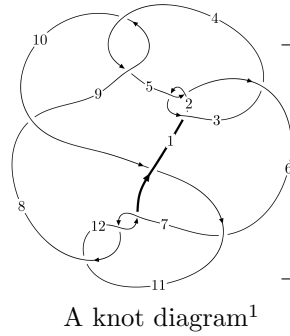
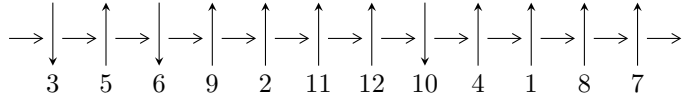


12a₀₀₂₇ (K12a₀₀₂₇)



Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle 7u^{98} - 14u^{97} + \dots + 2b - 3, -2u^{98} + 6u^{97} + \dots + 2a + 13, u^{99} - 3u^{98} + \dots - 5u + 1 \rangle$$

$$I_2^u = \langle u^2a + b + a, -u^2a + a^2 - au - a - u, u^3 + u^2 + 2u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 105 representations.

¹The 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>).

²All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

$$\langle 7u^{98} - 14u^{97} + \dots + 2b - 3, -2u^{98} + 6u^{97} + \dots + 2a + 13, u^{99} - 3u^{98} + \dots - 5u + 1 \rangle$$

I. $I_1^u =$

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^{98} - 3u^{97} + \dots + \frac{39}{2}u - \frac{13}{2} \\ -\frac{7}{2}u^{98} + 7u^{97} + \dots - \frac{5}{2}u + \frac{3}{2} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{1}{2}u^{96} - u^{95} + \dots + \frac{7}{2}u + \frac{1}{2} \\ -\frac{1}{2}u^{98} + u^{97} + \dots - \frac{3}{2}u + \frac{1}{2} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u^4 - u^2 + 1 \\ u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{3}{2}u^{98} - \frac{11}{2}u^{97} + \dots + \frac{59}{2}u - 10 \\ -5u^{98} + \frac{17}{2}u^{97} + \dots - \frac{7}{2}u^2 + \frac{5}{2}u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{3}{2}u^{98} + \frac{5}{2}u^{97} + \dots - \frac{21}{2}u + 5 \\ 2u^{98} - \frac{11}{2}u^{97} + \dots + \frac{17}{2}u - 3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^5 - 2u^3 - u \\ -u^5 - u^3 + u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{12} + 5u^{10} + 9u^8 + 6u^6 - u^2 + 1 \\ u^{12} + 4u^{10} + 4u^8 - 2u^6 - 3u^4 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $-6u^{98} + \frac{31}{2}u^{97} + \dots - 36u + \frac{27}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{99} + 46u^{98} + \dots + 16u - 1$
c_2, c_5	$u^{99} + 4u^{98} + \dots + 8u^2 - 1$
c_3	$u^{99} - 4u^{98} + \dots + 2572u - 137$
c_4, c_9	$u^{99} + u^{98} + \dots - 96u - 64$
c_6	$u^{99} - 3u^{98} + \dots - 3u - 1$
c_7, c_{11}, c_{12}	$u^{99} + 3u^{98} + \dots - 5u - 1$
c_8	$u^{99} + 35u^{98} + \dots - 84992u - 4096$
c_{10}	$u^{99} + 23u^{98} + \dots - 57155u - 3971$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{99} + 18y^{98} + \dots + 668y - 1$
c_2, c_5	$y^{99} + 46y^{98} + \dots + 16y - 1$
c_3	$y^{99} - 10y^{98} + \dots + 1215192y - 18769$
c_4, c_9	$y^{99} + 35y^{98} + \dots - 84992y - 4096$
c_6	$y^{99} - 3y^{98} + \dots + 11y - 1$
c_7, c_{11}, c_{12}	$y^{99} + 89y^{98} + \dots + 11y - 1$
c_8	$y^{99} + 47y^{98} + \dots + 571473920y - 16777216$
c_{10}	$y^{99} + 17y^{98} + \dots - 195279369y - 15768841$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.097244 + 0.981797I$ $a = 2.04862 - 0.31996I$ $b = 0.87684 - 1.15533I$	$0.35746 + 3.48895I$	0
$u = 0.097244 - 0.981797I$ $a = 2.04862 + 0.31996I$ $b = 0.87684 + 1.15533I$	$0.35746 - 3.48895I$	0
$u = -0.241159 + 1.003900I$ $a = 0.743897 + 0.599270I$ $b = 0.235254 + 1.068130I$	$1.45005 - 3.85058I$	0
$u = -0.241159 - 1.003900I$ $a = 0.743897 - 0.599270I$ $b = 0.235254 - 1.068130I$	$1.45005 + 3.85058I$	0
$u = -0.279788 + 1.028500I$ $a = -1.69573 - 0.23995I$ $b = -0.75934 - 1.30793I$	$-0.48248 - 8.85489I$	0
$u = -0.279788 - 1.028500I$ $a = -1.69573 + 0.23995I$ $b = -0.75934 + 1.30793I$	$-0.48248 + 8.85489I$	0
$u = -0.083304 + 0.867925I$ $a = -1.26249 + 0.65568I$ $b = -0.425485 + 0.825817I$	$1.85193 - 1.48646I$	0
$u = -0.083304 - 0.867925I$ $a = -1.26249 - 0.65568I$ $b = -0.425485 - 0.825817I$	$1.85193 + 1.48646I$	0
$u = -0.186497 + 1.138810I$ $a = 0.208803 + 0.976336I$ $b = -0.166068 + 0.234327I$	$-3.13347 - 2.11250I$	0
$u = -0.186497 - 1.138810I$ $a = 0.208803 - 0.976336I$ $b = -0.166068 - 0.234327I$	$-3.13347 + 2.11250I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.377785 + 0.732769I$ $a = -2.20424 - 0.02865I$ $b = -0.310300 - 0.261459I$	$-1.09710 - 9.01214I$	$3.30278 + 5.60818I$
$u = 0.377785 - 0.732769I$ $a = -2.20424 + 0.02865I$ $b = -0.310300 + 0.261459I$	$-1.09710 + 9.01214I$	$3.30278 - 5.60818I$
$u = 0.333700 + 0.724275I$ $a = 1.227330 + 0.309160I$ $b = 0.325047 + 0.485644I$	$1.02452 - 3.91155I$	$6.36380 + 1.73760I$
$u = 0.333700 - 0.724275I$ $a = 1.227330 - 0.309160I$ $b = 0.325047 - 0.485644I$	$1.02452 + 3.91155I$	$6.36380 - 1.73760I$
$u = 0.740677 + 0.279197I$ $a = -1.016830 - 0.007956I$ $b = -0.55702 - 1.98662I$	$0.49179 + 13.06500I$	$6.00000 - 10.29674I$
$u = 0.740677 - 0.279197I$ $a = -1.016830 + 0.007956I$ $b = -0.55702 + 1.98662I$	$0.49179 - 13.06500I$	$6.00000 + 10.29674I$
$u = 0.729685 + 0.269752I$ $a = 0.863425 + 0.159552I$ $b = 0.559986 + 1.127160I$	$2.65224 + 7.83389I$	$9.00346 - 6.47919I$
$u = 0.729685 - 0.269752I$ $a = 0.863425 - 0.159552I$ $b = 0.559986 - 1.127160I$	$2.65224 - 7.83389I$	$9.00346 + 6.47919I$
$u = 0.096314 + 0.766780I$ $a = -1.116870 + 0.545298I$ $b = -0.199635 + 0.904057I$	$1.83916 - 1.48668I$	$7.61074 + 2.57845I$
$u = 0.096314 - 0.766780I$ $a = -1.116870 - 0.545298I$ $b = -0.199635 - 0.904057I$	$1.83916 + 1.48668I$	$7.61074 - 2.57845I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.703876 + 0.291295I$ $a = -0.918311 - 0.507560I$ $b = 0.791968 - 0.717683I$	$-2.39425 + 5.38386I$	$2.41583 - 5.64244I$
$u = 0.703876 - 0.291295I$ $a = -0.918311 + 0.507560I$ $b = 0.791968 + 0.717683I$	$-2.39425 - 5.38386I$	$2.41583 + 5.64244I$
$u = -0.743542 + 0.146436I$ $a = 0.729914 - 0.278562I$ $b = -0.624512 + 1.086470I$	$2.20310 + 5.02116I$	$7.72280 - 4.85982I$
$u = -0.743542 - 0.146436I$ $a = 0.729914 + 0.278562I$ $b = -0.624512 - 1.086470I$	$2.20310 - 5.02116I$	$7.72280 + 4.85982I$
$u = -0.722428 + 0.166392I$ $a = -0.646892 + 0.246384I$ $b = -0.119774 - 0.503182I$	$3.98275 + 0.16547I$	$11.36045 + 0.28037I$
$u = -0.722428 - 0.166392I$ $a = -0.646892 - 0.246384I$ $b = -0.119774 + 0.503182I$	$3.98275 - 0.16547I$	$11.36045 - 0.28037I$
$u = -0.695963 + 0.253051I$ $a = 1.289800 - 0.066583I$ $b = 0.80561 - 2.01774I$	$1.95789 - 6.88040I$	$7.65412 + 7.00034I$
$u = -0.695963 - 0.253051I$ $a = 1.289800 + 0.066583I$ $b = 0.80561 + 2.01774I$	$1.95789 + 6.88040I$	$7.65412 - 7.00034I$
$u = -0.154249 + 1.251540I$ $a = 0.421251 + 1.095310I$ $b = 0.256625 + 0.781174I$	$-3.11910 - 1.98420I$	0
$u = -0.154249 - 1.251540I$ $a = 0.421251 - 1.095310I$ $b = 0.256625 - 0.781174I$	$-3.11910 + 1.98420I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.698720 + 0.234478I$		
$a = 0.726419 + 0.362753I$	$3.72540 + 4.97999I$	$10.16129 - 7.32767I$
$b = 0.102288 - 0.667634I$		
$u = 0.698720 - 0.234478I$		
$a = 0.726419 - 0.362753I$	$3.72540 - 4.97999I$	$10.16129 + 7.32767I$
$b = 0.102288 + 0.667634I$		
$u = -0.696507 + 0.225107I$		
$a = -0.938874 + 0.165702I$	$3.84572 - 1.97170I$	$11.21068 + 2.11045I$
$b = -0.801377 + 1.084320I$		
$u = -0.696507 - 0.225107I$		
$a = -0.938874 - 0.165702I$	$3.84572 + 1.97170I$	$11.21068 - 2.11045I$
$b = -0.801377 - 1.084320I$		
$u = 0.370896 + 0.620543I$		
$a = -0.472196 + 1.229890I$	$-3.70912 - 1.56688I$	$-0.638807 + 0.132287I$
$b = -0.127332 - 0.459413I$		
$u = 0.370896 - 0.620543I$		
$a = -0.472196 - 1.229890I$	$-3.70912 + 1.56688I$	$-0.638807 - 0.132287I$
$b = -0.127332 + 0.459413I$		
$u = 0.603417 + 0.395727I$		
$a = -1.117180 + 0.736528I$	$-5.63536 + 5.78895I$	$-0.23280 - 7.62647I$
$b = -0.617446 - 1.243390I$		
$u = 0.603417 - 0.395727I$		
$a = -1.117180 - 0.736528I$	$-5.63536 - 5.78895I$	$-0.23280 + 7.62647I$
$b = -0.617446 + 1.243390I$		
$u = 0.677801 + 0.214055I$		
$a = -0.819154 - 0.329300I$	$2.51097 - 0.21528I$	$8.42557 - 2.66746I$
$b = 0.517625 + 1.103900I$		
$u = 0.677801 - 0.214055I$		
$a = -0.819154 + 0.329300I$	$2.51097 + 0.21528I$	$8.42557 + 2.66746I$
$b = 0.517625 - 1.103900I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.537902 + 0.452830I$ $a = -1.70799 - 0.61180I$ $b = 0.326702 - 0.635629I$	$-5.88927 - 2.00342I$	$-1.337204 + 0.288944I$
$u = 0.537902 - 0.452830I$ $a = -1.70799 + 0.61180I$ $b = 0.326702 + 0.635629I$	$-5.88927 + 2.00342I$	$-1.337204 - 0.288944I$
$u = -0.697168 + 0.060925I$ $a = 0.366847 + 0.115672I$ $b = -0.707313 - 0.805982I$	$0.120657 - 1.223660I$	$3.45904 + 0.32029I$
$u = -0.697168 - 0.060925I$ $a = 0.366847 - 0.115672I$ $b = -0.707313 + 0.805982I$	$0.120657 + 1.223660I$	$3.45904 - 0.32029I$
$u = -0.272806 + 1.279290I$ $a = -1.39980 - 0.25877I$ $b = -0.993381 - 0.971337I$	$-4.02944 - 4.74706I$	0
$u = -0.272806 - 1.279290I$ $a = -1.39980 + 0.25877I$ $b = -0.993381 + 0.971337I$	$-4.02944 + 4.74706I$	0
$u = 0.543711 + 0.378118I$ $a = 0.873451 + 0.129748I$ $b = 0.379726 + 0.601257I$	$-2.59306 + 1.73305I$	$3.09759 - 4.20577I$
$u = 0.543711 - 0.378118I$ $a = 0.873451 - 0.129748I$ $b = 0.379726 - 0.601257I$	$-2.59306 - 1.73305I$	$3.09759 + 4.20577I$
$u = -0.186173 + 0.633028I$ $a = 2.46650 - 0.07811I$ $b = 0.431819 - 0.672278I$	$0.31359 + 3.36493I$	$4.72638 - 1.84364I$
$u = -0.186173 - 0.633028I$ $a = 2.46650 + 0.07811I$ $b = 0.431819 + 0.672278I$	$0.31359 - 3.36493I$	$4.72638 + 1.84364I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.600800 + 0.238251I$ $a = 0.736053 - 1.089880I$ $b = -0.814916 - 0.941966I$	$-0.362748 - 0.270534I$	$4.74956 + 1.95395I$
$u = -0.600800 - 0.238251I$ $a = 0.736053 + 1.089880I$ $b = -0.814916 + 0.941966I$	$-0.362748 + 0.270534I$	$4.74956 - 1.95395I$
$u = -0.137414 + 1.347150I$ $a = -0.01027 + 1.77849I$ $b = 0.19722 + 1.87070I$	$-3.44253 - 2.00602I$	0
$u = -0.137414 - 1.347150I$ $a = -0.01027 - 1.77849I$ $b = 0.19722 - 1.87070I$	$-3.44253 + 2.00602I$	0
$u = 0.124884 + 1.363920I$ $a = -0.192051 + 1.282780I$ $b = 0.491862 + 1.299790I$	$-3.69339 - 0.74625I$	0
$u = 0.124884 - 1.363920I$ $a = -0.192051 - 1.282780I$ $b = 0.491862 - 1.299790I$	$-3.69339 + 0.74625I$	0
$u = -0.301279 + 1.339420I$ $a = 0.134474 + 1.089060I$ $b = -0.822673 + 0.717588I$	$-2.46672 + 1.24828I$	0
$u = -0.301279 - 1.339420I$ $a = 0.134474 - 1.089060I$ $b = -0.822673 - 0.717588I$	$-2.46672 - 1.24828I$	0
$u = 0.160449 + 1.365720I$ $a = 0.723959 - 0.721327I$ $b = -0.069135 - 1.091360I$	$-4.20605 + 4.29473I$	0
$u = 0.160449 - 1.365720I$ $a = 0.723959 + 0.721327I$ $b = -0.069135 + 1.091360I$	$-4.20605 - 4.29473I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.287523 + 1.355060I$ $a = -0.371002 + 0.062591I$ $b = 0.108011 + 0.097232I$	$-0.81787 - 3.48504I$	0
$u = -0.287523 - 1.355060I$ $a = -0.371002 - 0.062591I$ $b = 0.108011 - 0.097232I$	$-0.81787 + 3.48504I$	0
$u = -0.119628 + 1.394690I$ $a = -0.54723 - 2.79461I$ $b = -1.37495 - 3.36028I$	$-5.51850 + 2.16849I$	0
$u = -0.119628 - 1.394690I$ $a = -0.54723 + 2.79461I$ $b = -1.37495 + 3.36028I$	$-5.51850 - 2.16849I$	0
$u = -0.174124 + 1.397150I$ $a = 1.65518 - 2.73301I$ $b = 2.10071 - 3.49563I$	$-6.53817 - 4.72115I$	0
$u = -0.174124 - 1.397150I$ $a = 1.65518 + 2.73301I$ $b = 2.10071 + 3.49563I$	$-6.53817 + 4.72115I$	0
$u = 0.266526 + 1.384670I$ $a = -0.114547 + 1.130050I$ $b = 0.855633 + 0.916968I$	$-2.57686 + 3.21592I$	0
$u = 0.266526 - 1.384670I$ $a = -0.114547 - 1.130050I$ $b = 0.855633 - 0.916968I$	$-2.57686 - 3.21592I$	0
$u = -0.242918 + 1.392810I$ $a = -2.54960 - 1.04148I$ $b = -3.01247 - 1.70084I$	$-5.56827 - 3.38998I$	0
$u = -0.242918 - 1.392810I$ $a = -2.54960 + 1.04148I$ $b = -3.01247 + 1.70084I$	$-5.56827 + 3.38998I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.27531 + 1.38849I$ $a = 0.34632 + 2.48882I$ $b = 0.00132 + 2.80564I$	$-1.28675 - 5.50091I$	0
$u = -0.27531 - 1.38849I$ $a = 0.34632 - 2.48882I$ $b = 0.00132 - 2.80564I$	$-1.28675 + 5.50091I$	0
$u = 0.27646 + 1.39300I$ $a = 0.325279 - 0.173882I$ $b = -0.334850 - 0.166748I$	$-1.45487 + 8.52318I$	0
$u = 0.27646 - 1.39300I$ $a = 0.325279 + 0.173882I$ $b = -0.334850 + 0.166748I$	$-1.45487 - 8.52318I$	0
$u = -0.27521 + 1.40135I$ $a = -0.93845 - 3.79189I$ $b = -0.20033 - 4.55593I$	$-3.31550 - 10.41430I$	0
$u = -0.27521 - 1.40135I$ $a = -0.93845 + 3.79189I$ $b = -0.20033 + 4.55593I$	$-3.31550 + 10.41430I$	0
$u = 0.08531 + 1.42654I$ $a = -0.01422 + 1.63925I$ $b = -0.37744 + 1.95240I$	$-5.52758 - 2.77432I$	0
$u = 0.08531 - 1.42654I$ $a = -0.01422 - 1.63925I$ $b = -0.37744 - 1.95240I$	$-5.52758 + 2.77432I$	0
$u = 0.28948 + 1.41098I$ $a = -0.53762 + 2.28358I$ $b = -0.18360 + 2.72086I$	$-2.70723 + 11.53590I$	0
$u = 0.28948 - 1.41098I$ $a = -0.53762 - 2.28358I$ $b = -0.18360 - 2.72086I$	$-2.70723 - 11.53590I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.20680 + 1.42573I$ $a = -0.14956 + 1.91224I$ $b = -0.13645 + 2.29208I$	$-8.34001 + 4.49589I$	0
$u = 0.20680 - 1.42573I$ $a = -0.14956 - 1.91224I$ $b = -0.13645 - 2.29208I$	$-8.34001 - 4.49589I$	0
$u = 0.11642 + 1.43673I$ $a = -0.76418 - 1.79191I$ $b = -1.05886 - 2.68694I$	$-10.09890 + 0.04542I$	0
$u = 0.11642 - 1.43673I$ $a = -0.76418 + 1.79191I$ $b = -1.05886 + 2.68694I$	$-10.09890 - 0.04542I$	0
$u = 0.27647 + 1.41769I$ $a = 1.92512 - 0.85955I$ $b = 2.34279 - 1.70867I$	$-7.85233 + 8.95388I$	0
$u = 0.27647 - 1.41769I$ $a = 1.92512 + 0.85955I$ $b = 2.34279 + 1.70867I$	$-7.85233 - 8.95388I$	0
$u = 0.29374 + 1.41633I$ $a = 1.05302 - 3.29529I$ $b = 0.26354 - 4.09901I$	$-4.9177 + 16.8211I$	0
$u = 0.29374 - 1.41633I$ $a = 1.05302 + 3.29529I$ $b = 0.26354 + 4.09901I$	$-4.9177 - 16.8211I$	0
$u = 0.08060 + 1.44466I$ $a = 0.35894 - 1.96207I$ $b = 1.27517 - 2.56719I$	$-7.88042 - 7.77481I$	0
$u = 0.08060 - 1.44466I$ $a = 0.35894 + 1.96207I$ $b = 1.27517 + 2.56719I$	$-7.88042 + 7.77481I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.19100 + 1.44219I$ $a = 1.57052 - 1.82738I$ $b = 2.28952 - 2.55481I$	$-11.93240 + 0.63088I$	0
$u = 0.19100 - 1.44219I$ $a = 1.57052 + 1.82738I$ $b = 2.28952 + 2.55481I$	$-11.93240 - 0.63088I$	0
$u = 0.22075 + 1.43946I$ $a = -0.25799 - 3.07972I$ $b = -0.84724 - 3.95588I$	$-11.5132 + 8.7877I$	0
$u = 0.22075 - 1.43946I$ $a = -0.25799 + 3.07972I$ $b = -0.84724 + 3.95588I$	$-11.5132 - 8.7877I$	0
$u = -0.386679 + 0.320996I$ $a = 1.30987 + 1.84261I$ $b = 0.966745 - 0.337142I$	$-1.11901 - 2.51665I$	$2.75791 + 6.45556I$
$u = -0.386679 - 0.320996I$ $a = 1.30987 - 1.84261I$ $b = 0.966745 + 0.337142I$	$-1.11901 + 2.51665I$	$2.75791 - 6.45556I$
$u = -0.455711$ $a = -0.596026$ $b = -0.512055$	0.788812	12.7430
$u = 0.387705 + 0.081581I$ $a = -0.04372 + 1.66634I$ $b = 0.395896 - 0.874862I$	$0.53012 + 2.26283I$	$-0.75033 - 6.11283I$
$u = 0.387705 - 0.081581I$ $a = -0.04372 - 1.66634I$ $b = 0.395896 + 0.874862I$	$0.53012 - 2.26283I$	$-0.75033 + 6.11283I$

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

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} a \\ -u^2a - a \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} -u \\ -u^2 - u - 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ -u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^2a + au + 2a \\ au \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^2a + au + 2a \\ au \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

(ii) Obstruction class = 1

(iii) Cusp Shapes = $4u^2a + au + 5u^2 + 3a + 5u + 12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_5	$(y^2 + y + 1)^3$
c_4, c_8, c_9	y^6
c_6, c_{10}	$(y^3 - y^2 + 2y - 1)^2$
c_7, c_{11}, c_{12}	$(y^3 + 3y^2 + 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.215080 + 1.307140I$ $a = 0.206350 + 1.132320I$ $b = -0.500000 + 0.866025I$	$-3.02413 - 4.85801I$	$6.43615 + 6.24253I$
$u = -0.215080 + 1.307140I$ $a = -1.083790 - 0.387453I$ $b = -0.500000 - 0.866025I$	$-3.02413 - 0.79824I$	$2.88198 - 0.84592I$
$u = -0.215080 - 1.307140I$ $a = 0.206350 - 1.132320I$ $b = -0.500000 - 0.866025I$	$-3.02413 + 4.85801I$	$6.43615 - 6.24253I$
$u = -0.215080 - 1.307140I$ $a = -1.083790 + 0.387453I$ $b = -0.500000 + 0.866025I$	$-3.02413 + 0.79824I$	$2.88198 + 0.84592I$
$u = -0.569840$ $a = 0.377439 + 0.653743I$ $b = -0.500000 - 0.866025I$	$1.11345 - 2.02988I$	$12.18187 + 2.43783I$
$u = -0.569840$ $a = 0.377439 - 0.653743I$ $b = -0.500000 + 0.866025I$	$1.11345 + 2.02988I$	$12.18187 - 2.43783I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2 - u + 1)^3)(u^{99} + 46u^{98} + \dots + 16u - 1)$
c_2	$((u^2 + u + 1)^3)(u^{99} + 4u^{98} + \dots + 8u^2 - 1)$
c_3	$((u^2 - u + 1)^3)(u^{99} - 4u^{98} + \dots + 2572u - 137)$
c_4, c_9	$u^6(u^{99} + u^{98} + \dots - 96u - 64)$
c_5	$((u^2 - u + 1)^3)(u^{99} + 4u^{98} + \dots + 8u^2 - 1)$
c_6	$((u^3 - u^2 + 1)^2)(u^{99} - 3u^{98} + \dots - 3u - 1)$
c_7	$((u^3 + u^2 + 2u + 1)^2)(u^{99} + 3u^{98} + \dots - 5u - 1)$
c_8	$u^6(u^{99} + 35u^{98} + \dots - 84992u - 4096)$
c_{10}	$((u^3 - u^2 + 1)^2)(u^{99} + 23u^{98} + \dots - 57155u - 3971)$
c_{11}, c_{12}	$((u^3 - u^2 + 2u - 1)^2)(u^{99} + 3u^{98} + \dots - 5u - 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2 + y + 1)^3)(y^{99} + 18y^{98} + \dots + 668y - 1)$
c_2, c_5	$((y^2 + y + 1)^3)(y^{99} + 46y^{98} + \dots + 16y - 1)$
c_3	$((y^2 + y + 1)^3)(y^{99} - 10y^{98} + \dots + 1215192y - 18769)$
c_4, c_9	$y^6(y^{99} + 35y^{98} + \dots - 84992y - 4096)$
c_6	$((y^3 - y^2 + 2y - 1)^2)(y^{99} - 3y^{98} + \dots + 11y - 1)$
c_7, c_{11}, c_{12}	$((y^3 + 3y^2 + 2y - 1)^2)(y^{99} + 89y^{98} + \dots + 11y - 1)$
c_8	$y^6(y^{99} + 47y^{98} + \dots + 5.71474 \times 10^8 y - 1.67772 \times 10^7)$
c_{10}	$((y^3 - y^2 + 2y - 1)^2)(y^{99} + 17y^{98} + \dots - 1.95279 \times 10^8 y - 1.57688 \times 10^7)$