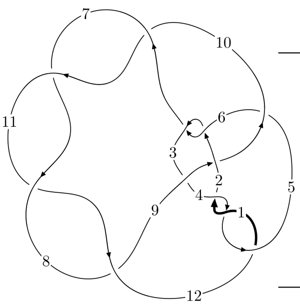
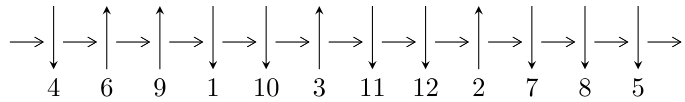
$12a_{0941}$ ($K12a_{0941}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.42999 \times 10^{69} u^{73} + 6.42092 \times 10^{69} u^{72} + \cdots + 1.65516 \times 10^{69} b + 1.02869 \times 10^{70},$$
$$- 5.07268 \times 10^{70} u^{73} + 2.49297 \times 10^{71} u^{72} + \cdots + 1.48964 \times 10^{70} a + 6.53143 \times 10^{71},\ u^{74} - 6u^{73} + \cdots - 5u -$$
$$I_2^u = \langle 5b - 3a - 1,\ 3a^2 - 3a + 7,\ u^2 + u - 1 \rangle$$
$$I_3^u = \langle b + 1,\ a^2 + 2a + 3,\ u - 1 \rangle$$
$$I_4^u = \langle b - 1,\ a - 1,\ u - 1 \rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 81 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.

$\boldsymbol{I_1^u = \langle -1.43\times10^{69}u^{73}+6.42\times10^{69}u^{72}+\cdots+1.66\times10^{69}b+1.03\times10^{70},\ -5.07\times 10^{70}u^{73}+2.49\times10^{71}u^{72}+\cdots+1.49\times10^{70}a+6.53\times10^{71},\ u^{74}-6u^{73}+\cdots-5u+9\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}3.40530u^{73} - 16.7354u^{72} + \cdots - 59.8211u - 43.8456\\0.863958u^{73} - 3.87934u^{72} + \cdots - 2.16199u - 6.21506\end{pmatrix}$$
$$a_9 = \begin{pmatrix}-u^2+1\\-u^4+2u^2\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0.875009u^{73} - 4.53530u^{72} + \cdots - 39.7678u - 20.7618\\1.73096u^{73} - 7.25329u^{72} + \cdots + 3.74996u - 8.00046\end{pmatrix}$$
$$a_6 = \begin{pmatrix}4.28594u^{73} - 19.7999u^{72} + \cdots - 55.8776u - 44.5013\\6.03936u^{73} - 26.3358u^{72} + \cdots - 2.69922u - 34.6744\end{pmatrix}$$
$$a_2 = \begin{pmatrix}11.7060u^{73} - 52.9235u^{72} + \cdots - 13.7202u - 74.9192\\8.41966u^{73} - 37.8131u^{72} + \cdots - 2.40204u - 50.4595\end{pmatrix}$$
$$a_1 = \begin{pmatrix}5.78714u^{73} - 29.6988u^{72} + \cdots - 74.5556u - 72.6750\\0.856731u^{73} - 2.06038u^{72} + \cdots + 50.8868u + 18.9089\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}10.6776u^{73} - 48.4916u^{72} + \cdots - 51.7357u - 80.3621\\12.4311u^{73} - 55.0275u^{72} + \cdots + 1.44267u - 70.5352\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 5.31177u^{73} - 18.4801u^{72} + \cdots + 92.2939u + 19.8328$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$u^{74} - 3u^{73} + \cdots - 12u + 2$
c_2, c_6	$u^{74} - 4u^{73} + \cdots - 5u - 3$
c_3	$9(9u^{74} + 30u^{73} + \cdots - 18775u + 11591)$
c_5	$9(9u^{74} - 39u^{73} + \cdots + 17840u + 853)$
c_7, c_8, c_{10} c_{11}	$u^{74} + 6u^{73} + \cdots + 5u + 9$
c_9	$u^{74} + 2u^{73} + \cdots + 576u - 432$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{74} + 69y^{73} + \cdots - 48y + 4$
c_2, c_6	$y^{74} - 38y^{73} + \cdots - 775y + 9$
c_3	$81(81y^{74} - 2970y^{73} + \cdots - 1.79556 \times 10^9 y + 1.34351 \times 10^8)$
c_5	$81(81y^{74} - 729y^{73} + \cdots - 2.92408 \times 10^8 y + 727609)$
c_7, c_8, c_{10} c_{11}	$y^{74} - 86y^{73} + \cdots - 655y + 81$
c_9	$y^{74} - 28y^{73} + \cdots - 2104704y + 186624$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.780489 + 0.653369I$ $a = 0.48251 - 1.51030I$ $b = -1.252830 - 0.542624I$	$7.3329 + 12.3570I$	0
$u = -0.780489 - 0.653369I$ $a = 0.48251 + 1.51030I$ $b = -1.252830 + 0.542624I$	$7.3329 - 12.3570I$	0
$u = 0.926260 + 0.427283I$ $a = 0.703366 + 0.640455I$ $b = -0.349481 + 0.290897I$	$2.66093 - 0.33343I$	0
$u = 0.926260 - 0.427283I$ $a = 0.703366 - 0.640455I$ $b = -0.349481 - 0.290897I$	$2.66093 + 0.33343I$	0
$u = -0.766830 + 0.541355I$ $a = -0.35452 + 1.57607I$ $b = 1.236780 + 0.551197I$	$1.12893 + 8.60971I$	0
$u = -0.766830 - 0.541355I$ $a = -0.35452 - 1.57607I$ $b = 1.236780 - 0.551197I$	$1.12893 - 8.60971I$	0
$u = 0.722917 + 0.572819I$ $a = 0.197853 + 0.324737I$ $b = -0.555314 - 0.341105I$	$2.44985 - 0.53730I$	0
$u = 0.722917 - 0.572819I$ $a = 0.197853 - 0.324737I$ $b = -0.555314 + 0.341105I$	$2.44985 + 0.53730I$	0
$u = -0.745115 + 0.507872I$ $a = -0.505661 + 0.814141I$ $b = -0.133191 + 0.959429I$	$3.89877 + 6.97858I$	0
$u = -0.745115 - 0.507872I$ $a = -0.505661 - 0.814141I$ $b = -0.133191 - 0.959429I$	$3.89877 - 6.97858I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.058370 + 0.376551I$ $a = 0.390460 - 0.275743I$ $b = 0.938072 + 0.240382I$	$-0.571733 + 0.687366I$	0
$u = 1.058370 - 0.376551I$ $a = 0.390460 + 0.275743I$ $b = 0.938072 - 0.240382I$	$-0.571733 - 0.687366I$	0
$u = -0.209015 + 0.842113I$ $a = 0.613156 - 0.007223I$ $b = -1.188410 + 0.452211I$	$9.07024 - 7.42311I$	0
$u = -0.209015 - 0.842113I$ $a = 0.613156 + 0.007223I$ $b = -1.188410 - 0.452211I$	$9.07024 + 7.42311I$	0
$u = 0.456967 + 0.724258I$ $a = 1.005020 + 0.543237I$ $b = -0.876049 + 0.413421I$	$3.31198 - 4.04047I$	0
$u = 0.456967 - 0.724258I$ $a = 1.005020 - 0.543237I$ $b = -0.876049 - 0.413421I$	$3.31198 + 4.04047I$	0
$u = 0.610837 + 0.528728I$ $a = -0.906740 - 0.910567I$ $b = 0.766366 - 0.275897I$	$-0.93403 - 1.81717I$	$-10.28717 + 6.80364I$
$u = 0.610837 - 0.528728I$ $a = -0.906740 + 0.910567I$ $b = 0.766366 + 0.275897I$	$-0.93403 + 1.81717I$	$-10.28717 - 6.80364I$
$u = -0.654850 + 0.418140I$ $a = 0.18276 - 1.79134I$ $b = -1.202110 - 0.564951I$	$1.73943 + 3.84518I$	$-2.69909 - 5.52948I$
$u = -0.654850 - 0.418140I$ $a = 0.18276 + 1.79134I$ $b = -1.202110 + 0.564951I$	$1.73943 - 3.84518I$	$-2.69909 + 5.52948I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.689051 + 0.317719I$ $a = 0.557656 - 1.039220I$ $b = 0.192843 - 0.984641I$	$-2.13148 + 3.14846I$	$-7.44124 - 8.73816I$
$u = -0.689051 - 0.317719I$ $a = 0.557656 + 1.039220I$ $b = 0.192843 + 0.984641I$	$-2.13148 - 3.14846I$	$-7.44124 + 8.73816I$
$u = 0.743515$ $a = -0.472726$ $b = 0.111724$	-1.29107	-8.03060
$u = -0.129068 + 0.704485I$ $a = -0.719921 + 0.160016I$ $b = 1.159780 - 0.397161I$	$3.03854 - 4.45334I$	$-0.92150 + 5.94186I$
$u = -0.129068 - 0.704485I$ $a = -0.719921 - 0.160016I$ $b = 1.159780 + 0.397161I$	$3.03854 + 4.45334I$	$-0.92150 - 5.94186I$
$u = -0.506904 + 0.477161I$ $a = -0.0436695 + 0.0957579I$ $b = 1.324910 - 0.354848I$	$8.65870 + 2.36010I$	$2.52056 - 4.62942I$
$u = -0.506904 - 0.477161I$ $a = -0.0436695 - 0.0957579I$ $b = 1.324910 + 0.354848I$	$8.65870 - 2.36010I$	$2.52056 + 4.62942I$
$u = 1.257500 + 0.465420I$ $a = -0.340473 + 0.018485I$ $b = -1.047160 - 0.375595I$	$4.58375 + 2.82748I$	0
$u = 1.257500 - 0.465420I$ $a = -0.340473 - 0.018485I$ $b = -1.047160 + 0.375595I$	$4.58375 - 2.82748I$	0
$u = -0.113465 + 0.635641I$ $a = 0.809632 - 0.222688I$ $b = -0.032593 - 0.706254I$	$5.75300 - 3.13005I$	$-0.47310 + 1.96058I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.113465-0.635641I$ $a=\ \ 0.809632+0.222688I$ $b=-0.032593+0.706254I$	$5.75300+3.13005I$	$-0.47310-1.96058I$
$u=\ \ 0.623383+0.158653I$ $a=-0.32416+3.34499I$ $b=-0.921135+0.058648I$	$0.485464-0.382772I$	$9.7234-10.9570I$
$u=\ \ 0.623383-0.158653I$ $a=-0.32416-3.34499I$ $b=-0.921135-0.058648I$	$0.485464+0.382772I$	$9.7234+10.9570I$
$u=-0.416679+0.480285I$ $a=-0.52731+2.30548I$ $b=\ \ 1.149740+0.482784I$	$8.91952+1.00599I$	$3.16723-4.49529I$
$u=-0.416679-0.480285I$ $a=-0.52731-2.30548I$ $b=\ \ 1.149740-0.482784I$	$8.91952-1.00599I$	$3.16723+4.49529I$
$u=-0.519626+0.103037I$ $a=-0.91143+1.58062I$ $b=-0.521721+0.994680I$	$-0.77301-1.82140I$	$7.86976-8.66716I$
$u=-0.519626-0.103037I$ $a=-0.91143-1.58062I$ $b=-0.521721-0.994680I$	$-0.77301+1.82140I$	$7.86976+8.66716I$
$u=\ \ 0.505606+0.052276I$ $a=-6.60990+5.71947I$ $b=\ \ 1.027770+0.072612I$	$5.81053-0.10803I$	$-4.98191-7.31698I$
$u=\ \ 0.505606-0.052276I$ $a=-6.60990-5.71947I$ $b=\ \ 1.027770-0.072612I$	$5.81053+0.10803I$	$-4.98191+7.31698I$
$u=\ \ 1.49577$ $a=-0.878655$ $b=-1.51662$	-2.46559	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.49843 + 0.08478I$ $a = 0.84047 - 1.98778I$ $b = 0.974646 - 0.722897I$	$2.64300 - 2.84023I$	0
$u = 1.49843 - 0.08478I$ $a = 0.84047 + 1.98778I$ $b = 0.974646 + 0.722897I$	$2.64300 + 2.84023I$	0
$u = -0.222562 + 0.436276I$ $a = 0.363985 - 0.713608I$ $b = -1.218890 + 0.287656I$	$2.97702 - 0.79262I$	$0.91124 - 2.75524I$
$u = -0.222562 - 0.436276I$ $a = 0.363985 + 0.713608I$ $b = -1.218890 - 0.287656I$	$2.97702 + 0.79262I$	$0.91124 + 2.75524I$
$u = 1.52960 + 0.11352I$ $a = 0.789714 + 0.238208I$ $b = 1.48319 + 0.25429I$	$1.87547 - 4.40034I$	0
$u = 1.52960 - 0.11352I$ $a = 0.789714 - 0.238208I$ $b = 1.48319 - 0.25429I$	$1.87547 + 4.40034I$	0
$u = -1.54223 + 0.22663I$ $a = 0.121615 - 1.194980I$ $b = -1.068200 - 0.517925I$	$-3.32651 + 7.47374I$	0
$u = -1.54223 - 0.22663I$ $a = 0.121615 + 1.194980I$ $b = -1.068200 + 0.517925I$	$-3.32651 - 7.47374I$	0
$u = -1.56341 + 0.01756I$ $a = -0.80268 - 1.74739I$ $b = 1.121450 - 0.237964I$	$-1.346100 + 0.385297I$	0
$u = -1.56341 - 0.01756I$ $a = -0.80268 + 1.74739I$ $b = 1.121450 + 0.237964I$	$-1.346100 - 0.385297I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.57344 + 0.03838I$ $a = -0.73507 - 1.79325I$ $b = -0.632143 - 1.209970I$	$-8.05402 + 1.24749I$	0
$u = 1.57344 - 0.03838I$ $a = -0.73507 + 1.79325I$ $b = -0.632143 + 1.209970I$	$-8.05402 - 1.24749I$	0
$u = 1.59590 + 0.11628I$ $a = -0.62969 + 1.75927I$ $b = -1.22206 + 0.75829I$	$-5.93811 - 5.80018I$	0
$u = 1.59590 - 0.11628I$ $a = -0.62969 - 1.75927I$ $b = -1.22206 - 0.75829I$	$-5.93811 + 5.80018I$	0
$u = -1.60516 + 0.04809I$ $a = -0.24131 - 1.69697I$ $b = -0.947104 - 0.308897I$	$-7.27045 + 1.14976I$	0
$u = -1.60516 - 0.04809I$ $a = -0.24131 + 1.69697I$ $b = -0.947104 + 0.308897I$	$-7.27045 - 1.14976I$	0
$u = -1.59879 + 0.15088I$ $a = -0.011727 + 1.260060I$ $b = 0.996972 + 0.473584I$	$-8.49571 + 4.32035I$	0
$u = -1.59879 - 0.15088I$ $a = -0.011727 - 1.260060I$ $b = 0.996972 - 0.473584I$	$-8.49571 - 4.32035I$	0
$u = 1.60460 + 0.09213I$ $a = 0.56982 + 1.62025I$ $b = 0.352351 + 1.192960I$	$-9.99806 - 4.68716I$	0
$u = 1.60460 - 0.09213I$ $a = 0.56982 - 1.62025I$ $b = 0.352351 - 1.192960I$	$-9.99806 + 4.68716I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.61043 + 0.13230I$ $a = -0.166508 + 0.655866I$ $b = -0.302997 + 0.654160I$	$-5.48438 + 2.96748I$	0
$u = -1.61043 - 0.13230I$ $a = -0.166508 - 0.655866I$ $b = -0.302997 - 0.654160I$	$-5.48438 - 2.96748I$	0
$u = 1.61900 + 0.14939I$ $a = -0.54408 - 1.44965I$ $b = -0.230645 - 1.110670I$	$-4.13109 - 9.45778I$	0
$u = 1.61900 - 0.14939I$ $a = -0.54408 + 1.44965I$ $b = -0.230645 + 1.110670I$	$-4.13109 + 9.45778I$	0
$u = 1.62753 + 0.15988I$ $a = 0.45575 - 1.70456I$ $b = 1.27669 - 0.67771I$	$-7.00005 - 11.26650I$	0
$u = 1.62753 - 0.15988I$ $a = 0.45575 + 1.70456I$ $b = 1.27669 + 0.67771I$	$-7.00005 + 11.26650I$	0
$u = 1.63663 + 0.20074I$ $a = -0.32200 + 1.71785I$ $b = -1.28702 + 0.62542I$	$-0.8135 - 15.6125I$	0
$u = 1.63663 - 0.20074I$ $a = -0.32200 - 1.71785I$ $b = -1.28702 - 0.62542I$	$-0.8135 + 15.6125I$	0
$u = -1.65905 + 0.04861I$ $a = 0.313274 - 0.637145I$ $b = 0.433660 - 0.467149I$	$-10.06930 + 0.35205I$	0
$u = -1.65905 - 0.04861I$ $a = 0.313274 + 0.637145I$ $b = 0.433660 + 0.467149I$	$-10.06930 - 0.35205I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.077697 + 0.312068I$ $a = -1.157550 - 0.437372I$ $b = -0.018367 + 0.438500I$	$-0.170863 - 0.995364I$	$-3.42059 + 6.18920I$
$u = \quad 0.077697 - 0.312068I$ $a = -1.157550 + 0.437372I$ $b = -0.018367 - 0.438500I$	$-0.170863 + 0.995364I$	$-3.42059 - 6.18920I$
$u = -1.71160 + 0.03432I$ $a = -0.311387 - 0.960043I$ $b = -0.725354 - 0.496651I$	$-6.99846 + 2.04216I$	0
$u = -1.71160 - 0.03432I$ $a = -0.311387 + 0.960043I$ $b = -0.725354 + 0.496651I$	$-6.99846 - 2.04216I$	0

II. $\boldsymbol{I_2^u = \langle 5b - 3a - 1,\ 3a^2 - 3a + 7,\ u^2 + u - 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2au - \frac{29}{5}a - \frac{1}{3}u - \frac{124}{15}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_6, c_{12}	$(y^2 + y + 1)^2$
c_3	$81(9y^2 + 9y + 1)^2$
c_5	$81(81y^4 - 81y^3 + 72y^2 - 9y + 1)$
c_7, c_8, c_{10} c_{11}	$(y^2 - 3y + 1)^2$
c_9	y^4

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = 0.50000 + 1.44338I$ $b = 0.500000 + 0.866025I$	$-0.98696 + 2.02988I$	$-11.9907 - 10.1557I$
$u = 0.618034$ $a = 0.50000 - 1.44338I$ $b = 0.500000 - 0.866025I$	$-0.98696 - 2.02988I$	$-11.9907 + 10.1557I$
$u = -1.61803$ $a = 0.50000 + 1.44338I$ $b = 0.500000 + 0.866025I$	$-8.88264 + 2.02988I$	$-9.00929 - 3.70072I$
$u = -1.61803$ $a = 0.50000 - 1.44338I$ $b = 0.500000 - 0.866025I$	$-8.88264 - 2.02988I$	$-9.00929 + 3.70072I$

III. $I_3^u = \langle b+1,\ a^2+2a+3,\ u-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$(y+2)^2$
c_2, c_6, c_7 c_8, c_9, c_{10} c_{11}	$(y-1)^2$
c_3, c_5	y^2+2y+9

(vi) Complex Volumes and Cusp Shapes

Solutions to I^u_3	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.00000$ $a = -1.00000 + 1.41421I$ $b = -1.00000$	4.93480	0
$u = \quad 1.00000$ $a = -1.00000 - 1.41421I$ $b = -1.00000$	4.93480	0

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

(i) Arc colorings

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

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

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

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

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

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

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

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

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

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

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

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

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u(u^2+2)(u^2-u+1)^2(u^{74}-3u^{73}+\cdots-12u+2)$
c_2	$((u-1)^2)(u+1)(u^2+u+1)^2(u^{74}-4u^{73}+\cdots-5u-3)$
c_3	$81(u-1)(u^2+2u+3)(9u^4+9u^2+1)$ $\cdot(9u^{74}+30u^{73}+\cdots-18775u+11591)$
c_4	$u(u^2+2)(u^2+u+1)^2(u^{74}-3u^{73}+\cdots-12u+2)$
c_5	$81(u-1)(u^2-2u+3)(9u^4+9u^3-3u+1)$ $\cdot(9u^{74}-39u^{73}+\cdots+17840u+853)$
c_6	$(u-1)(u+1)^2(u^2-u+1)^2(u^{74}-4u^{73}+\cdots-5u-3)$
c_7, c_8	$((u-1)^3)(u^2+u-1)^2(u^{74}+6u^{73}+\cdots+5u+9)$
c_9	$u^4(u-1)(u+1)^2(u^{74}+2u^{73}+\cdots+576u-432)$
c_{10}, c_{11}	$((u+1)^3)(u^2-u-1)^2(u^{74}+6u^{73}+\cdots+5u+9)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y(y+2)^2(y^2+y+1)^2(y^{74}+69y^{73}+\cdots-48y+4)$
c_2, c_6	$((y-1)^3)(y^2+y+1)^2(y^{74}-38y^{73}+\cdots-775y+9)$
c_3	$6561(y-1)(y^2+2y+9)(9y^2+9y+1)^2$ $\cdot(81y^{74}-2970y^{73}+\cdots-1795556943y+134351281)$
c_5	$6561(y-1)(y^2+2y+9)(81y^4-81y^3+72y^2-9y+1)$ $\cdot(81y^{74}-729y^{73}+\cdots-292407758y+727609)$
c_7, c_8, c_{10} c_{11}	$((y-1)^3)(y^2-3y+1)^2(y^{74}-86y^{73}+\cdots-655y+81)$
c_9	$y^4(y-1)^3(y^{74}-28y^{73}+\cdots-2104704y+186624)$