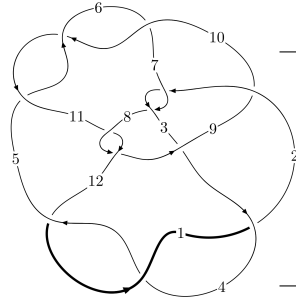
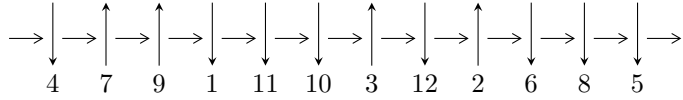


$12a_{1068}$ ($K12a_{1068}$)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle 1.50029 \times 10^{216} u^{98} + 5.86036 \times 10^{216} u^{97} + \dots + 5.58008 \times 10^{215} b + 1.44724 \times 10^{217}, \\ 2.25470 \times 10^{216} u^{98} + 9.19598 \times 10^{216} u^{97} + \dots + 5.58008 \times 10^{215} a + 5.61430 \times 10^{217}, u^{99} + 4u^{98} + \dots + 36 \rangle \\ I_2^u = \langle 4u^{26} - 18u^{25} + \dots + b - 3, -4u^{26} + 16u^{25} + \dots + a + 4, u^{27} - 3u^{26} + \dots - 4u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 126 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.

$$\mathbf{I. } I_1^u = \langle 1.50 \times 10^{216} u^{98} + 5.86 \times 10^{216} u^{97} + \dots + 5.58 \times 10^{215} b + 1.45 \times 10^{217}, 2.25 \times 10^{216} u^{98} + 9.20 \times 10^{216} u^{97} + \dots + 5.58 \times 10^{215} a + 5.61 \times 10^{217}, u^{99} + 4u^{98} + \dots + 36u + 1 \rangle$$

(i) Arc colorings

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

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

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

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -4.04062u^{98} - 16.4800u^{97} + \dots - 2163.01u - 100.613 \\ -2.68866u^{98} - 10.5023u^{97} + \dots - 730.857u - 25.9358 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 29.0429u^{98} + 111.972u^{97} + \dots + 6025.60u + 197.226 \\ -3.10791u^{98} - 12.2548u^{97} + \dots - 840.423u - 33.7257 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -6.72927u^{98} - 26.9823u^{97} + \dots - 2893.86u - 126.549 \\ -2.68866u^{98} - 10.5023u^{97} + \dots - 730.857u - 25.9358 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -33.9952u^{98} - 132.268u^{97} + \dots - 7939.55u - 282.211 \\ 1.29259u^{98} + 4.98101u^{97} + \dots + 349.365u + 15.2746 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 41.3416u^{98} + 161.620u^{97} + \dots + 11365.0u + 448.455 \\ 3.78798u^{98} + 14.6203u^{97} + \dots + 1051.78u + 38.9844 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 17.7191u^{98} + 68.5869u^{97} + \dots + 3201.82u + 77.1568 \\ -4.02761u^{98} - 15.3718u^{97} + \dots - 1226.90u - 53.2891 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -7.06679u^{98} - 28.2694u^{97} + \dots - 2947.05u - 127.980 \\ -2.76743u^{98} - 10.7591u^{97} + \dots - 748.335u - 26.6011 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $23.2492u^{98} + 90.4225u^{97} + \dots + 5217.51u + 181.119$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$u^{99} - 4u^{98} + \dots + 36u - 1$
c_2, c_7	$u^{99} + u^{98} + \dots - 2230u - 532$
c_3	$u^{99} - u^{98} + \dots - 127450u + 3749$
c_5, c_6, c_{10}	$u^{99} + u^{98} + \dots + 472u - 103$
c_8, c_{11}	$u^{99} - 24u^{97} + \dots - 37u + 1$
c_9	$u^{99} + 3u^{98} + \dots - 3184124u + 9109661$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{99} + 104y^{98} + \dots + 292y - 1$
c_2, c_7	$y^{99} - 73y^{98} + \dots + 11428188y - 283024$
c_3	$y^{99} - 27y^{98} + \dots + 15140464222y - 14055001$
c_5, c_6, c_{10}	$y^{99} + 109y^{98} + \dots - 84774y - 10609$
c_8, c_{11}	$y^{99} - 48y^{98} + \dots + 671y - 1$
c_9	$y^{99} - 57y^{98} + \dots + 2009455767939712y - 82985923534921$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.380785 + 0.967960I$ $a = -1.078150 + 0.090070I$ $b = 0.999599 - 0.621542I$	$7.29844 - 0.30926I$	0
$u = 0.380785 - 0.967960I$ $a = -1.078150 - 0.090070I$ $b = 0.999599 + 0.621542I$	$7.29844 + 0.30926I$	0
$u = -0.916031 + 0.535204I$ $a = -0.575578 - 0.742046I$ $b = -1.138750 + 0.708186I$	$8.2842 + 12.1910I$	0
$u = -0.916031 - 0.535204I$ $a = -0.575578 + 0.742046I$ $b = -1.138750 - 0.708186I$	$8.2842 - 12.1910I$	0
$u = 0.081133 + 0.917673I$ $a = -0.891072 + 0.177720I$ $b = 0.291147 + 0.429752I$	$4.97123 - 1.60465I$	0
$u = 0.081133 - 0.917673I$ $a = -0.891072 - 0.177720I$ $b = 0.291147 - 0.429752I$	$4.97123 + 1.60465I$	0
$u = -0.861368 + 0.321070I$ $a = -1.299810 - 0.217264I$ $b = -0.810628 + 0.586401I$	$9.09344 - 1.46018I$	0
$u = -0.861368 - 0.321070I$ $a = -1.299810 + 0.217264I$ $b = -0.810628 - 0.586401I$	$9.09344 + 1.46018I$	0
$u = 0.190324 + 1.068550I$ $a = -0.237611 + 0.115075I$ $b = -1.257530 - 0.134290I$	$0.28001 - 2.62311I$	0
$u = 0.190324 - 1.068550I$ $a = -0.237611 - 0.115075I$ $b = -1.257530 + 0.134290I$	$0.28001 + 2.62311I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.808953 + 0.423145I$		
$a = 0.554722 - 0.715807I$	$-2.61211 - 3.25013I$	0
$b = 0.989338 + 0.318623I$		
$u = 0.808953 - 0.423145I$		
$a = 0.554722 + 0.715807I$	$-2.61211 + 3.25013I$	0
$b = 0.989338 - 0.318623I$		
$u = 0.634538 + 0.901713I$		
$a = 0.140566 - 0.301929I$	$-1.32841 - 1.88863I$	0
$b = 0.868536 - 0.046181I$		
$u = 0.634538 - 0.901713I$		
$a = 0.140566 + 0.301929I$	$-1.32841 + 1.88863I$	0
$b = 0.868536 + 0.046181I$		
$u = 0.994467 + 0.486650I$		
$a = -0.691397 + 0.442067I$	$3.54877 - 5.37076I$	0
$b = -1.033900 - 0.585558I$		
$u = 0.994467 - 0.486650I$		
$a = -0.691397 - 0.442067I$	$3.54877 + 5.37076I$	0
$b = -1.033900 + 0.585558I$		
$u = -0.715566 + 0.532179I$		
$a = 0.457943 + 1.155560I$	$0.80367 + 8.22347I$	0
$b = 1.145500 - 0.504808I$		
$u = -0.715566 - 0.532179I$		
$a = 0.457943 - 1.155560I$	$0.80367 - 8.22347I$	0
$b = 1.145500 + 0.504808I$		
$u = -0.574131 + 0.616338I$		
$a = -0.268689 + 0.221406I$	$10.34210 + 6.07405I$	0
$b = -0.447700 - 0.999113I$		
$u = -0.574131 - 0.616338I$		
$a = -0.268689 - 0.221406I$	$10.34210 - 6.07405I$	0
$b = -0.447700 + 0.999113I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.907557 + 0.730013I$ $a = 0.124855 - 0.182401I$ $b = -0.906542 - 0.595760I$	$8.77349 - 6.14037I$	0
$u = -0.907557 - 0.730013I$ $a = 0.124855 + 0.182401I$ $b = -0.906542 + 0.595760I$	$8.77349 + 6.14037I$	0
$u = -0.622216 + 0.510793I$ $a = -0.042605 + 0.326293I$ $b = 1.068350 + 0.348839I$	$0.80525 - 3.61642I$	0
$u = -0.622216 - 0.510793I$ $a = -0.042605 - 0.326293I$ $b = 1.068350 - 0.348839I$	$0.80525 + 3.61642I$	0
$u = 0.770064 + 0.954381I$ $a = -0.082133 + 0.202671I$ $b = -0.628584 + 0.505927I$	$4.90385 - 0.82779I$	0
$u = 0.770064 - 0.954381I$ $a = -0.082133 - 0.202671I$ $b = -0.628584 - 0.505927I$	$4.90385 + 0.82779I$	0
$u = -0.123577 + 1.234730I$ $a = -1.06774 - 1.68429I$ $b = 0.0518778 - 0.0095839I$	$10.91520 + 4.80273I$	0
$u = -0.123577 - 1.234730I$ $a = -1.06774 + 1.68429I$ $b = 0.0518778 + 0.0095839I$	$10.91520 - 4.80273I$	0
$u = -0.003388 + 1.272120I$ $a = 0.915951 - 0.583969I$ $b = -1.52579 + 0.30597I$	$1.48489 + 1.58514I$	0
$u = -0.003388 - 1.272120I$ $a = 0.915951 + 0.583969I$ $b = -1.52579 - 0.30597I$	$1.48489 - 1.58514I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.240720 + 1.252590I$ $a = -1.038950 + 0.271205I$ $b = 1.124750 + 0.115853I$	$6.14932 - 1.00815I$	0
$u = -0.240720 - 1.252590I$ $a = -1.038950 - 0.271205I$ $b = 1.124750 - 0.115853I$	$6.14932 + 1.00815I$	0
$u = 0.709928 + 0.123175I$ $a = 0.663884 - 0.511483I$ $b = 1.052080 + 0.916210I$	$4.65542 - 3.59845I$	0
$u = 0.709928 - 0.123175I$ $a = 0.663884 + 0.511483I$ $b = 1.052080 - 0.916210I$	$4.65542 + 3.59845I$	0
$u = -0.372442 + 0.611930I$ $a = 0.58103 - 1.74962I$ $b = -1.095300 + 0.309250I$	$0.26345 + 2.62023I$	0
$u = -0.372442 - 0.611930I$ $a = 0.58103 + 1.74962I$ $b = -1.095300 - 0.309250I$	$0.26345 - 2.62023I$	0
$u = 0.584980 + 0.353698I$ $a = -0.030160 + 1.413860I$ $b = -0.894830 - 0.022267I$	$-1.45461 - 0.14764I$	0
$u = 0.584980 - 0.353698I$ $a = -0.030160 - 1.413860I$ $b = -0.894830 + 0.022267I$	$-1.45461 + 0.14764I$	0
$u = 0.236471 + 1.318320I$ $a = -0.05193 - 2.23086I$ $b = 0.93339 + 1.19290I$	$9.12685 - 6.97856I$	0
$u = 0.236471 - 1.318320I$ $a = -0.05193 + 2.23086I$ $b = 0.93339 - 1.19290I$	$9.12685 + 6.97856I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.484489 + 0.446016I$ $a = -0.222432 - 0.700483I$ $b = 0.180754 + 0.863249I$	$3.72537 + 3.36221I$	0
$u = -0.484489 - 0.446016I$ $a = -0.222432 + 0.700483I$ $b = 0.180754 - 0.863249I$	$3.72537 - 3.36221I$	0
$u = -0.071334 + 1.372250I$ $a = 0.48461 - 1.50093I$ $b = -1.028430 + 0.639743I$	$2.79128 + 1.44895I$	0
$u = -0.071334 - 1.372250I$ $a = 0.48461 + 1.50093I$ $b = -1.028430 - 0.639743I$	$2.79128 - 1.44895I$	0
$u = -0.145077 + 1.385060I$ $a = -0.27987 + 1.86042I$ $b = 1.18889 - 0.99715I$	$7.12843 + 5.25158I$	0
$u = -0.145077 - 1.385060I$ $a = -0.27987 - 1.86042I$ $b = 1.18889 + 0.99715I$	$7.12843 - 5.25158I$	0
$u = 0.086189 + 1.400630I$ $a = -0.351019 + 1.124700I$ $b = 0.475218 - 0.574761I$	$5.31989 - 2.36934I$	0
$u = 0.086189 - 1.400630I$ $a = -0.351019 - 1.124700I$ $b = 0.475218 + 0.574761I$	$5.31989 + 2.36934I$	0
$u = 0.152955 + 1.396230I$ $a = 0.54193 + 1.75034I$ $b = -0.931903 - 0.988146I$	$4.04235 - 4.91926I$	0
$u = 0.152955 - 1.396230I$ $a = 0.54193 - 1.75034I$ $b = -0.931903 + 0.988146I$	$4.04235 + 4.91926I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.547574 + 0.214398I$ $a = 1.56284 + 0.57855I$ $b = 0.239576 - 0.404718I$	$3.17897 - 0.15464I$	$2.53527 - 1.97824I$
$u = -0.547574 - 0.214398I$ $a = 1.56284 - 0.57855I$ $b = 0.239576 + 0.404718I$	$3.17897 + 0.15464I$	$2.53527 + 1.97824I$
$u = -0.02049 + 1.42222I$ $a = -0.701489 + 0.531251I$ $b = 1.79195 - 0.31139I$	$6.70624 + 2.98104I$	0
$u = -0.02049 - 1.42222I$ $a = -0.701489 - 0.531251I$ $b = 1.79195 + 0.31139I$	$6.70624 - 2.98104I$	0
$u = -0.27716 + 1.40128I$ $a = 0.45484 + 1.34405I$ $b = 0.712181 - 0.569531I$	$8.25008 + 3.15430I$	0
$u = -0.27716 - 1.40128I$ $a = 0.45484 - 1.34405I$ $b = 0.712181 + 0.569531I$	$8.25008 - 3.15430I$	0
$u = -0.01731 + 1.43658I$ $a = 0.16463 + 1.87472I$ $b = -0.790510 - 0.509312I$	$8.08050 + 0.40274I$	0
$u = -0.01731 - 1.43658I$ $a = 0.16463 - 1.87472I$ $b = -0.790510 + 0.509312I$	$8.08050 - 0.40274I$	0
$u = -0.00477 + 1.46661I$ $a = -0.862324 - 1.050040I$ $b = 0.947756 + 0.787724I$	$7.01175 - 2.09262I$	0
$u = -0.00477 - 1.46661I$ $a = -0.862324 + 1.050040I$ $b = 0.947756 - 0.787724I$	$7.01175 + 2.09262I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.15332 + 1.46090I$ $a = -0.55488 - 1.56502I$ $b = 0.389356 + 1.027810I$	$9.89339 + 5.67837I$	0
$u = -0.15332 - 1.46090I$ $a = -0.55488 + 1.56502I$ $b = 0.389356 - 1.027810I$	$9.89339 - 5.67837I$	0
$u = 0.450858 + 0.256702I$ $a = -0.177543 + 0.990337I$ $b = -1.071810 - 0.572179I$	$-1.22302 - 2.67007I$	$-7.39915 + 10.94039I$
$u = 0.450858 - 0.256702I$ $a = -0.177543 - 0.990337I$ $b = -1.071810 + 0.572179I$	$-1.22302 + 2.67007I$	$-7.39915 - 10.94039I$
$u = 0.22256 + 1.46568I$ $a = 0.390336 + 1.238280I$ $b = -0.623858 - 0.415482I$	$4.50771 - 3.11816I$	0
$u = 0.22256 - 1.46568I$ $a = 0.390336 - 1.238280I$ $b = -0.623858 + 0.415482I$	$4.50771 + 3.11816I$	0
$u = 0.06659 + 1.48445I$ $a = 0.271142 - 1.371170I$ $b = 1.164310 + 0.524284I$	$14.4517 - 5.4304I$	0
$u = 0.06659 - 1.48445I$ $a = 0.271142 + 1.371170I$ $b = 1.164310 - 0.524284I$	$14.4517 + 5.4304I$	0
$u = -0.488613$ $a = -0.894239$ $b = -1.17090$	-1.64387	-8.18420
$u = 0.27861 + 1.49474I$ $a = -0.22098 - 1.40771I$ $b = 1.061660 + 0.599311I$	$3.61668 - 7.15621I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.27861 - 1.49474I$ $a = -0.22098 + 1.40771I$ $b = 1.061660 - 0.599311I$	$3.61668 + 7.15621I$	0
$u = -0.446853 + 0.111335I$ $a = 1.50560 - 0.11020I$ $b = 1.052330 - 0.677785I$	$2.28317 + 3.15343I$	$4.58442 + 1.03106I$
$u = -0.446853 - 0.111335I$ $a = 1.50560 + 0.11020I$ $b = 1.052330 + 0.677785I$	$2.28317 - 3.15343I$	$4.58442 - 1.03106I$
$u = -0.19941 + 1.53402I$ $a = 0.61915 + 1.37411I$ $b = -0.60331 - 1.38982I$	$17.3600 + 8.9631I$	0
$u = -0.19941 - 1.53402I$ $a = 0.61915 - 1.37411I$ $b = -0.60331 + 1.38982I$	$17.3600 - 8.9631I$	0
$u = -0.36021 + 1.51331I$ $a = -0.258402 - 1.132070I$ $b = -1.158180 + 0.594833I$	$15.0187 + 3.1095I$	0
$u = -0.36021 - 1.51331I$ $a = -0.258402 + 1.132070I$ $b = -1.158180 - 0.594833I$	$15.0187 - 3.1095I$	0
$u = -0.24901 + 1.53942I$ $a = -0.40345 + 1.63875I$ $b = 1.158500 - 0.694088I$	$7.60750 + 11.78010I$	0
$u = -0.24901 - 1.53942I$ $a = -0.40345 - 1.63875I$ $b = 1.158500 + 0.694088I$	$7.60750 - 11.78010I$	0
$u = -0.14537 + 1.56497I$ $a = 0.82793 - 1.44795I$ $b = -0.931355 + 0.541931I$	$7.58537 + 4.66034I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.14537 - 1.56497I$ $a = 0.82793 + 1.44795I$ $b = -0.931355 - 0.541931I$	$7.58537 - 4.66034I$	0
$u = 0.303921 + 0.301418I$ $a = 0.484939 + 0.687513I$ $b = -0.050441 - 0.295647I$	$-0.151501 - 0.860358I$	$-3.67340 + 7.82157I$
$u = 0.303921 - 0.301418I$ $a = 0.484939 - 0.687513I$ $b = -0.050441 + 0.295647I$	$-0.151501 + 0.860358I$	$-3.67340 - 7.82157I$
$u = 0.14950 + 1.57868I$ $a = 0.218886 - 1.212920I$ $b = -0.266157 + 1.215160I$	$13.34460 - 3.44425I$	0
$u = 0.14950 - 1.57868I$ $a = 0.218886 + 1.212920I$ $b = -0.266157 - 1.215160I$	$13.34460 + 3.44425I$	0
$u = -0.32728 + 1.55643I$ $a = 0.17280 - 1.59481I$ $b = -1.27617 + 0.85627I$	$15.0673 + 16.7358I$	0
$u = -0.32728 - 1.55643I$ $a = 0.17280 + 1.59481I$ $b = -1.27617 - 0.85627I$	$15.0673 - 16.7358I$	0
$u = 0.34061 + 1.56064I$ $a = 0.104948 + 1.330500I$ $b = -1.28754 - 0.72555I$	$10.2362 - 10.1957I$	0
$u = 0.34061 - 1.56064I$ $a = 0.104948 - 1.330500I$ $b = -1.28754 + 0.72555I$	$10.2362 + 10.1957I$	0
$u = -0.391447$ $a = -1.50474$ $b = -1.03773$	-1.66971	-6.70640

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.132488 + 0.329921I$ $a = 4.62802 - 2.84343I$ $b = 0.770323 + 0.470588I$	$8.28620 - 4.57392I$	$2.18985 + 8.66184I$
$u = 0.132488 - 0.329921I$ $a = 4.62802 + 2.84343I$ $b = 0.770323 - 0.470588I$	$8.28620 + 4.57392I$	$2.18985 - 8.66184I$
$u = -0.00439 + 1.69977I$ $a = -0.715193 + 0.460101I$ $b = 0.467243 - 0.410517I$	$16.8314 - 1.2465I$	0
$u = -0.00439 - 1.69977I$ $a = -0.715193 - 0.460101I$ $b = 0.467243 + 0.410517I$	$16.8314 + 1.2465I$	0
$u = -0.19462 + 1.71124I$ $a = 0.288108 + 0.497754I$ $b = -0.442079 - 0.604819I$	$17.2396 - 1.7990I$	0
$u = -0.19462 - 1.71124I$ $a = 0.288108 - 0.497754I$ $b = -0.442079 + 0.604819I$	$17.2396 + 1.7990I$	0
$u = -0.125192$ $a = 13.2053$ $b = -0.469237$	2.89635	10.3080
$u = -0.0876198 + 0.0177221I$ $a = 4.04055 - 8.18611I$ $b = 1.41561 - 0.34626I$	$1.67204 + 2.65205I$	$-6.65996 + 0.50003I$
$u = -0.0876198 - 0.0177221I$ $a = 4.04055 + 8.18611I$ $b = 1.41561 + 0.34626I$	$1.67204 - 2.65205I$	$-6.65996 - 0.50003I$

$$\text{II. } I_2^u = \langle 4u^{26} - 18u^{25} + \dots + b - 3, -4u^{26} + 16u^{25} + \dots + a + 4, u^{27} - 3u^{26} + \dots - 4u + 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_5 &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_1 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_4 &= \begin{pmatrix} u \\ u^3 + u \end{pmatrix} \\ a_2 &= \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 4u^{26} - 16u^{25} + \dots + 24u - 4 \\ -4u^{26} + 18u^{25} + \dots - 20u + 3 \end{pmatrix} \\ a_3 &= \begin{pmatrix} -3u^{26} + 9u^{25} + \dots - 10u + 4 \\ u^{24} - 3u^{23} + \dots + 7u - 2 \end{pmatrix} \\ a_8 &= \begin{pmatrix} 2u^{25} - 6u^{24} + \dots + 4u - 1 \\ -4u^{26} + 18u^{25} + \dots - 20u + 3 \end{pmatrix} \\ a_7 &= \begin{pmatrix} u^4 - u^3 + 3u^2 - 2u + 2 \\ 3u^{26} - u^{25} + \dots - 9u + 2 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} u^{26} + 2u^{25} + \dots - 3u + 2 \\ 2u^{26} - 6u^{25} + \dots - 9u^2 - 1 \end{pmatrix} \\ a_6 &= \begin{pmatrix} -u^{26} + 3u^{25} + \dots - 5u^2 + 2u \\ 10u^{26} - 20u^{25} + \dots - 8u + 3 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -u^{25} + 3u^{24} + \dots + 8u - 1 \\ -6u^{26} + 30u^{25} + \dots - 39u + 8 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes

$$\begin{aligned} &= -7u^{26} - 6u^{25} - 57u^{24} - 163u^{23} + 27u^{22} - 1594u^{21} + 2054u^{20} - 8129u^{19} + 10974u^{18} - \\ &24708u^{17} + 29721u^{16} - 47186u^{15} + 47876u^{14} - 57143u^{13} + 47152u^{12} - 42833u^{11} + \\ &27674u^{10} - 18847u^9 + 9241u^8 - 4614u^7 + 1745u^6 - 573u^5 + 22u^4 + 118u^3 - 150u^2 + 57u - 22 \end{aligned}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u^{27} - 3u^{26} + \dots - 4u + 1$
c_2	$u^{27} - 9u^{25} + \dots - 7u^2 + 1$
c_3	$u^{27} - 2u^{24} + \dots + 11u^2 + 1$
c_4	$u^{27} + 3u^{26} + \dots - 4u - 1$
c_5, c_6	$u^{27} + 16u^{25} + \dots - 6u + 1$
c_7	$u^{27} - 9u^{25} + \dots + 7u^2 - 1$
c_8	$u^{27} + 5u^{26} + \dots - 5u - 1$
c_9	$u^{27} - 5u^{25} + \dots - 6u + 1$
c_{10}	$u^{27} + 16u^{25} + \dots - 6u - 1$
c_{11}	$u^{27} - 5u^{26} + \dots - 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{27} + 31y^{26} + \dots - 8y - 1$
c_2, c_7	$y^{27} - 18y^{26} + \dots + 14y - 1$
c_3	$y^{27} - 14y^{25} + \dots - 22y - 1$
c_5, c_6, c_{10}	$y^{27} + 32y^{26} + \dots - 6y - 1$
c_8, c_{11}	$y^{27} - 21y^{26} + \dots + 27y - 1$
c_9	$y^{27} - 10y^{26} + \dots - 32y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.529825 + 0.809918I$ $a = -0.055011 + 0.489943I$ $b = -0.957191 - 0.078245I$	$-1.56306 - 2.18322I$	$-8.36006 + 8.63349I$
$u = 0.529825 - 0.809918I$ $a = -0.055011 - 0.489943I$ $b = -0.957191 + 0.078245I$	$-1.56306 + 2.18322I$	$-8.36006 - 8.63349I$
$u = 0.267042 + 0.760078I$ $a = 0.751964 - 0.351572I$ $b = 1.266910 + 0.279218I$	$2.31208 - 3.21416I$	$1.95146 + 4.84868I$
$u = 0.267042 - 0.760078I$ $a = 0.751964 + 0.351572I$ $b = 1.266910 - 0.279218I$	$2.31208 + 3.21416I$	$1.95146 - 4.84868I$
$u = 0.567361 + 1.110970I$ $a = -0.431431 - 0.330212I$ $b = 0.774453 - 0.350896I$	$4.00066 - 0.48119I$	$-3.66135 - 1.00155I$
$u = 0.567361 - 1.110970I$ $a = -0.431431 + 0.330212I$ $b = 0.774453 + 0.350896I$	$4.00066 + 0.48119I$	$-3.66135 + 1.00155I$
$u = 0.059850 + 1.252320I$ $a = -1.65356 + 0.39903I$ $b = 1.67176 - 0.45128I$	$4.67985 + 2.02941I$	$-2.20493 - 2.90597I$
$u = 0.059850 - 1.252320I$ $a = -1.65356 - 0.39903I$ $b = 1.67176 + 0.45128I$	$4.67985 - 2.02941I$	$-2.20493 + 2.90597I$
$u = -0.174494 + 1.271190I$ $a = 0.90134 + 2.08409I$ $b = 0.721752 - 0.620445I$	$11.02560 + 5.82117I$	$4.75059 - 7.23956I$
$u = -0.174494 - 1.271190I$ $a = 0.90134 - 2.08409I$ $b = 0.721752 + 0.620445I$	$11.02560 - 5.82117I$	$4.75059 + 7.23956I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.030883 + 1.290990I$ $a = 0.478980 - 0.478805I$ $b = -1.45287 + 0.32069I$	$2.18015 + 1.34894I$	$4.75960 + 0.I$
$u = 0.030883 - 1.290990I$ $a = 0.478980 + 0.478805I$ $b = -1.45287 - 0.32069I$	$2.18015 - 1.34894I$	$4.75960 + 0.I$
$u = -0.391975 + 0.461539I$ $a = 0.09757 + 2.50345I$ $b = 0.588105 + 0.363259I$	$8.14039 - 3.78112I$	$-0.034946 - 0.532297I$
$u = -0.391975 - 0.461539I$ $a = 0.09757 - 2.50345I$ $b = 0.588105 - 0.363259I$	$8.14039 + 3.78112I$	$-0.034946 + 0.532297I$
$u = 0.192166 + 1.399840I$ $a = -0.28477 - 1.97334I$ $b = 1.11005 + 1.12524I$	$7.14619 - 6.16599I$	$1.37328 + 7.84994I$
$u = 0.192166 - 1.399840I$ $a = -0.28477 + 1.97334I$ $b = 1.11005 - 1.12524I$	$7.14619 + 6.16599I$	$1.37328 - 7.84994I$
$u = 0.530911 + 0.240216I$ $a = 0.905097 - 0.380887I$ $b = 1.159280 + 0.725401I$	$1.91060 - 3.56104I$	$-5.75759 + 9.42146I$
$u = 0.530911 - 0.240216I$ $a = 0.905097 + 0.380887I$ $b = 1.159280 - 0.725401I$	$1.91060 + 3.56104I$	$-5.75759 - 9.42146I$
$u = -0.20013 + 1.42433I$ $a = -0.07006 - 1.51288I$ $b = -0.607531 + 0.291383I$	$7.48897 + 2.36651I$	$-60.10 - 0.822434I$
$u = -0.20013 - 1.42433I$ $a = -0.07006 + 1.51288I$ $b = -0.607531 - 0.291383I$	$7.48897 - 2.36651I$	$-60.10 + 0.822434I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.17269 + 1.48110I$ $a = 0.57866 + 1.32623I$ $b = -0.752363 - 0.679230I$	$5.10932 - 3.84763I$	$3.16616 + 5.03771I$
$u = 0.17269 - 1.48110I$ $a = 0.57866 - 1.32623I$ $b = -0.752363 + 0.679230I$	$5.10932 + 3.84763I$	$3.16616 - 5.03771I$
$u = -0.433229$ $a = -3.79438$ $b = -0.627919$	2.54905	-14.0320
$u = 0.215989 + 0.342402I$ $a = 1.17353 + 1.40885I$ $b = -1.110620 - 0.350103I$	$-1.11587 - 1.97397I$	$-6.20655 + 0.29675I$
$u = 0.215989 - 0.342402I$ $a = 1.17353 - 1.40885I$ $b = -1.110620 + 0.350103I$	$-1.11587 + 1.97397I$	$-6.20655 - 0.29675I$
$u = -0.08350 + 1.73493I$ $a = -0.495123 + 0.240156I$ $b = 0.402235 + 0.073150I$	$16.4978 - 1.6817I$	0
$u = -0.08350 - 1.73493I$ $a = -0.495123 - 0.240156I$ $b = 0.402235 - 0.073150I$	$16.4978 + 1.6817I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$(u^{27} - 3u^{26} + \dots - 4u + 1)(u^{99} - 4u^{98} + \dots + 36u - 1)$
c_2	$(u^{27} - 9u^{25} + \dots - 7u^2 + 1)(u^{99} + u^{98} + \dots - 2230u - 532)$
c_3	$(u^{27} - 2u^{24} + \dots + 11u^2 + 1)(u^{99} - u^{98} + \dots - 127450u + 3749)$
c_4	$(u^{27} + 3u^{26} + \dots - 4u - 1)(u^{99} - 4u^{98} + \dots + 36u - 1)$
c_5, c_6	$(u^{27} + 16u^{25} + \dots - 6u + 1)(u^{99} + u^{98} + \dots + 472u - 103)$
c_7	$(u^{27} - 9u^{25} + \dots + 7u^2 - 1)(u^{99} + u^{98} + \dots - 2230u - 532)$
c_8	$(u^{27} + 5u^{26} + \dots - 5u - 1)(u^{99} - 24u^{97} + \dots - 37u + 1)$
c_9	$(u^{27} - 5u^{25} + \dots - 6u + 1)(u^{99} + 3u^{98} + \dots - 3184124u + 9109661)$
c_{10}	$(u^{27} + 16u^{25} + \dots - 6u - 1)(u^{99} + u^{98} + \dots + 472u - 103)$
c_{11}	$(u^{27} - 5u^{26} + \dots - 5u + 1)(u^{99} - 24u^{97} + \dots - 37u + 1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$(y^{27} + 31y^{26} + \dots - 8y - 1)(y^{99} + 104y^{98} + \dots + 292y - 1)$
c_2, c_7	$(y^{27} - 18y^{26} + \dots + 14y - 1)$ $\cdot (y^{99} - 73y^{98} + \dots + 11428188y - 283024)$
c_3	$(y^{27} - 14y^{25} + \dots - 22y - 1)$ $\cdot (y^{99} - 27y^{98} + \dots + 15140464222y - 14055001)$
c_5, c_6, c_{10}	$(y^{27} + 32y^{26} + \dots - 6y - 1)(y^{99} + 109y^{98} + \dots - 84774y - 10609)$
c_8, c_{11}	$(y^{27} - 21y^{26} + \dots + 27y - 1)(y^{99} - 48y^{98} + \dots + 671y - 1)$
c_9	$(y^{27} - 10y^{26} + \dots - 32y - 1)$ $\cdot (y^{99} - 57y^{98} + \dots + 2009455767939712y - 82985923534921)$