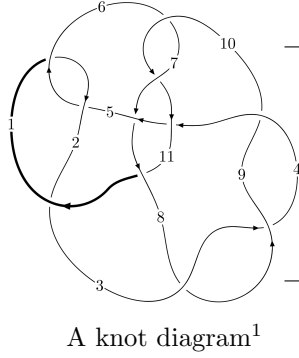
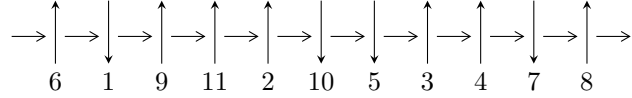


11a<sub>146</sub> (K11a<sub>146</sub>)



**Linearized knot diagram**



**Solving Sequence**

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

**Ideals for irreducible components<sup>2</sup> of  $X_{\text{par}}$**

$$I_1^u = \langle -1.16236 \times 10^{103} u^{74} + 3.74125 \times 10^{102} u^{73} + \dots + 1.41576 \times 10^{103} b - 7.11244 \times 10^{103}, \\ 7.14613 \times 10^{103} u^{74} - 3.17559 \times 10^{103} u^{73} + \dots + 9.91035 \times 10^{103} a + 2.29421 \times 10^{104}, \\ u^{75} + 15u^{73} + \dots - 20u + 7 \rangle$$

$$I_2^u = \langle -u^{13} - 3u^{11} - 7u^9 - 9u^7 + u^6 - 9u^5 + 2u^4 - 5u^3 + u^2 + b - 3u, \\ -u^{13} + 4u^{12} - 6u^{11} + 13u^{10} - 14u^9 + 27u^8 - 22u^7 + 34u^6 - 24u^5 + 30u^4 - 19u^3 + 15u^2 + a - 6u + 5, \\ u^{14} - u^{13} + 4u^{12} - 3u^{11} + 9u^{10} - 6u^9 + 13u^8 - 8u^7 + 13u^6 - 8u^5 + 9u^4 - 4u^3 + 4u^2 - u + 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 89 representations.

<sup>1</sup>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>).

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

$$\mathbf{I. } I_1^u = \langle -1.16 \times 10^{103} u^{74} + 3.74 \times 10^{102} u^{73} + \dots + 1.42 \times 10^{103} b - 7.11 \times 10^{103}, 7.15 \times 10^{103} u^{74} - 3.18 \times 10^{103} u^{73} + \dots + 9.91 \times 10^{103} a + 2.29 \times 10^{104}, u^{75} + 15u^{73} + \dots - 20u + 7 \rangle$$

(i) Arc colorings

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

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.721078u^{74} + 0.320432u^{73} + \dots - 5.32211u - 2.31497 \\ 0.821010u^{74} - 0.264257u^{73} + \dots - 12.5249u + 5.02375 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.810814u^{74} + 1.04372u^{73} + \dots - 19.2078u + 1.26956 \\ 1.59265u^{74} - 0.838121u^{73} + \dots - 10.7401u + 6.06974 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.886848u^{74} + 0.735561u^{73} + \dots - 9.13546u - 1.57363 \\ 1.30627u^{74} - 0.520026u^{73} + \dots - 18.1745u + 7.18831 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.06655u^{74} - 1.00342u^{73} + \dots + 16.8816u + 0.960205 \\ -0.756010u^{74} + 0.0457275u^{73} + \dots + 22.8247u - 7.73329 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0614847u^{74} + 0.125592u^{73} + \dots + 1.89652u + 0.236355 \\ -0.0748893u^{74} + 0.280213u^{73} + \dots - 0.209838u + 0.00750577 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.579776u^{74} + 0.227218u^{73} + \dots + 5.38557u - 1.00498 \\ 0.547002u^{74} - 0.277744u^{73} + \dots - 8.65299u + 2.85168 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.579776u^{74} + 0.227218u^{73} + \dots + 5.38557u - 1.00498 \\ 0.547002u^{74} - 0.277744u^{73} + \dots - 8.65299u + 2.85168 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes =  $0.0573232u^{74} + 0.652315u^{73} + \dots + 33.0747u - 8.02057$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1, c_5$	$u^{75} + 15u^{73} + \dots - 20u - 7$
$c_2$	$u^{75} + 30u^{74} + \dots + 288u - 49$
$c_3, c_8, c_9$	$u^{75} + u^{74} + \dots - 23u - 1$
$c_4$	$u^{75} - 3u^{74} + \dots + 15u + 1$
$c_6, c_{10}$	$u^{75} - u^{74} + \dots - 29u - 2$
$c_7$	$u^{75} - 2u^{74} + \dots - 17u + 1$
$c_{11}$	$u^{75} - 5u^{74} + \dots + 36831u - 8639$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$y^{75} + 30y^{74} + \dots + 288y - 49$
$c_2$	$y^{75} + 38y^{74} + \dots + 546484y - 2401$
$c_3, c_8, c_9$	$y^{75} - 77y^{74} + \dots + 71y - 1$
$c_4$	$y^{75} - y^{74} + \dots - 29y - 1$
$c_6, c_{10}$	$y^{75} - 43y^{74} + \dots + 321y - 4$
$c_7$	$y^{75} - 8y^{74} + \dots - 25y - 1$
$c_{11}$	$y^{75} - 21y^{74} + \dots + 1725459695y - 74632321$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.583753 + 0.813835I$ $a = 1.58625 + 0.14110I$ $b = -0.21446 + 2.00505I$	$2.35458 + 1.52998I$	$4.39480 + 0.I$
$u = -0.583753 - 0.813835I$ $a = 1.58625 - 0.14110I$ $b = -0.21446 - 2.00505I$	$2.35458 - 1.52998I$	$4.39480 + 0.I$
$u = -0.849508 + 0.542374I$ $a = -1.19541 - 1.04425I$ $b = 1.63768 + 0.71839I$	$9.48673 + 3.80892I$	$9.50577 - 2.11566I$
$u = -0.849508 - 0.542374I$ $a = -1.19541 + 1.04425I$ $b = 1.63768 - 0.71839I$	$9.48673 - 3.80892I$	$9.50577 + 2.11566I$
$u = -0.219708 + 0.997660I$ $a = 0.313694 - 0.499917I$ $b = -0.556012 - 1.022730I$	$-3.84788 - 0.02965I$	$-1.99150 + 0.I$
$u = -0.219708 - 0.997660I$ $a = 0.313694 + 0.499917I$ $b = -0.556012 + 1.022730I$	$-3.84788 + 0.02965I$	$-1.99150 + 0.I$
$u = 0.932408 + 0.222383I$ $a = -0.471108 - 0.020661I$ $b = 1.033510 - 0.122082I$	$8.24157 + 0.11075I$	$14.1787 + 1.9734I$
$u = 0.932408 - 0.222383I$ $a = -0.471108 + 0.020661I$ $b = 1.033510 + 0.122082I$	$8.24157 - 0.11075I$	$14.1787 - 1.9734I$
$u = 0.564610 + 0.759254I$ $a = -1.111500 - 0.152357I$ $b = 1.264580 - 0.419226I$	$7.40917 + 1.28073I$	$5.11860 - 6.28891I$
$u = 0.564610 - 0.759254I$ $a = -1.111500 + 0.152357I$ $b = 1.264580 + 0.419226I$	$7.40917 - 1.28073I$	$5.11860 + 6.28891I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.808914 + 0.489775I$ $a = -1.29004 + 0.89724I$ $b = 0.946433 - 0.610763I$	$-0.30295 - 6.24808I$	$3.92390 + 5.63947I$
$u = 0.808914 - 0.489775I$ $a = -1.29004 - 0.89724I$ $b = 0.946433 + 0.610763I$	$-0.30295 + 6.24808I$	$3.92390 - 5.63947I$
$u = 0.419276 + 0.968552I$ $a = -1.37090 + 0.96007I$ $b = 1.275450 + 0.547400I$	$-3.84184 + 1.43557I$	0
$u = 0.419276 - 0.968552I$ $a = -1.37090 - 0.96007I$ $b = 1.275450 - 0.547400I$	$-3.84184 - 1.43557I$	0
$u = -0.583811 + 0.895077I$ $a = -0.752626 + 0.749520I$ $b = -0.75640 - 2.07806I$	$2.09042 - 6.16494I$	0
$u = -0.583811 - 0.895077I$ $a = -0.752626 - 0.749520I$ $b = -0.75640 + 2.07806I$	$2.09042 + 6.16494I$	0
$u = 0.671530 + 0.632305I$ $a = 1.07681 - 1.02346I$ $b = -1.032100 + 0.508181I$	$2.52677 - 1.24936I$	$7.69965 + 2.52698I$
$u = 0.671530 - 0.632305I$ $a = 1.07681 + 1.02346I$ $b = -1.032100 - 0.508181I$	$2.52677 + 1.24936I$	$7.69965 - 2.52698I$
$u = -0.663268 + 0.853569I$ $a = -1.37734 - 0.72160I$ $b = 0.758278 - 0.141213I$	$1.06443 - 2.57629I$	0
$u = -0.663268 - 0.853569I$ $a = -1.37734 + 0.72160I$ $b = 0.758278 + 0.141213I$	$1.06443 + 2.57629I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.663115 + 0.870319I$ $a = -1.33003 - 0.51217I$ $b = 0.769435 - 0.207041I$	$1.03816 - 2.56974I$	0
$u = -0.663115 - 0.870319I$ $a = -1.33003 + 0.51217I$ $b = 0.769435 + 0.207041I$	$1.03816 + 2.56974I$	0
$u = -0.329445 + 0.834791I$ $a = 2.36627 + 0.05733I$ $b = -1.18992 + 0.99392I$	$0.58773 + 2.04231I$	$0.69192 + 3.19638I$
$u = -0.329445 - 0.834791I$ $a = 2.36627 - 0.05733I$ $b = -1.18992 - 0.99392I$	$0.58773 - 2.04231I$	$0.69192 - 3.19638I$
$u = -0.573961 + 0.682020I$ $a = 1.38069 + 1.62918I$ $b = -0.573303 - 0.057484I$	$-0.601433 + 0.843152I$	$6.25066 - 1.26638I$
$u = -0.573961 - 0.682020I$ $a = 1.38069 - 1.62918I$ $b = -0.573303 + 0.057484I$	$-0.601433 - 0.843152I$	$6.25066 + 1.26638I$
$u = 0.791734 + 0.779097I$ $a = 0.992300 - 0.187859I$ $b = -1.143650 + 0.488302I$	$6.79170 - 1.71786I$	0
$u = 0.791734 - 0.779097I$ $a = 0.992300 + 0.187859I$ $b = -1.143650 - 0.488302I$	$6.79170 + 1.71786I$	0
$u = 0.005828 + 1.116560I$ $a = 0.962671 - 0.065388I$ $b = 0.771794 + 0.649501I$	$3.39834 + 2.32606I$	0
$u = 0.005828 - 1.116560I$ $a = 0.962671 + 0.065388I$ $b = 0.771794 - 0.649501I$	$3.39834 - 2.32606I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.607031 + 0.944057I$		
$a = -0.61211 + 1.40952I$	$6.78271 + 3.40013I$	0
$b = 0.795124 + 0.593814I$		
$u = 0.607031 - 0.944057I$		
$a = -0.61211 - 1.40952I$	$6.78271 - 3.40013I$	0
$b = 0.795124 - 0.593814I$		
$u = 0.446827 + 1.030770I$		
$a = 0.383255 + 0.716019I$	$-3.66270 + 4.65674I$	0
$b = 0.78263 - 1.25594I$		
$u = 0.446827 - 1.030770I$		
$a = 0.383255 - 0.716019I$	$-3.66270 - 4.65674I$	0
$b = 0.78263 + 1.25594I$		
$u = -0.821168 + 0.772543I$		
$a = -0.915115 - 0.063644I$	$0.90357 - 3.01315I$	0
$b = 0.670177 - 0.265353I$		
$u = -0.821168 - 0.772543I$		
$a = -0.915115 + 0.063644I$	$0.90357 + 3.01315I$	0
$b = 0.670177 + 0.265353I$		
$u = -0.997300 + 0.535698I$		
$a = 1.041710 + 0.863157I$	$6.61694 + 10.02950I$	0
$b = -1.41132 - 0.74352I$		
$u = -0.997300 - 0.535698I$		
$a = 1.041710 - 0.863157I$	$6.61694 - 10.02950I$	0
$b = -1.41132 + 0.74352I$		
$u = -0.594753 + 0.976447I$		
$a = 1.76760 + 0.27801I$	$-1.52512 - 5.54501I$	0
$b = -0.992629 + 0.317325I$		
$u = -0.594753 - 0.976447I$		
$a = 1.76760 - 0.27801I$	$-1.52512 + 5.54501I$	0
$b = -0.992629 - 0.317325I$		



Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.034915 + 0.842594I$ $a = -0.508060 + 0.814343I$ $b = -0.096919 + 0.903738I$	$-1.98038 - 1.28024I$	$-1.71519 + 5.23822I$
$u = -0.034915 - 0.842594I$ $a = -0.508060 - 0.814343I$ $b = -0.096919 - 0.903738I$	$-1.98038 + 1.28024I$	$-1.71519 - 5.23822I$
$u = 0.628874 + 0.990800I$ $a = 1.66426 - 0.68833I$ $b = -1.19979 - 0.86296I$	$1.46459 + 6.31124I$	0
$u = 0.628874 - 0.990800I$ $a = 1.66426 + 0.68833I$ $b = -1.19979 + 0.86296I$	$1.46459 - 6.31124I$	0
$u = 0.736446 + 0.947781I$ $a = 1.17778 - 1.13785I$ $b = -0.887098 - 0.641638I$	$6.26955 + 7.47029I$	0
$u = 0.736446 - 0.947781I$ $a = 1.17778 + 1.13785I$ $b = -0.887098 + 0.641638I$	$6.26955 - 7.47029I$	0
$u = 0.028864 + 1.205850I$ $a = 0.030043 - 0.158897I$ $b = 0.525695 - 0.912935I$	$-6.15424 - 4.21404I$	0
$u = 0.028864 - 1.205850I$ $a = 0.030043 + 0.158897I$ $b = 0.525695 + 0.912935I$	$-6.15424 + 4.21404I$	0
$u = -0.423126 + 1.151840I$ $a = 0.063280 + 1.381230I$ $b = -1.57483 - 0.26636I$	$-1.02193 - 4.09857I$	0
$u = -0.423126 - 1.151840I$ $a = 0.063280 - 1.381230I$ $b = -1.57483 + 0.26636I$	$-1.02193 + 4.09857I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.768859$ $a = 1.67495$ $b = -1.47011$	2.41244	3.98160
$u = 0.652679 + 1.083040I$ $a = -1.61651 + 0.66348I$ $b = 1.173460 + 0.781385I$	$-2.04951 + 11.72600I$	0
$u = 0.652679 - 1.083040I$ $a = -1.61651 - 0.66348I$ $b = 1.173460 - 0.781385I$	$-2.04951 - 11.72600I$	0
$u = 1.110230 + 0.622964I$ $a = 0.516528 - 0.163821I$ $b = -0.894451 + 0.337332I$	$6.65332 + 3.38709I$	0
$u = 1.110230 - 0.622964I$ $a = 0.516528 + 0.163821I$ $b = -0.894451 - 0.337332I$	$6.65332 - 3.38709I$	0
$u = -0.558544 + 1.146300I$ $a = 0.559124 + 0.593863I$ $b = -0.774731 + 0.320056I$	$-1.85708 - 4.63248I$	0
$u = -0.558544 - 1.146300I$ $a = 0.559124 - 0.593863I$ $b = -0.774731 - 0.320056I$	$-1.85708 + 4.63248I$	0
$u = -0.673658 + 1.087130I$ $a = -1.53716 - 1.02912I$ $b = 1.69251 - 1.06931I$	$7.83095 - 9.48733I$	0
$u = -0.673658 - 1.087130I$ $a = -1.53716 + 1.02912I$ $b = 1.69251 + 1.06931I$	$7.83095 + 9.48733I$	0
$u = -0.228067 + 0.674546I$ $a = -2.29484 + 1.49946I$ $b = -0.092638 - 0.627623I$	$0.91162 - 4.36069I$	$4.50920 + 7.60061I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.228067 - 0.674546I$ $a = -2.29484 - 1.49946I$ $b = -0.092638 + 0.627623I$	$0.91162 + 4.36069I$	$4.50920 - 7.60061I$
$u = 0.129319 + 0.675423I$ $a = -1.34198 + 0.85690I$ $b = 0.014926 + 1.085660I$	$-1.94755 - 1.36953I$	$-1.12148 + 5.96580I$
$u = 0.129319 - 0.675423I$ $a = -1.34198 - 0.85690I$ $b = 0.014926 - 1.085660I$	$-1.94755 + 1.36953I$	$-1.12148 - 5.96580I$
$u = -0.727326 + 1.141520I$ $a = 1.44570 + 0.77630I$ $b = -1.46957 + 1.03381I$	$4.7307 - 16.2882I$	0
$u = -0.727326 - 1.141520I$ $a = 1.44570 - 0.77630I$ $b = -1.46957 - 1.03381I$	$4.7307 + 16.2882I$	0
$u = -0.604095 + 0.124629I$ $a = 0.520584 - 0.161680I$ $b = -0.562665 + 0.068774I$	$0.988802 - 0.029608I$	$10.70489 + 0.11784I$
$u = -0.604095 - 0.124629I$ $a = 0.520584 + 0.161680I$ $b = -0.562665 - 0.068774I$	$0.988802 + 0.029608I$	$10.70489 - 0.11784I$
$u = 0.853645 + 1.095880I$ $a = 0.902335 - 0.386675I$ $b = -0.753531 - 0.798272I$	$5.21306 + 3.57822I$	0
$u = 0.853645 - 1.095880I$ $a = 0.902335 + 0.386675I$ $b = -0.753531 + 0.798272I$	$5.21306 - 3.57822I$	0
$u = 0.095706 + 1.407540I$ $a = -0.286428 + 0.016195I$ $b = -0.719842 - 0.514282I$	$-1.04032 + 7.25828I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.095706 - 1.407540I$ $a = -0.286428 - 0.016195I$ $b = -0.719842 + 0.514282I$	$-1.04032 - 7.25828I$	0
$u = 0.75306 + 1.24388I$ $a = -0.545367 + 0.387882I$ $b = 0.683526 + 0.725105I$	$5.24327 + 6.25276I$	0
$u = 0.75306 - 1.24388I$ $a = -0.545367 - 0.387882I$ $b = 0.683526 - 0.725105I$	$5.24327 - 6.25276I$	0
$u = 0.276964 + 0.055334I$ $a = -3.24614 - 1.82467I$ $b = 0.335709 + 0.635949I$	$-1.70721 - 1.28972I$	$-0.48854 + 2.47606I$
$u = 0.276964 - 0.055334I$ $a = -3.24614 + 1.82467I$ $b = 0.335709 - 0.635949I$	$-1.70721 + 1.28972I$	$-0.48854 - 2.47606I$

**II.**

$$I_2^u = \langle -u^{13} - 3u^{11} + \dots + b - 3u, -u^{13} + 4u^{12} + \dots + a + 5, u^{14} - u^{13} + \dots - u + 1 \rangle$$

**(i) Arc colorings**

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

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u^2 + 1 \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^{13} - 4u^{12} + \dots + 6u - 5 \\ u^{13} + 3u^{11} + 7u^9 + 9u^7 - u^6 + 9u^5 - 2u^4 + 5u^3 - u^2 + 3u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2u^{13} - 4u^{12} + \dots + 6u - 4 \\ u^{12} + 2u^{10} + u^9 + 4u^8 + 2u^7 + 4u^6 + 3u^5 + 3u^4 + 2u^3 + u^2 + 2u + 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^{13} - 4u^{12} + \dots + 4u - 4 \\ u^{13} - u^{12} + \dots + 5u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -4u^{13} + u^{12} + \dots - 4u - 3 \\ 2u^{13} - 2u^{12} + \dots + 3u - 2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2u^{13} + 4u^{12} + \dots - 5u + 4 \\ -u^{13} - 3u^{11} - 6u^9 - 7u^7 + u^6 - 5u^5 + 2u^4 - u^3 - u - 1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{13} + u^{12} + \dots - u + 1 \\ -u^{13} - 2u^{11} - 2u^{10} - 3u^9 - 5u^8 - 2u^7 - 8u^6 - 8u^4 + 2u^3 - 6u^2 + u - 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{13} + u^{12} + \dots - u + 1 \\ -u^{13} - 2u^{11} - 2u^{10} - 3u^9 - 5u^8 - 2u^7 - 8u^6 - 8u^4 + 2u^3 - 6u^2 + u - 2 \end{pmatrix}$$

**(ii) Obstruction class = 1**

**(iii) Cusp Shapes**

$$= 5u^{13} - 3u^{12} + 15u^{11} - 9u^{10} + 32u^9 - 17u^8 + 38u^7 - 24u^6 + 33u^5 - 21u^4 + 18u^3 - 7u^2 + 11u$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^{14} - u^{13} + \dots - u + 1$
$c_2$	$u^{14} + 7u^{13} + \dots + 7u + 1$
$c_3$	$u^{14} - 8u^{12} + \dots - 2u^2 + 1$
$c_4$	$u^{14} + 5u^{11} + 2u^{10} + 3u^9 + 9u^8 + u^7 + 8u^6 + 3u^5 + 4u^4 + 2u^3 + 2u^2 + 1$
$c_5$	$u^{14} + u^{13} + \dots + u + 1$
$c_6$	$u^{14} + 2u^{13} + \dots + 2u + 1$
$c_7$	$u^{14} + 3u^{13} + 3u^{12} - u^{11} - 6u^{10} - 6u^9 + 2u^8 + 6u^7 + u^6 + 3u^4 - 2u^2 + 1$
$c_8, c_9$	$u^{14} - 8u^{12} + \dots - 2u^2 + 1$
$c_{10}$	$u^{14} - 2u^{13} + \dots - 2u + 1$
$c_{11}$	$u^{14} + 2u^{12} + 3u^{11} + 3u^{10} + 4u^9 + 5u^8 + 6u^7 + 5u^6 + 2u^5 + u^4 - 2u^3 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$y^{14} + 7y^{13} + \dots + 7y + 1$
$c_2$	$y^{14} + 7y^{13} + \dots + 3y + 1$
$c_3, c_8, c_9$	$y^{14} - 16y^{13} + \dots - 4y + 1$
$c_4$	$y^{14} + 4y^{12} + \dots + 4y + 1$
$c_6, c_{10}$	$y^{14} - 10y^{13} + \dots - 14y + 1$
$c_7$	$y^{14} - 3y^{13} + \dots - 4y + 1$
$c_{11}$	$y^{14} + 4y^{13} + \dots + 2y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.734849 + 0.838959I$ $a = -1.208620 - 0.185596I$ $b = 0.582713 - 0.256653I$	$0.32678 - 2.81352I$	$-3.82759 + 3.54032I$
$u = -0.734849 - 0.838959I$ $a = -1.208620 + 0.185596I$ $b = 0.582713 + 0.256653I$	$0.32678 + 2.81352I$	$-3.82759 - 3.54032I$
$u = -0.418839 + 1.066630I$ $a = 0.291345 + 0.378834I$ $b = -0.473607 - 0.671965I$	$-3.30861 - 3.80056I$	$-0.83959 + 2.34062I$
$u = -0.418839 - 1.066630I$ $a = 0.291345 - 0.378834I$ $b = -0.473607 + 0.671965I$	$-3.30861 + 3.80056I$	$-0.83959 - 2.34062I$
$u = 0.316820 + 1.106540I$ $a = 0.82774 + 1.28027I$ $b = 0.896791 - 0.980193I$	$-0.69663 + 5.04325I$	$1.15268 - 7.45720I$
$u = 0.316820 - 1.106540I$ $a = 0.82774 - 1.28027I$ $b = 0.896791 + 0.980193I$	$-0.69663 - 5.04325I$	$1.15268 + 7.45720I$
$u = 0.675866 + 0.491616I$ $a = 0.482814 + 0.404595I$ $b = -1.045010 + 0.289500I$	$7.41228 + 0.32675I$	$4.63259 + 0.70876I$
$u = 0.675866 - 0.491616I$ $a = 0.482814 - 0.404595I$ $b = -1.045010 - 0.289500I$	$7.41228 - 0.32675I$	$4.63259 - 0.70876I$
$u = 0.201031 + 0.762183I$ $a = -2.79799 + 0.26537I$ $b = 0.54393 + 1.41064I$	$0.75311 - 2.85458I$	$1.50497 + 5.64699I$
$u = 0.201031 - 0.762183I$ $a = -2.79799 - 0.26537I$ $b = 0.54393 - 1.41064I$	$0.75311 + 2.85458I$	$1.50497 - 5.64699I$



Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.330549 + 0.694071I$		
$a = 1.23852 + 1.22506I$	$-1.85356 + 0.60321I$	$0.34386 + 3.01291I$
$b = 0.019637 + 0.950071I$		
$u = -0.330549 - 0.694071I$		
$a = 1.23852 - 1.22506I$	$-1.85356 - 0.60321I$	$0.34386 - 3.01291I$
$b = 0.019637 - 0.950071I$		
$u = 0.790520 + 1.084840I$		
$a = 0.666179 - 0.467389I$	$5.59130 + 5.55392I$	$7.03309 - 2.81100I$
$b = -0.524461 - 0.759534I$		
$u = 0.790520 - 1.084840I$		
$a = 0.666179 + 0.467389I$	$5.59130 - 5.55392I$	$7.03309 + 2.81100I$
$b = -0.524461 + 0.759534I$		

### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^{14} - u^{13} + \dots - u + 1)(u^{75} + 15u^{73} + \dots - 20u - 7)$
$c_2$	$(u^{14} + 7u^{13} + \dots + 7u + 1)(u^{75} + 30u^{74} + \dots + 288u - 49)$
$c_3$	$(u^{14} - 8u^{12} + \dots - 2u^2 + 1)(u^{75} + u^{74} + \dots - 23u - 1)$
$c_4$	$(u^{14} + 5u^{11} + 2u^{10} + 3u^9 + 9u^8 + u^7 + 8u^6 + 3u^5 + 4u^4 + 2u^3 + 2u^2 + 1)$ $\cdot (u^{75} - 3u^{74} + \dots + 15u + 1)$
$c_5$	$(u^{14} + u^{13} + \dots + u + 1)(u^{75} + 15u^{73} + \dots - 20u - 7)$
$c_6$	$(u^{14} + 2u^{13} + \dots + 2u + 1)(u^{75} - u^{74} + \dots - 29u - 2)$
$c_7$	$(u^{14} + 3u^{13} + 3u^{12} - u^{11} - 6u^{10} - 6u^9 + 2u^8 + 6u^7 + u^6 + 3u^4 - 2u^2 + 1)$ $\cdot (u^{75} - 2u^{74} + \dots - 17u + 1)$
$c_8, c_9$	$(u^{14} - 8u^{12} + \dots - 2u^2 + 1)(u^{75} + u^{74} + \dots - 23u - 1)$
$c_{10}$	$(u^{14} - 2u^{13} + \dots - 2u + 1)(u^{75} - u^{74} + \dots - 29u - 2)$
$c_{11}$	$(u^{14} + 2u^{12} + 3u^{11} + 3u^{10} + 4u^9 + 5u^8 + 6u^7 + 5u^6 + 2u^5 + u^4 - 2u^3 + 1)$ $\cdot (u^{75} - 5u^{74} + \dots + 36831u - 8639)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1, c_5$	$(y^{14} + 7y^{13} + \dots + 7y + 1)(y^{75} + 30y^{74} + \dots + 288y - 49)$
$c_2$	$(y^{14} + 7y^{13} + \dots + 3y + 1)(y^{75} + 38y^{74} + \dots + 546484y - 2401)$
$c_3, c_8, c_9$	$(y^{14} - 16y^{13} + \dots - 4y + 1)(y^{75} - 77y^{74} + \dots + 71y - 1)$
$c_4$	$(y^{14} + 4y^{12} + \dots + 4y + 1)(y^{75} - y^{74} + \dots - 29y - 1)$
$c_6, c_{10}$	$(y^{14} - 10y^{13} + \dots - 14y + 1)(y^{75} - 43y^{74} + \dots + 321y - 4)$
$c_7$	$(y^{14} - 3y^{13} + \dots - 4y + 1)(y^{75} - 8y^{74} + \dots - 25y - 1)$
$c_{11}$	$(y^{14} + 4y^{13} + \dots + 2y^2 + 1)$ $\cdot (y^{75} - 21y^{74} + \dots + 1725459695y - 74632321)$