^{16}+224u^{15}+72u^{14}+22u^{13}+88u^{12}-43u^{11}+23u^{10}-15u^8+40u^7-32u^6+39u^5-2u^4+15u^3+u+2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{28} + 14u^{27} + \cdots + 3u + 1$
c_2, c_4, c_7 c_9	$u^{28} + 7u^{26} + \cdots - u + 1$
c_3	$u^{28} - 3u^{27} + \cdots - 16u + 32$
c_5, c_6, c_{11} c_{12}	$u^{28} - 3u^{27} + \cdots - 11u + 2$
c_{10}	$u^{28} - 9u^{27} + \cdots - 577u + 88$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{28} + 6y^{27} + \cdots + 7y + 1$
c_2, c_4, c_7 c_9	$y^{28} + 14y^{27} + \cdots + 3y + 1$
c_3	$y^{28} - 17y^{27} + \cdots + 9472y + 1024$
c_5, c_6, c_{11} c_{12}	$y^{28} + 33y^{27} + \cdots - y + 4$
c_{10}	$y^{28} - 15y^{27} + \cdots - 37601y + 7744$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.561145 + 0.801172I$ $a = 0.789871 + 0.574150I$ $b = 0.517508 + 0.330068I$	$1.48439 - 2.80149I$	$6.48594 + 3.23788I$
$u = -0.561145 - 0.801172I$ $a = 0.789871 - 0.574150I$ $b = 0.517508 - 0.330068I$	$1.48439 + 2.80149I$	$6.48594 - 3.23788I$
$u = 0.579647 + 0.897152I$ $a = 1.50711 - 0.28805I$ $b = 0.497793 + 0.554969I$	$0.84370 + 6.32564I$	$3.80658 - 10.10200I$
$u = 0.579647 - 0.897152I$ $a = 1.50711 + 0.28805I$ $b = 0.497793 - 0.554969I$	$0.84370 - 6.32564I$	$3.80658 + 10.10200I$
$u = 0.644615 + 0.631322I$ $a = -0.490860 - 1.215860I$ $b = 0.02723 - 1.47847I$	$-4.08922 + 1.25049I$	$3.66147 - 3.30700I$
$u = 0.644615 - 0.631322I$ $a = -0.490860 + 1.215860I$ $b = 0.02723 + 1.47847I$	$-4.08922 - 1.25049I$	$3.66147 + 3.30700I$
$u = -0.215428 + 0.829791I$ $a = -0.37664 - 1.75550I$ $b = 0.01632 + 1.64841I$	$-11.32300 - 1.08394I$	$-0.67442 + 6.46054I$
$u = -0.215428 - 0.829791I$ $a = -0.37664 + 1.75550I$ $b = 0.01632 - 1.64841I$	$-11.32300 + 1.08394I$	$-0.67442 - 6.46054I$
$u = -0.605441 + 0.975082I$ $a = 2.03396 - 0.23377I$ $b = 0.12308 - 1.53651I$	$-6.10857 - 8.52011I$	$0.08752 + 8.22687I$
$u = -0.605441 - 0.975082I$ $a = 2.03396 + 0.23377I$ $b = 0.12308 + 1.53651I$	$-6.10857 + 8.52011I$	$0.08752 - 8.22687I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.810575 + 0.181460I$ $a = -1.099550 - 0.535592I$ $b = -0.11876 - 1.60426I$	$-8.19035 + 4.61598I$	$1.91466 - 2.19636I$
$u = -0.810575 - 0.181460I$ $a = -1.099550 + 0.535592I$ $b = -0.11876 + 1.60426I$	$-8.19035 - 4.61598I$	$1.91466 + 2.19636I$
$u = 0.300734 + 0.727001I$ $a = -0.319517 + 0.635052I$ $b = 0.051371 - 0.848410I$	$-2.65911 + 1.36971I$	$-0.64034 - 4.77051I$
$u = 0.300734 - 0.727001I$ $a = -0.319517 - 0.635052I$ $b = 0.051371 + 0.848410I$	$-2.65911 - 1.36971I$	$-0.64034 + 4.77051I$
$u = -0.472666 + 1.163270I$ $a = 0.025330 + 0.342893I$ $b = -0.373723 - 0.874275I$	$-7.17751 - 5.06879I$	$-3.79171 + 3.11845I$
$u = -0.472666 - 1.163270I$ $a = 0.025330 - 0.342893I$ $b = -0.373723 + 0.874275I$	$-7.17751 + 5.06879I$	$-3.79171 - 3.11845I$
$u = 0.434237 + 1.181820I$ $a = 0.271152 - 1.262610I$ $b = -0.09543 + 1.65532I$	$-15.9103 + 3.3004I$	$-5.83767 - 4.22098I$
$u = 0.434237 - 1.181820I$ $a = 0.271152 + 1.262610I$ $b = -0.09543 - 1.65532I$	$-15.9103 - 3.3004I$	$-5.83767 + 4.22098I$
$u = 0.711695 + 0.202130I$ $a = -1.179690 + 0.185635I$ $b = -0.417783 + 0.681445I$	$-0.38114 - 2.62748I$	$4.50546 + 4.03150I$
$u = 0.711695 - 0.202130I$ $a = -1.179690 - 0.185635I$ $b = -0.417783 - 0.681445I$	$-0.38114 + 2.62748I$	$4.50546 - 4.03150I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.517461 + 1.173180I$ $a = -0.528302 + 0.520595I$ $b = -0.642923 + 0.090809I$	$-4.19208 + 8.45490I$	$1.37879 - 5.98873I$
$u = 0.517461 - 1.173180I$ $a = -0.528302 - 0.520595I$ $b = -0.642923 - 0.090809I$	$-4.19208 - 8.45490I$	$1.37879 + 5.98873I$
$u = -0.532917 + 1.201560I$ $a = -1.37394 - 0.82619I$ $b = -0.498601 + 0.771418I$	$-6.21060 - 12.29660I$	$-2.15740 + 10.05358I$
$u = -0.532917 - 1.201560I$ $a = -1.37394 + 0.82619I$ $b = -0.498601 - 0.771418I$	$-6.21060 + 12.29660I$	$-2.15740 - 10.05358I$
$u = 0.539110 + 1.224760I$ $a = -2.19344 + 0.93037I$ $b = -0.14542 - 1.63022I$	$-14.3989 + 14.7396I$	$-4.25699 - 8.49623I$
$u = 0.539110 - 1.224760I$ $a = -2.19344 - 0.93037I$ $b = -0.14542 + 1.63022I$	$-14.3989 - 14.7396I$	$-4.25699 + 8.49623I$
$u = -0.529327 + 0.333044I$ $a = -1.065480 + 0.149372I$ $b = -0.440655 + 0.212109I$	$1.000800 - 0.418896I$	$9.51810 + 3.62447I$
$u = -0.529327 - 0.333044I$ $a = -1.065480 - 0.149372I$ $b = -0.440655 - 0.212109I$	$1.000800 + 0.418896I$	$9.51810 - 3.62447I$

II.
$\boldsymbol{I_2^u = \langle 7.16\times10^{11}u^{45}+1.56\times10^{12}u^{44}+\cdots+1.43\times10^{13}b-4.21\times10^{13},\ -1.25\times10^{12}u^{45}-1.46\times10^{12}u^{44}+\cdots+1.43\times10^{13}a-5.07\times10^{13},\ u^{46}-u^{45}+\cdots-6u+5\rangle}$

(i) Arc colorings

$$a_5 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}0.0870917u^{45}+0.102353u^{44}+\cdots+0.144487u+3.54472\\-0.0500578u^{45}-0.109333u^{44}+\cdots+1.16384u+2.94321\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-0.326284u^{45}+0.410432u^{44}+\cdots-4.06775u+1.72544\\0.543037u^{45}+0.187376u^{44}+\cdots-0.175104u-4.56461\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u^3\\u^5+u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-u^6-u^4+1\\-u^8-2u^6-2u^4\end{pmatrix}$$
$$a_2 = \begin{pmatrix}0.343127u^{45}+0.178658u^{44}+\cdots-0.482261u+2.67882\\-0.517669u^{45}+0.00968254u^{44}+\cdots+1.41813u+3.82144\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.804906u^{45}+1.05487u^{44}+\cdots-5.92981u+4.66531\\0.0268193u^{45}-0.282855u^{44}+\cdots-0.213286u+0.465832\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.137150u^{45}+0.211686u^{44}+\cdots-1.01935u+0.601511\\-0.0500578u^{45}-0.109333u^{44}+\cdots+1.16384u+2.94321\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.159624u^{45}+0.184010u^{44}+\cdots-0.492668u-5.14365\\-0.0612648u^{45}-0.180573u^{44}+\cdots+1.65763u+0.574784\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes
$= -\frac{26464957613496}{14311443700915}u^{45}+\frac{19226079710712}{14311443700915}u^{44}+\cdots-\frac{165615168368444}{14311443700915}u-\frac{9675043718942}{2862288740183}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_8	$u^{46} + 27u^{45} + \cdots + 44u + 25$
c_2, c_4, c_7 c_9	$u^{46} + u^{45} + \cdots + 6u + 5$
c_3	$(u^{23} + u^{22} + \cdots + 4u - 5)^2$
c_5, c_6, c_{11} c_{12}	$(u^{23} + u^{22} + \cdots - 2u - 1)^2$
c_{10}	$(u^{23} - 7u^{22} + \cdots + 40u - 17)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_8	$y^{46} - 17y^{45} + \cdots - 11736y + 625$
c_2, c_4, c_7 c_9	$y^{46} + 27y^{45} + \cdots + 44y + 25$
c_3	$(y^{23} - 17y^{22} + \cdots - 144y - 25)^2$
c_5, c_6, c_{11} c_{12}	$(y^{23} + 27y^{22} + \cdots - 4y - 1)^2$
c_{10}	$(y^{23} - 9y^{22} + \cdots + 1260y - 289)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.594093 + 0.867126I$ $a = -1.78487 - 0.73898I$ $b = -0.08584 - 1.50808I$	$-4.75454 + 3.53591I$	$2.63493 - 3.24061I$
$u = 0.594093 - 0.867126I$ $a = -1.78487 + 0.73898I$ $b = -0.08584 + 1.50808I$	$-4.75454 - 3.53591I$	$2.63493 + 3.24061I$
$u = -0.560264 + 0.733902I$ $a = -1.43784 - 0.04229I$ $b = -0.477903 + 0.451361I$	$1.67853 - 1.68040I$	$6.82272 + 4.29991I$
$u = -0.560264 - 0.733902I$ $a = -1.43784 + 0.04229I$ $b = -0.477903 - 0.451361I$	$1.67853 + 1.68040I$	$6.82272 - 4.29991I$
$u = 0.894194 + 0.150322I$ $a = 1.011220 - 0.336769I$ $b = 0.13674 - 1.61894I$	$-11.1611 - 9.5466I$	$-1.28748 + 5.57899I$
$u = 0.894194 - 0.150322I$ $a = 1.011220 + 0.336769I$ $b = 0.13674 + 1.61894I$	$-11.1611 + 9.5466I$	$-1.28748 - 5.57899I$
$u = -0.379272 + 0.794858I$ $a = 2.51473 - 2.40755I$ $b = 0.03322 - 1.55779I$	$-10.40710 - 1.68405I$	$-2.35516 + 3.83025I$
$u = -0.379272 - 0.794858I$ $a = 2.51473 + 2.40755I$ $b = 0.03322 + 1.55779I$	$-10.40710 + 1.68405I$	$-2.35516 - 3.83025I$
$u = -0.710804 + 0.500232I$ $a = -0.192902 - 1.103000I$ $b = -0.08584 - 1.50808I$	$-4.75454 + 3.53591I$	$2.63493 - 3.24061I$
$u = -0.710804 - 0.500232I$ $a = -0.192902 + 1.103000I$ $b = -0.08584 + 1.50808I$	$-4.75454 - 3.53591I$	$2.63493 + 3.24061I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.846968 + 0.166502I$ $a = 1.078960 + 0.115479I$ $b = 0.473302 + 0.738923I$	$-3.12646 + 7.25342I$	$0.90266 - 7.25802I$
$u = -0.846968 - 0.166502I$ $a = 1.078960 - 0.115479I$ $b = 0.473302 - 0.738923I$	$-3.12646 - 7.25342I$	$0.90266 + 7.25802I$
$u = 0.052669 + 1.148020I$ $a = 0.074549 + 0.589699I$ $b = 0.228067 - 0.467269I$	$-3.43004 - 0.92592I$	$1.05751 + 7.44214I$
$u = 0.052669 - 1.148020I$ $a = 0.074549 - 0.589699I$ $b = 0.228067 + 0.467269I$	$-3.43004 + 0.92592I$	$1.05751 - 7.44214I$
$u = 0.599336 + 0.599151I$ $a = -0.958651 + 0.515545I$ $b = -0.477903 + 0.451361I$	$1.67853 - 1.68040I$	$6.82272 + 4.29991I$
$u = 0.599336 - 0.599151I$ $a = -0.958651 - 0.515545I$ $b = -0.477903 - 0.451361I$	$1.67853 + 1.68040I$	$6.82272 - 4.29991I$
$u = 0.171279 + 0.803495I$ $a = 2.17027 + 0.98312I$ $b = 0.228067 + 0.467269I$	$-3.43004 + 0.92592I$	$1.05751 - 7.44214I$
$u = 0.171279 - 0.803495I$ $a = 2.17027 - 0.98312I$ $b = 0.228067 - 0.467269I$	$-3.43004 - 0.92592I$	$1.05751 + 7.44214I$
$u = 0.370882 + 1.129040I$ $a = -0.031596 + 0.407800I$ $b = 0.324148 - 0.802707I$	$-4.10703 + 0.74531I$	$-1.080087 + 0.735219I$
$u = 0.370882 - 1.129040I$ $a = -0.031596 - 0.407800I$ $b = 0.324148 + 0.802707I$	$-4.10703 - 0.74531I$	$-1.080087 - 0.735219I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.471860+1.105300I$ $a=\ \ 0.546147+0.570157I$ $b=\ \ 0.581337+0.108709I$	$-1.28388-3.66457I$	$4.82434+2.67133I$
$u=-0.471860-1.105300I$ $a=\ \ 0.546147-0.570157I$ $b=\ \ 0.581337-0.108709I$	$-1.28388+3.66457I$	$4.82434-2.67133I$
$u=\ \ 0.770157+0.179548I$ $a=\ \ 1.022920+0.016288I$ $b=\ \ 0.581337+0.108709I$	$-1.28388-3.66457I$	$4.82434+2.67133I$
$u=\ \ 0.770157-0.179548I$ $a=\ \ 1.022920-0.016288I$ $b=\ \ 0.581337-0.108709I$	$-1.28388+3.66457I$	$4.82434-2.67133I$
$u=\ \ 0.358586+1.177180I$ $a=-0.452320+0.592660I$ $b=-0.546774$	-5.29760	0
$u=\ \ 0.358586-1.177180I$ $a=-0.452320-0.592660I$ $b=-0.546774$	-5.29760	0
$u=-0.079378+1.237910I$ $a=-0.039508-1.412900I$ $b=\ \ 0.03322+1.55779I$	$-10.40710+1.68405I$	$-2.35516-3.83025I$
$u=-0.079378-1.237910I$ $a=-0.039508+1.412900I$ $b=\ \ 0.03322-1.55779I$	$-10.40710-1.68405I$	$-2.35516+3.83025I$
$u=-0.427343+1.165780I$ $a=-1.59551-0.97121I$ $b=-0.413689+0.761868I$	$-7.50172-3.22031I$	$-4.22079+4.90443I$
$u=-0.427343-1.165780I$ $a=-1.59551+0.97121I$ $b=-0.413689-0.761868I$	$-7.50172+3.22031I$	$-4.22079-4.90443I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.342862 + 1.204660I$ $a = -0.206543 - 1.311020I$ $b = 0.09185 + 1.62814I$	$-12.43230 + 0.83337I$	$-2.62647 + 0.I$
$u = -0.342862 - 1.204660I$ $a = -0.206543 + 1.311020I$ $b = 0.09185 - 1.62814I$	$-12.43230 - 0.83337I$	$-2.62647 + 0.I$
$u = 0.509144 + 1.151480I$ $a = 1.48273 - 0.79356I$ $b = 0.473302 + 0.738923I$	$-3.12646 + 7.25342I$	$0. - 7.25802I$
$u = 0.509144 - 1.151480I$ $a = 1.48273 + 0.79356I$ $b = 0.473302 - 0.738923I$	$-3.12646 - 7.25342I$	$0. + 7.25802I$
$u = 0.467885 + 1.180690I$ $a = -2.63838 + 0.95680I$ $b = -0.11785 - 1.62483I$	$-15.6700 + 5.2275I$	$-5.66631 - 3.33432I$
$u = 0.467885 - 1.180690I$ $a = -2.63838 - 0.95680I$ $b = -0.11785 + 1.62483I$	$-15.6700 - 5.2275I$	$-5.66631 + 3.33432I$
$u = 0.728113 + 0.045864I$ $a = 1.54010 - 0.34391I$ $b = 0.09185 - 1.62814I$	$-12.43230 - 0.83337I$	$-2.62647 - 0.43888I$
$u = 0.728113 - 0.045864I$ $a = 1.54010 + 0.34391I$ $b = 0.09185 + 1.62814I$	$-12.43230 + 0.83337I$	$-2.62647 + 0.43888I$
$u = -0.351491 + 1.244020I$ $a = -0.034346 + 0.396365I$ $b = -0.413689 - 0.761868I$	$-7.50172 + 3.22031I$	$0. - 4.90443I$
$u = -0.351491 - 1.244020I$ $a = -0.034346 - 0.396365I$ $b = -0.413689 + 0.761868I$	$-7.50172 - 3.22031I$	$0. + 4.90443I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.527069 + 1.185450I$ $a = \ \ 2.34188 + 0.80439I$ $b = \ \ 0.13674 - 1.61894I$	$-11.1611 - 9.5466I$	$0. + 5.57899I$
$u = -0.527069 - 1.185450I$ $a = \ \ 2.34188 - 0.80439I$ $b = \ \ 0.13674 + 1.61894I$	$-11.1611 + 9.5466I$	$0. - 5.57899I$
$u = -0.684432 + 0.064859I$ $a = \ \ 1.217270 + 0.099029I$ $b = \ \ 0.324148 - 0.802707I$	$-4.10703 + 0.74531I$	$-1.080087 + 0.735219I$
$u = -0.684432 - 0.064859I$ $a = \ \ 1.217270 - 0.099029I$ $b = \ \ 0.324148 + 0.802707I$	$-4.10703 - 0.74531I$	$-1.080087 - 0.735219I$
$u = \ \ 0.365405 + 1.281630I$ $a = \ \ 0.171683 - 1.256090I$ $b = -0.11785 + 1.62483I$	$-15.6700 - 5.2275I$	0
$u = \ \ 0.365405 - 1.281630I$ $a = \ \ 0.171683 + 1.256090I$ $b = -0.11785 - 1.62483I$	$-15.6700 + 5.2275I$	0

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -1.000000 + 0.618034I$ $b = -0.618034I$	-4.27683	-8.00000
$u = 1.000000I$ $a = -1.00000 - 1.61803I$ $b = 1.61803I$	-12.1725	-8.00000
$u = -1.000000I$ $a = -1.000000 - 0.618034I$ $b = 0.618034I$	-4.27683	-8.00000
$u = -1.000000I$ $a = -1.00000 + 1.61803I$ $b = -1.61803I$	-12.1725	-8.00000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_8	$((u-1)^4)(u^{28}+14u^{27}+\cdots+3u+1)(u^{46}+27u^{45}+\cdots+44u+25)$
c_2, c_4, c_7 c_9	$((u^2+1)^2)(u^{28}+7u^{26}+\cdots-u+1)(u^{46}+u^{45}+\cdots+6u+5)$
c_3	$u^4(u^{23}+u^{22}+\cdots+4u-5)^2(u^{28}-3u^{27}+\cdots-16u+32)$
c_5, c_6, c_{11} c_{12}	$(u^4+3u^2+1)(u^{23}+u^{22}+\cdots-2u-1)^2(u^{28}-3u^{27}+\cdots-11u+2)$
c_{10}	$((u^2+u-1)^2)(u^{23}-7u^{22}+\cdots+40u-17)^2$ $\cdot(u^{28}-9u^{27}+\cdots-577u+88)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_8	$((y-1)^4)(y^{28}+6y^{27}+\cdots+7y+1)(y^{46}-17y^{45}+\cdots-11736y+625)$
c_2, c_4, c_7 c_9	$((y+1)^4)(y^{28}+14y^{27}+\cdots+3y+1)(y^{46}+27y^{45}+\cdots+44y+25)$
c_3	$y^4(y^{23}-17y^{22}+\cdots-144y-25)^2$ $\cdot(y^{28}-17y^{27}+\cdots+9472y+1024)$
c_5, c_6, c_{11} c_{12}	$((y^2+3y+1)^2)(y^{23}+27y^{22}+\cdots-4y-1)^2$ $\cdot(y^{28}+33y^{27}+\cdots-y+4)$
c_{10}	$((y^2-3y+1)^2)(y^{23}-9y^{22}+\cdots+1260y-289)^2$ $\cdot(y^{28}-15y^{27}+\cdots-37601y+7744)$