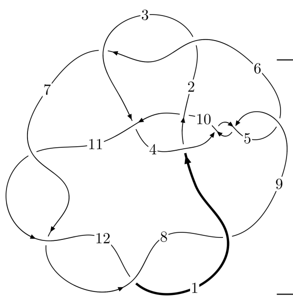
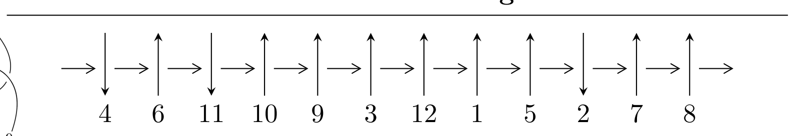
$12a_{0988}$ ($K12a_{0988}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -1.41244 \times 10^{69} u^{68} - 3.32508 \times 10^{69} u^{67} + \cdots + 3.39317 \times 10^{69} b + 1.80676 \times 10^{70}, \\
& 1.05888 \times 10^{70} u^{68} + 2.32754 \times 10^{70} u^{67} + \cdots + 2.37522 \times 10^{70} a - 1.91976 \times 10^{71}, \\
& u^{69} + 4u^{68} + \cdots + 118u - 28 \rangle \\
I_2^u = \langle & -u^3 + b + 2u,\ u^{16} - u^{15} + \cdots + a - 2,\ u^{17} - 12u^{15} + \cdots + 10u^2 - 1 \rangle \\
I_3^u = \langle & -186a^4u - 87a^4 - 392a^3u - 230a^3 + 1248a^2u + 506a^2 + 2922au + 241b + 1289a + 282u - 78, \\
& a^5 + 2a^4 + a^3u - 8a^3 + 10a^2u - 30a^2 + 17au - 29a + 8u - 13,\ u^2 - u - 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 96 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. $\boldsymbol{I^u_1 = \langle -1.41 \times 10^{69}u^{68} - 3.33 \times 10^{69}u^{67} + \cdots + 3.39 \times 10^{69}b + 1.81 \times 10^{70},\ 1.06 \times 10^{70}u^{68} + 2.33 \times 10^{70}u^{67} + \cdots + 2.38 \times 10^{70}a - 1.92 \times 10^{71},\ u^{69} + 4u^{68} + \cdots + 118u - 28\rangle}$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.445803u^{68} - 0.979926u^{67} + \cdots - 37.8294u + 8.08246 \\ 0.416260u^{68} + 0.979934u^{67} + \cdots + 31.7679u - 5.32469 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.337813u^{68} - 0.689657u^{67} + \cdots - 32.8264u + 7.20315 \\ 0.182878u^{68} + 0.451924u^{67} + \cdots + 7.26000u - 0.225713 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.279350u^{68} - 0.735303u^{67} + \cdots - 17.4605u + 4.28483 \\ 0.356355u^{68} + 0.862570u^{67} + \cdots + 35.2557u - 6.44200 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.864573u^{68} + 2.07589u^{67} + \cdots + 74.2680u - 16.1219 \\ -1.15159u^{68} - 2.66334u^{67} + \cdots - 108.556u + 24.4015 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.201645u^{68} - 0.481748u^{67} + \cdots - 23.0572u + 4.77346 \\ 0.172103u^{68} + 0.481755u^{67} + \cdots + 16.9956u - 2.01569 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.878887u^{68} + 2.21773u^{67} + \cdots + 57.9452u - 9.67980 \\ -0.809320u^{68} - 1.99188u^{67} + \cdots - 55.2577u + 11.7419 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.841314u^{68} - 1.63044u^{67} + \cdots - 102.614u + 28.7772$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{69} - 9u^{68} + \cdots - 125u - 1$
c_2, c_6	$u^{69} - 4u^{68} + \cdots + 1186u + 1279$
c_3	$u^{69} + 19u^{67} + \cdots - 73191u + 47449$
c_4, c_5, c_9	$u^{69} - 2u^{68} + \cdots - 82u + 1$
c_7, c_8, c_{11} c_{12}	$u^{69} - 4u^{68} + \cdots + 118u + 28$
c_{10}	$u^{69} + 4u^{68} + \cdots + 171u - 29$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{69} + 9y^{68} + \cdots + 17785y - 1$
c_2, c_6	$y^{69} - 52y^{68} + \cdots + 50080220y - 1635841$
c_3	$y^{69} + 38y^{68} + \cdots - 35937183035y - 2251407601$
c_4, c_5, c_9	$y^{69} + 70y^{68} + \cdots + 6500y - 1$
c_7, c_8, c_{11} c_{12}	$y^{69} - 84y^{68} + \cdots + 6364y - 784$
c_{10}	$y^{69} - 14y^{68} + \cdots + 39333y - 841$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.885057 + 0.508714I$ $a = -1.25938 + 1.09741I$ $b = 1.313650 + 0.417375I$	$5.12644 + 8.14034I$	0
$u = 0.885057 - 0.508714I$ $a = -1.25938 - 1.09741I$ $b = 1.313650 - 0.417375I$	$5.12644 - 8.14034I$	0
$u = -1.016630 + 0.148616I$ $a = -1.354710 - 0.051330I$ $b = 1.152720 - 0.802920I$	$0.08436 - 3.60660I$	0
$u = -1.016630 - 0.148616I$ $a = -1.354710 + 0.051330I$ $b = 1.152720 + 0.802920I$	$0.08436 + 3.60660I$	0
$u = 0.636042 + 0.735204I$ $a = 0.771040 - 0.820398I$ $b = -1.385970 - 0.048806I$	$1.71288 + 2.51836I$	0
$u = 0.636042 - 0.735204I$ $a = 0.771040 + 0.820398I$ $b = -1.385970 + 0.048806I$	$1.71288 - 2.51836I$	0
$u = -0.896655 + 0.578537I$ $a = -0.888310 - 0.824652I$ $b = 1.234820 + 0.008364I$	$4.86851 - 0.44171I$	0
$u = -0.896655 - 0.578537I$ $a = -0.888310 + 0.824652I$ $b = 1.234820 - 0.008364I$	$4.86851 + 0.44171I$	0
$u = -0.906672 + 0.619011I$ $a = 1.24005 + 0.82717I$ $b = -1.36590 + 0.51916I$	$-0.78365 - 12.22400I$	0
$u = -0.906672 - 0.619011I$ $a = 1.24005 - 0.82717I$ $b = -1.36590 - 0.51916I$	$-0.78365 + 12.22400I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.044130 + 0.894273I$ $a = 0.0367545 - 0.0279078I$ $b = -1.218310 - 0.375774I$	$-3.41603 + 7.23977I$	$6.00000 - 5.79158I$
$u = -0.044130 - 0.894273I$ $a = 0.0367545 + 0.0279078I$ $b = -1.218310 + 0.375774I$	$-3.41603 - 7.23977I$	$6.00000 + 5.79158I$
$u = -0.769410 + 0.383812I$ $a = 1.04791 + 1.63891I$ $b = -1.180600 + 0.315893I$	$3.85880 - 3.01933I$	$9.96983 + 6.07662I$
$u = -0.769410 - 0.383812I$ $a = 1.04791 - 1.63891I$ $b = -1.180600 - 0.315893I$	$3.85880 + 3.01933I$	$9.96983 - 6.07662I$
$u = 0.836904 + 0.153168I$ $a = 1.49560 - 0.59674I$ $b = -1.343630 - 0.417966I$	$4.62859 + 1.66065I$	$18.4070 - 5.0043I$
$u = 0.836904 - 0.153168I$ $a = 1.49560 + 0.59674I$ $b = -1.343630 + 0.417966I$	$4.62859 - 1.66065I$	$18.4070 + 5.0043I$
$u = -0.709314 + 0.400333I$ $a = -0.178614 + 0.107335I$ $b = -0.011683 - 1.196020I$	$-5.11512 - 6.32617I$	$4.96847 + 7.99574I$
$u = -0.709314 - 0.400333I$ $a = -0.178614 - 0.107335I$ $b = -0.011683 + 1.196020I$	$-5.11512 + 6.32617I$	$4.96847 - 7.99574I$
$u = 0.746120 + 0.270176I$ $a = 0.431126 - 0.142662I$ $b = -0.078465 - 0.885255I$	$0.83816 + 3.48222I$	$8.75635 - 8.60776I$
$u = 0.746120 - 0.270176I$ $a = 0.431126 + 0.142662I$ $b = -0.078465 + 0.885255I$	$0.83816 - 3.48222I$	$8.75635 + 8.60776I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.22679$ $a=-1.24264$ $b=\ \ 0.596925$	2.39981	0
$u=\ \ 0.502427+0.575755I$ $a=\ \ 0.632278+0.570820I$ $b=\ \ 0.593291-0.256882I$	$-4.44506+2.24811I$	$4.48548-1.48739I$
$u=\ \ 0.502427-0.575755I$ $a=\ \ 0.632278-0.570820I$ $b=\ \ 0.593291+0.256882I$	$-4.44506-2.24811I$	$4.48548+1.48739I$
$u=-0.032139+0.742398I$ $a=\ \ 0.130428-0.345678I$ $b=\ \ 1.211830-0.239682I$	$2.35512-3.98609I$	$9.19250+6.28784I$
$u=-0.032139-0.742398I$ $a=\ \ 0.130428+0.345678I$ $b=\ \ 1.211830+0.239682I$	$2.35512+3.98609I$	$9.19250-6.28784I$
$u=\ \ 1.099620+0.619020I$ $a=\ \ 0.808964-0.837395I$ $b=-1.137280+0.162151I$	$-0.01258-2.07394I$	0
$u=\ \ 1.099620-0.619020I$ $a=\ \ 0.808964+0.837395I$ $b=-1.137280-0.162151I$	$-0.01258+2.07394I$	0
$u=\ \ 1.263810+0.241659I$ $a=\ \ 1.34299+0.51814I$ $b=-0.572476-0.299994I$	$-1.95538-0.27990I$	0
$u=\ \ 1.263810-0.241659I$ $a=\ \ 1.34299-0.51814I$ $b=-0.572476+0.299994I$	$-1.95538+0.27990I$	0
$u=\ \ 0.668449+0.182768I$ $a=-3.22718-0.46140I$ $b=\ \ 0.943084+0.285478I$	$-3.62595+4.73786I$	$7.87798-6.16232I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.668449 - 0.182768I$ $a = -3.22718 + 0.46140I$ $b = 0.943084 - 0.285478I$	$-3.62595 - 4.73786I$	$7.87798 + 6.16232I$
$u = 0.412391 + 0.548973I$ $a = 0.155129 + 0.716030I$ $b = 0.736431 + 0.522225I$	$-4.65764 + 1.61626I$	$2.82750 - 4.30956I$
$u = 0.412391 - 0.548973I$ $a = 0.155129 - 0.716030I$ $b = 0.736431 - 0.522225I$	$-4.65764 - 1.61626I$	$2.82750 + 4.30956I$
$u = -0.219158 + 0.552429I$ $a = 1.53288 + 0.30165I$ $b = -0.223631 + 0.772688I$	$-6.59300 + 3.04852I$	$0.086786 - 0.536752I$
$u = -0.219158 - 0.552429I$ $a = 1.53288 - 0.30165I$ $b = -0.223631 - 0.772688I$	$-6.59300 - 3.04852I$	$0.086786 + 0.536752I$
$u = 1.49203$ $a = -0.152282$ $b = -0.616971$	6.96786	0
$u = -1.51224 + 0.16519I$ $a = -0.052321 - 0.516958I$ $b = 0.511789 + 0.054440I$	$2.17563 - 4.90185I$	0
$u = -1.51224 - 0.16519I$ $a = -0.052321 + 0.516958I$ $b = 0.511789 - 0.054440I$	$2.17563 + 4.90185I$	0
$u = -1.53515 + 0.04841I$ $a = -0.797218 - 0.049788I$ $b = 0.833772 - 0.898244I$	$1.47969 - 3.26450I$	0
$u = -1.53515 - 0.04841I$ $a = -0.797218 + 0.049788I$ $b = 0.833772 + 0.898244I$	$1.47969 + 3.26450I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.089185 + 0.433722I$ $a = -1.301320 - 0.439390I$ $b = -1.085960 - 0.017290I$	$1.86291 + 0.12476I$	$6.99819 + 0.57622I$
$u = -0.089185 - 0.433722I$ $a = -1.301320 + 0.439390I$ $b = -1.085960 + 0.017290I$	$1.86291 - 0.12476I$	$6.99819 - 0.57622I$
$u = 0.068174 + 0.406678I$ $a = -1.01773 + 1.10026I$ $b = 0.051644 + 0.523892I$	$-1.15029 - 1.08308I$	$-0.94169 + 2.86009I$
$u = 0.068174 - 0.406678I$ $a = -1.01773 - 1.10026I$ $b = 0.051644 - 0.523892I$	$-1.15029 + 1.08308I$	$-0.94169 - 2.86009I$
$u = -0.410283$ $a = -1.01651$ $b = -0.420595$	0.822559	13.9630
$u = 0.323738 + 0.194743I$ $a = -0.41274 - 1.81065I$ $b = 0.838599 - 0.702790I$	$-4.62796 - 3.27883I$	$5.32821 - 2.18413I$
$u = 0.323738 - 0.194743I$ $a = -0.41274 + 1.81065I$ $b = 0.838599 + 0.702790I$	$-4.62796 + 3.27883I$	$5.32821 + 2.18413I$
$u = -1.62231 + 0.04624I$ $a = -2.43198 + 0.36370I$ $b = 1.173720 - 0.075551I$	$4.39357 - 5.56424I$	0
$u = -1.62231 - 0.04624I$ $a = -2.43198 - 0.36370I$ $b = 1.173720 + 0.075551I$	$4.39357 + 5.56424I$	0
$u = 1.62794 + 0.10132I$ $a = -0.214550 - 0.885759I$ $b = 0.06305 + 1.51910I$	$2.96097 + 8.14106I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.62794 - 0.10132I$ $a = -0.214550 + 0.885759I$ $b = 0.06305 - 1.51910I$	$2.96097 - 8.14106I$	0
$u = -1.63793 + 0.06004I$ $a = 0.303364 - 0.514810I$ $b = -0.104398 + 1.183180I$	$9.14294 - 4.64744I$	0
$u = -1.63793 - 0.06004I$ $a = 0.303364 + 0.514810I$ $b = -0.104398 - 1.183180I$	$9.14294 + 4.64744I$	0
$u = 1.64036 + 0.11039I$ $a = 1.66328 - 0.72027I$ $b = -1.267400 - 0.503838I$	$12.18870 + 4.90550I$	0
$u = 1.64036 - 0.11039I$ $a = 1.66328 + 0.72027I$ $b = -1.267400 + 0.503838I$	$12.18870 - 4.90550I$	0
$u = -1.63556 + 0.21597I$ $a = 1.85907 + 0.58231I$ $b = -1.50689 + 0.15630I$	$9.45657 - 6.06793I$	0
$u = -1.63556 - 0.21597I$ $a = 1.85907 - 0.58231I$ $b = -1.50689 - 0.15630I$	$9.45657 + 6.06793I$	0
$u = -1.66810 + 0.03752I$ $a = 1.97899 - 0.02011I$ $b = -1.57935 + 0.61268I$	$13.45550 - 2.36434I$	0
$u = -1.66810 - 0.03752I$ $a = 1.97899 + 0.02011I$ $b = -1.57935 - 0.61268I$	$13.45550 + 2.36434I$	0
$u = -1.67186 + 0.14663I$ $a = -1.88316 - 0.52112I$ $b = 1.42741 - 0.53981I$	$13.9239 - 10.7016I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.67186 - 0.14663I$ $a = -1.88316 + 0.52112I$ $b = 1.42741 + 0.53981I$	$13.9239 + 10.7016I$	0
$u = 1.68319 + 0.18230I$ $a = 1.95034 - 0.37437I$ $b = -1.51510 - 0.60638I$	$8.0665 + 15.3703I$	0
$u = 1.68319 - 0.18230I$ $a = 1.95034 + 0.37437I$ $b = -1.51510 + 0.60638I$	$8.0665 - 15.3703I$	0
$u = 1.69652 + 0.15096I$ $a = -1.69943 + 0.46959I$ $b = 1.357260 + 0.214340I$	$13.8959 + 3.3008I$	0
$u = 1.69652 - 0.15096I$ $a = -1.69943 - 0.46959I$ $b = 1.357260 - 0.214340I$	$13.8959 - 3.3008I$	0
$u = 1.71146 + 0.04198I$ $a = -1.78409 - 0.38247I$ $b = 1.44052 + 0.94034I$	$9.75066 + 4.39705I$	0
$u = 1.71146 - 0.04198I$ $a = -1.78409 + 0.38247I$ $b = 1.44052 - 0.94034I$	$9.75066 - 4.39705I$	0
$u = -1.76323 + 0.10512I$ $a = 1.39968 + 0.49586I$ $b = -1.086220 + 0.160688I$	$10.33700 - 0.79826I$	0
$u = -1.76323 - 0.10512I$ $a = 1.39968 - 0.49586I$ $b = -1.086220 - 0.160688I$	$10.33700 + 0.79826I$	0

II. $\boldsymbol{I_2^u = \langle -u^3 + b + 2u,\ u^{16} - u^{15} + \cdots + a - 2,\ u^{17} - 12u^{15} + \cdots + 10u^2 - 1\rangle}$

(i) Arc colorings

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

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

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u^{16} + u^{15} + \cdots - 11u + 2 \\ u^3 - 2u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^{16} + 12u^{14} + \cdots - 3u + 3 \\ u^6 - 4u^4 + 4u^2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u^{16} + 12u^{14} + \cdots + 20u^2 - 5u \\ -u^9 + 6u^7 - 12u^5 + 9u^3 - 2u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^{16} + 11u^{14} + \cdots - 2u + 3 \\ u^{11} - 7u^9 + 17u^7 + u^6 - 17u^5 - 4u^4 + 7u^3 + 4u^2 - u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u^{16} + 12u^{14} + \cdots - 10u + 1 \\ u^{15} - 10u^{13} + \cdots - 3u + 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{16} - 12u^{14} + \cdots - 20u^2 + u \\ u^{13} - 9u^{11} + 31u^9 - 51u^7 + 41u^5 - 15u^3 + 3u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 3u^{16} - u^{15} - 39u^{14} + 14u^{13} + 203u^{12} - 80u^{11} - 541u^{10} + 235u^9 + 785u^8 - 372u^7 - 615u^6 + 311u^5 + 247u^4 - 130u^3 - 39u^2 + 18u + 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{17} - 6u^{14} + \cdots + 5u - 1$
c_2	$u^{17} - 3u^{16} + \cdots - 7u^2 + 1$
c_3	$u^{17} - u^{16} + \cdots - 3u + 1$
c_4, c_5	$u^{17} - u^{16} + \cdots - 2u + 1$
c_6	$u^{17} + 3u^{16} + \cdots + 7u^2 - 1$
c_7, c_8	$u^{17} - 12u^{15} + \cdots + 10u^2 - 1$
c_9	$u^{17} + u^{16} + \cdots - 2u - 1$
c_{10}	$u^{17} + 3u^{16} + \cdots - u - 1$
c_{11}, c_{12}	$u^{17} - 12u^{15} + \cdots - 10u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{17} + 12y^{15} + \cdots + 15y - 1$
c_2, c_6	$y^{17} - 17y^{16} + \cdots + 14y - 1$
c_3	$y^{17} - 3y^{16} + \cdots + 3y - 1$
c_4, c_5, c_9	$y^{17} + 17y^{16} + \cdots - 10y - 1$
c_7, c_8, c_{11} c_{12}	$y^{17} - 24y^{16} + \cdots + 20y - 1$
c_{10}	$y^{17} - 3y^{16} + \cdots + 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.12483$ $a=-1.57050$ $b=0.826480$	2.87361	16.9180
$u=0.765149+0.421591I$ $a=1.35270-0.57990I$ $b=-1.49033-0.17765I$	$0.68195+1.52103I$	$7.26853-3.12009I$
$u=0.765149-0.421591I$ $a=1.35270+0.57990I$ $b=-1.49033+0.17765I$	$0.68195-1.52103I$	$7.26853+3.12009I$
$u=1.178570+0.219790I$ $a=1.42225-0.62684I$ $b=-0.890871+0.465689I$	$-1.81193-2.25763I$	$5.66700+2.84264I$
$u=1.178570-0.219790I$ $a=1.42225+0.62684I$ $b=-0.890871-0.465689I$	$-1.81193+2.25763I$	$5.66700-2.84264I$
$u=-0.714795+0.288375I$ $a=-1.12109-1.23941I$ $b=1.242710-0.158712I$	$3.77071-1.06837I$	$10.68484+0.89742I$
$u=-0.714795-0.288375I$ $a=-1.12109+1.23941I$ $b=1.242710+0.158712I$	$3.77071+1.06837I$	$10.68484-0.89742I$
$u=1.51456$ $a=0.620258$ $b=0.445096$	6.54472	-0.282310
$u=-1.51854+0.10060I$ $a=-0.238616-0.104806I$ $b=-0.418499+0.493694I$	$1.55012-5.50234I$	$4.53425+6.47331I$
$u=-1.51854-0.10060I$ $a=-0.238616+0.104806I$ $b=-0.418499-0.493694I$	$1.55012+5.50234I$	$4.53425-6.47331I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \ \ 0.284877 + 0.277612I$ $a = -1.61523 + 1.23649I$ $b = -0.612500 - 0.509030I$	$-4.75398 + 4.11120I$	$3.36378 - 6.09217I$
$u = \ \ 0.284877 - 0.277612I$ $a = -1.61523 - 1.23649I$ $b = -0.612500 + 0.509030I$	$-4.75398 - 4.11120I$	$3.36378 + 6.09217I$
$u = \ \ 1.66968 + 0.06964I$ $a = -1.69186 + 0.32947I$ $b = \ \ 1.291110 + 0.442823I$	$12.32780 + 2.39306I$	$10.46353 - 1.14209I$
$u = \ \ 1.66968 - 0.06964I$ $a = -1.69186 - 0.32947I$ $b = \ \ 1.291110 - 0.442823I$	$12.32780 - 2.39306I$	$10.46353 + 1.14209I$
$u = -0.300477$ $a = \ \ 3.94004$ $b = \ \ 0.573825$	0.201181	-3.47720
$u = -1.70957 + 0.08018I$ $a = \ \ 1.89695 - 0.09951I$ $b = -1.54432 + 0.54215I$	$9.74452 - 3.40985I$	$9.93902 + 0.00636I$
$u = -1.70957 - 0.08018I$ $a = \ \ 1.89695 + 0.09951I$ $b = -1.54432 - 0.54215I$	$9.74452 + 3.40985I$	$9.93902 - 0.00636I$

III. $\boldsymbol{I^u_3 =}$
$\boldsymbol{\langle -186a^4u-392a^3u+\cdots+1289a-78,\ a^3u+10a^2u+\cdots-29a-13,\ u^2-u-1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u-1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} u \\ -u-1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} a \\ 0.771784a^4u+1.62656a^3u+\cdots-5.34855a+0.323651 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0.0829876a^4u-0.136929a^3u+\cdots-2.32780a-0.481328 \\ -0.597510a^4u-0.614108a^3u+\cdots+3.56017a+0.265560 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -1.35270a^4u-1.66805a^3u+\cdots+9.64315a+1.04564 \\ 1.86722a^4u+2.41909a^3u+\cdots-10.8755a-0.829876 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1.35270a^4u+1.66805a^3u+\cdots-9.64315a-1.04564 \\ -1.86722a^4u-2.41909a^3u+\cdots+10.8755a+0.829876 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -1.90456a^4u-4.20747a^3u+\cdots+17.4730a+0.846473 \\ 2.67635a^4u+5.83402a^3u+\cdots-21.8216a-0.522822 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 1.14938a^4u+1.15353a^3u+\cdots-5.39004a-0.0663900 \\ -1.51037a^4u-2.10788a^3u+\cdots+12.1660a+1.56017 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10}-4u^9+2u^8+8u^7-5u^6-5u^5-4u^4+u^3+7u^2+3u+1$
c_2, c_6	$u^{10}+4u^9+2u^8-8u^7-5u^6+5u^5-4u^4-u^3+7u^2-3u+1$
c_3	$u^{10}-2u^8-4u^7-7u^6-u^5-8u^4+u^3-9u^2+5u-5$
c_4, c_5, c_9 c_{10}	$u^{10}+2u^8-u^6-u^5-2u^4-u^3+u^2+u-1$
c_7, c_8, c_{11} c_{12}	$(u^2+u-1)^5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_6	$y^{10} - 12y^9 + \cdots + 5y + 1$
c_3	$y^{10} - 4y^9 + \cdots + 65y + 25$
c_4, c_5, c_9 c_{10}	$y^{10} + 4y^9 + 2y^8 - 8y^7 - 5y^6 + 5y^5 - 4y^4 - y^3 + 7y^2 - 3y + 1$
c_7, c_8, c_{11} c_{12}	$(y^2 - 3y + 1)^5$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.618034$ $a=-0.701459+0.560253I$ $b=-0.209607+0.335701I$	0.986960	10.0000
$u=-0.618034$ $a=-0.701459-0.560253I$ $b=-0.209607-0.335701I$	0.986960	10.0000
$u=-0.618034$ $a=-2.16824+1.11936I$ $b=\ \ 1.65031+0.20788I$	0.986960	10.0000
$u=-0.618034$ $a=-2.16824-1.11936I$ $b=\ \ 1.65031-0.20788I$	0.986960	10.0000
$u=-0.618034$ $a=\ \ 3.73940$ $b=-0.881412$	0.986960	10.0000
$u=\ \ 1.61803$ $a=-0.0559753+0.0335315I$ $b=-0.193167-0.796854I$	8.88264	10.0000
$u=\ \ 1.61803$ $a=-0.0559753-0.0335315I$ $b=-0.193167+0.796854I$	8.88264	10.0000
$u=\ \ 1.61803$ $a=-2.24197+0.12571I$ $b=\ \ 1.77275+0.46564I$	8.88264	10.0000
$u=\ \ 1.61803$ $a=-2.24197-0.12571I$ $b=\ \ 1.77275-0.46564I$	8.88264	10.0000
$u=\ \ 1.61803$ $a=\ \ 2.59589$ $b=-1.15917$	8.88264	10.0000

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{10}-4u^9+2u^8+8u^7-5u^6-5u^5-4u^4+u^3+7u^2+3u+1)$ $\cdot(u^{17}-6u^{14}+\cdots+5u-1)(u^{69}-9u^{68}+\cdots-125u-1)$
c_2	$(u^{10}+4u^9+2u^8-8u^7-5u^6+5u^5-4u^4-u^3+7u^2-3u+1)$ $\cdot(u^{17}-3u^{16}+\cdots-7u^2+1)(u^{69}-4u^{68}+\cdots+1186u+1279)$
c_3	$(u^{10}-2u^8-4u^7-7u^6-u^5-8u^4+u^3-9u^2+5u-5)$ $\cdot(u^{17}-u^{16}+\cdots-3u+1)(u^{69}+19u^{67}+\cdots-73191u+47449)$
c_4, c_5	$(u^{10}+2u^8+\cdots+u-1)(u^{17}-u^{16}+\cdots-2u+1)$ $\cdot(u^{69}-2u^{68}+\cdots-82u+1)$
c_6	$(u^{10}+4u^9+2u^8-8u^7-5u^6+5u^5-4u^4-u^3+7u^2-3u+1)$ $\cdot(u^{17}+3u^{16}+\cdots+7u^2-1)(u^{69}-4u^{68}+\cdots+1186u+1279)$
c_7, c_8	$((u^2+u-1)^5)(u^{17}-12u^{15}+\cdots+10u^2-1)$ $\cdot(u^{69}-4u^{68}+\cdots+118u+28)$
c_9	$(u^{10}+2u^8+\cdots+u-1)(u^{17}+u^{16}+\cdots-2u-1)$ $\cdot(u^{69}-2u^{68}+\cdots-82u+1)$
c_{10}	$(u^{10}+2u^8+\cdots+u-1)(u^{17}+3u^{16}+\cdots-u-1)$ $\cdot(u^{69}+4u^{68}+\cdots+171u-29)$
c_{11}, c_{12}	$((u^2+u-1)^5)(u^{17}-12u^{15}+\cdots-10u^2+1)$ $\cdot(u^{69}-4u^{68}+\cdots+118u+28)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{10} - 12y^9 + \cdots + 5y + 1)(y^{17} + 12y^{15} + \cdots + 15y - 1)$ $\cdot (y^{69} + 9y^{68} + \cdots + 17785y - 1)$
c_2, c_6	$(y^{10} - 12y^9 + \cdots + 5y + 1)(y^{17} - 17y^{16} + \cdots + 14y - 1)$ $\cdot (y^{69} - 52y^{68} + \cdots + 50080220y - 1635841)$
c_3	$(y^{10} - 4y^9 + \cdots + 65y + 25)(y^{17} - 3y^{16} + \cdots + 3y - 1)$ $\cdot (y^{69} + 38y^{68} + \cdots - 35937183035y - 2251407601)$
c_4, c_5, c_9	$(y^{10} + 4y^9 + 2y^8 - 8y^7 - 5y^6 + 5y^5 - 4y^4 - y^3 + 7y^2 - 3y + 1)$ $\cdot (y^{17} + 17y^{16} + \cdots - 10y - 1)(y^{69} + 70y^{68} + \cdots + 6500y - 1)$
c_7, c_8, c_{11} c_{12}	$((y^2 - 3y + 1)^5)(y^{17} - 24y^{16} + \cdots + 20y - 1)$ $\cdot (y^{69} - 84y^{68} + \cdots + 6364y - 784)$
c_{10}	$(y^{10} + 4y^9 + 2y^8 - 8y^7 - 5y^6 + 5y^5 - 4y^4 - y^3 + 7y^2 - 3y + 1)$ $\cdot (y^{17} - 3y^{16} + \cdots + 3y - 1)(y^{69} - 14y^{68} + \cdots + 39333y - 841)$