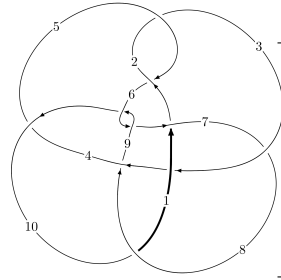
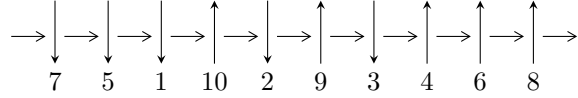


10<sub>115</sub> (K10a<sub>94</sub>)



A knot diagram<sup>1</sup>

**Linearized knot diagram**



**Solving Sequence**

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

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

$$I_1^u = \langle 1.34331 \times 10^{115} u^{65} + 6.48169 \times 10^{115} u^{64} + \dots + 2.86473 \times 10^{116} b + 1.11198 \times 10^{117}, \\ - 1.40951 \times 10^{118} u^{65} - 8.70781 \times 10^{118} u^{64} + \dots + 1.42377 \times 10^{119} a - 1.81835 \times 10^{120}, \\ u^{66} + 3u^{65} + \dots - 77u + 21 \rangle$$

$$I_2^u = \langle -u^{11} - 5u^{10} - 15u^9 - 32u^8 - 51u^7 - 64u^6 - 63u^5 - 49u^4 - 32u^3 - 17u^2 + b - 8u - 2, \\ u^{11} + 3u^{10} + 7u^9 + 12u^8 + 15u^7 + 18u^6 + 17u^5 + 16u^4 + 14u^3 + 5u^2 + a + 3u - 1, \\ u^{12} + 4u^{11} + 11u^{10} + 22u^9 + 33u^8 + 41u^7 + 40u^6 + 33u^5 + 24u^4 + 13u^3 + 8u^2 + 2u + 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 78 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.

$$\mathbf{I. } I_1^u = \langle 1.34 \times 10^{115} u^{65} + 6.48 \times 10^{115} u^{64} + \dots + 2.86 \times 10^{116} b + 1.11 \times 10^{117}, -1.41 \times 10^{118} u^{65} - 8.71 \times 10^{118} u^{64} + \dots + 1.42 \times 10^{119} a - 1.82 \times 10^{120}, u^{66} + 3u^{65} + \dots - 77u + 21 \rangle$$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0989985u^{65} + 0.611601u^{64} + \dots - 38.4442u + 12.7714 \\ -0.0468913u^{65} - 0.226258u^{64} + \dots + 9.77991u - 3.88162 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0379845u^{65} + 0.367680u^{64} + \dots - 94.1129u + 27.5594 \\ 0.0238215u^{65} - 0.0620212u^{64} + \dots + 22.0119u - 6.47645 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.145890u^{65} + 0.837859u^{64} + \dots - 48.2241u + 16.6530 \\ -0.0468913u^{65} - 0.226258u^{64} + \dots + 9.77991u - 3.88162 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.183485u^{65} + 0.376814u^{64} + \dots + 44.2181u - 10.0787 \\ -0.0938407u^{65} - 0.227660u^{64} + \dots - 10.9063u + 3.96108 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.431722u^{65} + 1.24657u^{64} + \dots + 41.2616u - 2.40760 \\ 0.0228165u^{65} + 0.142911u^{64} + \dots + 2.85831u - 3.07897 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.137406u^{65} + 0.154946u^{64} + \dots + 52.6432u - 12.3398 \\ -0.106962u^{65} - 0.276610u^{64} + \dots - 13.8597u + 4.46596 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes =  $0.703263u^{65} + 1.38008u^{64} + \dots + 130.121u - 35.8005$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^{66} + u^{65} + \dots - 1128u + 193$
$c_2, c_5$	$u^{66} + 3u^{65} + \dots - 77u + 21$
$c_3$	$u^{66} - 5u^{65} + \dots - 7u + 3$
$c_4$	$u^{66} - u^{65} + \dots + 1128u + 193$
$c_6, c_9$	$u^{66} - 3u^{65} + \dots + 77u + 21$
$c_7$	$u^{66} - u^{65} + \dots - 31u + 3$
$c_8$	$u^{66} + u^{65} + \dots + 31u + 3$
$c_{10}$	$u^{66} + 5u^{65} + \dots + 7u + 3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_4$	$y^{66} + 5y^{65} + \dots + 1235072y + 37249$
$c_2, c_5, c_6$ $c_9$	$y^{66} + 35y^{65} + \dots + 7259y + 441$
$c_3, c_{10}$	$y^{66} + y^{65} + \dots + 149y + 9$
$c_7, c_8$	$y^{66} + 3y^{65} + \dots - 31y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.662737 + 0.747286I$		
$a = 1.84867 - 0.18714I$	$-2.10904 + 4.58826I$	$-5.96198 - 6.80019I$
$b = 0.643705 + 0.913849I$		
$u = -0.662737 - 0.747286I$		
$a = 1.84867 + 0.18714I$	$-2.10904 - 4.58826I$	$-5.96198 + 6.80019I$
$b = 0.643705 - 0.913849I$		
$u = -0.759989 + 0.676773I$		
$a = 0.352294 - 0.243482I$	$-2.30167 + 0.78056I$	$-4.09013 - 4.30344I$
$b = 0.355245 - 1.033540I$		
$u = -0.759989 - 0.676773I$		
$a = 0.352294 + 0.243482I$	$-2.30167 - 0.78056I$	$-4.09013 + 4.30344I$
$b = 0.355245 + 1.033540I$		
$u = 0.287386 + 0.983998I$		
$a = -1.48006 - 0.92224I$	$4.24208 - 0.93364I$	$15.9161 + 3.0658I$
$b = -1.303580 - 0.315783I$		
$u = 0.287386 - 0.983998I$		
$a = -1.48006 + 0.92224I$	$4.24208 + 0.93364I$	$15.9161 - 3.0658I$
$b = -1.303580 + 0.315783I$		
$u = 0.458890 + 0.841270I$		
$a = 1.79291 - 0.60912I$	$-3.75920 + 1.29912I$	$-3.74536 + 0.15014I$
$b = 0.396945 - 1.221130I$		
$u = 0.458890 - 0.841270I$		
$a = 1.79291 + 0.60912I$	$-3.75920 - 1.29912I$	$-3.74536 - 0.15014I$
$b = 0.396945 + 1.221130I$		
$u = -0.149058 + 1.034510I$		
$a = -1.68613 + 0.22740I$	$4.29717 + 0.35366I$	$9.83486 + 1.20455I$
$b = -1.334980 + 0.373687I$		
$u = -0.149058 - 1.034510I$		
$a = -1.68613 - 0.22740I$	$4.29717 - 0.35366I$	$9.83486 - 1.20455I$
$b = -1.334980 - 0.373687I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.355245 + 1.033540I$ $a = -0.362934 - 0.639915I$ $b = -0.759989 - 0.676773I$	$2.30167 + 0.78056I$	0
$u = 0.355245 - 1.033540I$ $a = -0.362934 + 0.639915I$ $b = -0.759989 + 0.676773I$	$2.30167 - 0.78056I$	0
$u = 0.643705 + 0.913849I$ $a = -1.20470 - 0.82212I$ $b = -0.662737 + 0.747286I$	$2.10904 - 4.58826I$	0
$u = 0.643705 - 0.913849I$ $a = -1.20470 + 0.82212I$ $b = -0.662737 - 0.747286I$	$2.10904 + 4.58826I$	0
$u = 0.360202 + 1.059140I$ $a = -2.20455 + 0.76831I$ $b = -0.342978 + 1.152930I$	$-2.39843 - 6.38163I$	0
$u = 0.360202 - 1.059140I$ $a = -2.20455 - 0.76831I$ $b = -0.342978 - 1.152930I$	$-2.39843 + 6.38163I$	0
$u = 0.359059 + 0.750855I$ $a = -0.298810 + 0.451021I$ $b = 0.08218 + 1.58909I$	$-4.14504 - 4.87522I$	$-2.26179 + 9.07875I$
$u = 0.359059 - 0.750855I$ $a = -0.298810 - 0.451021I$ $b = 0.08218 - 1.58909I$	$-4.14504 + 4.87522I$	$-2.26179 - 9.07875I$
$u = -0.783137 + 0.250577I$ $a = 0.259092 + 0.291154I$ $b = -0.271930 - 1.178510I$	$-3.01082 + 3.10826I$	$-5.64725 - 5.61918I$
$u = -0.783137 - 0.250577I$ $a = 0.259092 - 0.291154I$ $b = -0.271930 + 1.178510I$	$-3.01082 - 3.10826I$	$-5.64725 + 5.61918I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.009834 + 0.802079I$ $a = -2.12400 - 0.10197I$ $b = -0.596579 + 1.045740I$	$0.88395 - 2.01054I$	$3.45858 + 2.97810I$
$u = -0.009834 - 0.802079I$ $a = -2.12400 + 0.10197I$ $b = -0.596579 - 1.045740I$	$0.88395 + 2.01054I$	$3.45858 - 2.97810I$
$u = -0.342978 + 1.152930I$ $a = 1.61910 - 0.70992I$ $b = 0.360202 + 1.059140I$	$2.39843 + 6.38163I$	0
$u = -0.342978 - 1.152930I$ $a = 1.61910 + 0.70992I$ $b = 0.360202 - 1.059140I$	$2.39843 - 6.38163I$	0
$u = -0.596579 + 1.045740I$ $a = 1.260790 + 0.175394I$ $b = -0.009834 + 0.802079I$	$-0.88395 + 2.01054I$	0
$u = -0.596579 - 1.045740I$ $a = 1.260790 - 0.175394I$ $b = -0.009834 - 0.802079I$	$-0.88395 - 2.01054I$	0
$u = -0.271930 + 1.178510I$ $a = -0.965808 - 0.442503I$ $b = -0.783137 - 0.250577I$	$3.01082 + 3.10826I$	0
$u = -0.271930 - 1.178510I$ $a = -0.965808 + 0.442503I$ $b = -0.783137 + 0.250577I$	$3.01082 - 3.10826I$	0
$u = 0.687231 + 0.358682I$ $a = 0.443779 + 0.395345I$ $b = -0.430277 - 1.187340I$	$-1.38542 + 3.12807I$	$0.18739 - 5.83461I$
$u = 0.687231 - 0.358682I$ $a = 0.443779 - 0.395345I$ $b = -0.430277 + 1.187340I$	$-1.38542 - 3.12807I$	$0.18739 + 5.83461I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.542734 + 1.105870I$ $a = -1.71563 - 0.08154I$ $b = -0.68953 + 1.34019I$	$0.80844 - 7.87674I$	0
$u = 0.542734 - 1.105870I$ $a = -1.71563 + 0.08154I$ $b = -0.68953 - 1.34019I$	$0.80844 + 7.87674I$	0
$u = 1.195210 + 0.323364I$ $a = 0.164442 - 0.141775I$ $b = 0.499077 + 1.182910I$	$-3.08497 + 10.03660I$	0
$u = 1.195210 - 0.323364I$ $a = 0.164442 + 0.141775I$ $b = 0.499077 - 1.182910I$	$-3.08497 - 10.03660I$	0
$u = 0.734419 + 0.105022I$ $a = 0.549959 + 1.225450I$ $b = 0.734419 - 0.105022I$	$5.41602I$	$0. - 4.57520I$
$u = 0.734419 - 0.105022I$ $a = 0.549959 - 1.225450I$ $b = 0.734419 + 0.105022I$	$- 5.41602I$	$0. + 4.57520I$
$u = -0.430277 + 1.187340I$ $a = 1.052010 - 0.353445I$ $b = 0.687231 - 0.358682I$	$1.38542 + 3.12807I$	0
$u = -0.430277 - 1.187340I$ $a = 1.052010 + 0.353445I$ $b = 0.687231 + 0.358682I$	$1.38542 - 3.12807I$	0
$u = 0.499077 + 1.182910I$ $a = 1.205270 + 0.532515I$ $b = 1.195210 + 0.323364I$	$3.08497 - 10.03660I$	0
$u = 0.499077 - 1.182910I$ $a = 1.205270 - 0.532515I$ $b = 1.195210 - 0.323364I$	$3.08497 + 10.03660I$	0



Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.396945 + 1.221130I$ $a = 1.047550 + 0.443482I$ $b = 0.458890 - 0.841270I$	$3.75920 + 1.29912I$	0
$u = 0.396945 - 1.221130I$ $a = 1.047550 - 0.443482I$ $b = 0.458890 + 0.841270I$	$3.75920 - 1.29912I$	0
$u = -0.610321 + 0.270672I$ $a = 0.749139 - 0.428729I$ $b = 0.290517 - 0.266226I$	$-1.36445 + 0.78938I$	$-4.43693 - 1.27648I$
$u = -0.610321 - 0.270672I$ $a = 0.749139 + 0.428729I$ $b = 0.290517 + 0.266226I$	$-1.36445 - 0.78938I$	$-4.43693 + 1.27648I$
$u = -0.448635 + 1.259820I$ $a = -1.39053 - 0.45102I$ $b = -0.71942 - 1.28265I$	$1.26966 + 7.40298I$	0
$u = -0.448635 - 1.259820I$ $a = -1.39053 + 0.45102I$ $b = -0.71942 + 1.28265I$	$1.26966 - 7.40298I$	0
$u = -1.303580 + 0.315783I$ $a = 0.334582 + 0.347965I$ $b = 0.287386 - 0.983998I$	$-4.24208 - 0.93364I$	0
$u = -1.303580 - 0.315783I$ $a = 0.334582 - 0.347965I$ $b = 0.287386 + 0.983998I$	$-4.24208 + 0.93364I$	0
$u = -0.043435 + 0.637728I$ $a = -4.04261 - 0.04501I$ $b = -0.043435 - 0.637728I$	$-4.25960I$	$-60.10 - 0.329447I$
$u = -0.043435 - 0.637728I$ $a = -4.04261 + 0.04501I$ $b = -0.043435 + 0.637728I$	$4.25960I$	$-60.10 + 0.329447I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.334980 + 0.373687I$ $a = 0.207880 - 0.197593I$ $b = -0.149058 + 1.034510I$	$-4.29717 - 0.35366I$	0
$u = -1.334980 - 0.373687I$ $a = 0.207880 + 0.197593I$ $b = -0.149058 - 1.034510I$	$-4.29717 + 0.35366I$	0
$u = 0.280686 + 0.541514I$ $a = 0.076389 + 1.010860I$ $b = -0.198274 - 1.381690I$	$-4.11853 + 3.35398I$	$-7.32610 + 2.92910I$
$u = 0.280686 - 0.541514I$ $a = 0.076389 - 1.010860I$ $b = -0.198274 + 1.381690I$	$-4.11853 - 3.35398I$	$-7.32610 - 2.92910I$
$u = -0.198274 + 1.381690I$ $a = 0.457708 - 0.947576I$ $b = 0.280686 - 0.541514I$	$4.11853 + 3.35398I$	0
$u = -0.198274 - 1.381690I$ $a = 0.457708 + 0.947576I$ $b = 0.280686 + 0.541514I$	$4.11853 - 3.35398I$	0
$u = 0.68120 + 1.28817I$ $a = 1.52199 - 0.01935I$ $b = 0.68120 - 1.28817I$	$-16.6380I$	0
$u = 0.68120 - 1.28817I$ $a = 1.52199 + 0.01935I$ $b = 0.68120 + 1.28817I$	$16.6380I$	0
$u = -0.71942 + 1.28265I$ $a = -0.971050 - 0.037443I$ $b = -0.448635 - 1.259820I$	$-1.26966 + 7.40298I$	0
$u = -0.71942 - 1.28265I$ $a = -0.971050 + 0.037443I$ $b = -0.448635 + 1.259820I$	$-1.26966 - 7.40298I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.68953 + 1.34019I$		
$a = 1.43294 + 0.02037I$	$-0.80844 + 7.87674I$	0
$b = 0.542734 + 1.105870I$		
$u = -0.68953 - 1.34019I$		
$a = 1.43294 - 0.02037I$	$-0.80844 - 7.87674I$	0
$b = 0.542734 - 1.105870I$		
$u = 0.08218 + 1.58909I$		
$a = 0.412708 + 0.473001I$	$4.14504 + 4.87522I$	0
$b = 0.359059 + 0.750855I$		
$u = 0.08218 - 1.58909I$		
$a = 0.412708 - 0.473001I$	$4.14504 - 4.87522I$	0
$b = 0.359059 - 0.750855I$		
$u = 0.290517 + 0.266226I$		
$a = 0.824282 + 0.013319I$	$1.36445 + 0.78938I$	$4.43693 - 1.27648I$
$b = -0.610321 - 0.270672I$		
$u = 0.290517 - 0.266226I$		
$a = 0.824282 - 0.013319I$	$1.36445 - 0.78938I$	$4.43693 + 1.27648I$
$b = -0.610321 + 0.270672I$		

**II.**

$$I_2^u = \langle -u^{11} - 5u^{10} + \dots + b - 2, u^{11} + 3u^{10} + \dots + a - 1, u^{12} + 4u^{11} + \dots + 2u + 1 \rangle$$

**(i) Arc colorings**

$$a_2 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^{11} - 3u^{10} + \dots - 3u + 1 \\ u^{11} + 5u^{10} + \dots + 8u + 2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^{11} + 5u^{10} + \dots + 14u + 5 \\ -u^{10} - 4u^9 + \dots - 6u - 4 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -2u^{11} - 8u^{10} + \dots - 11u - 1 \\ u^{11} + 5u^{10} + \dots + 8u + 2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2u^{11} - 10u^{10} + \dots - 14u - 5 \\ -2u^{11} - 6u^{10} + \dots + 2u + 4 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^{10} - 4u^9 + \dots - 11u - 6 \\ -u^{11} - 3u^{10} + \dots + 2u + 4 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -3u^{11} - 13u^{10} + \dots - 15u - 4 \\ -u^{11} - 2u^{10} + \dots + 4u + 4 \end{pmatrix}$$

**(ii) Obstruction class = 1****(iii) Cusp Shapes**

$$= 6u^{11} + 26u^{10} + 70u^9 + 137u^8 + 198u^7 + 228u^6 + 208u^5 + 155u^4 + 112u^3 + 67u^2 + 34u + 12$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.238381 + 0.958097I$ $a = -1.64769 + 0.58255I$ $b = -1.340910 + 0.230586I$	$3.76649 + 0.96528I$	$-2.46025 - 6.19259I$
$u = -0.238381 - 0.958097I$ $a = -1.64769 - 0.58255I$ $b = -1.340910 - 0.230586I$	$3.76649 - 0.96528I$	$-2.46025 + 6.19259I$
$u = 0.275611 + 0.671814I$ $a = 3.49684 + 1.04213I$ $b = 0.275611 - 0.671814I$	$-4.91597I$	$0. + 11.11517I$
$u = 0.275611 - 0.671814I$ $a = 3.49684 - 1.04213I$ $b = 0.275611 + 0.671814I$	$4.91597I$	$0. - 11.11517I$
$u = -0.540477 + 1.222060I$ $a = -1.42814 - 0.09893I$ $b = -0.540477 - 1.222060I$	$6.92803I$	$0. - 5.92253I$
$u = -0.540477 - 1.222060I$ $a = -1.42814 + 0.09893I$ $b = -0.540477 + 1.222060I$	$-6.92803I$	$0. + 5.92253I$
$u = -1.340910 + 0.230586I$ $a = -0.144225 - 0.306569I$ $b = -0.238381 + 0.958097I$	$-3.76649 - 0.96528I$	$2.46025 + 6.19259I$
$u = -1.340910 - 0.230586I$ $a = -0.144225 + 0.306569I$ $b = -0.238381 - 0.958097I$	$-3.76649 + 0.96528I$	$2.46025 - 6.19259I$
$u = -0.09726 + 1.42673I$ $a = -0.530300 + 0.558704I$ $b = -0.058582 + 0.533279I$	$3.74262 + 3.79217I$	$-1.40025 - 6.58435I$
$u = -0.09726 - 1.42673I$ $a = -0.530300 - 0.558704I$ $b = -0.058582 - 0.533279I$	$3.74262 - 3.79217I$	$-1.40025 + 6.58435I$

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.058582 + 0.533279I$		
$a = 1.253520 - 0.119688I$	$-3.74262 - 3.79217I$	$1.40025 + 6.58435I$
$b = -0.09726 + 1.42673I$		
$u = -0.058582 - 0.533279I$		
$a = 1.253520 + 0.119688I$	$-3.74262 + 3.79217I$	$1.40025 - 6.58435I$
$b = -0.09726 - 1.42673I$		



### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^{12} - 2u^{10} + u^8 - 6u^7 + 12u^5 + 4u^4 - 8u^3 + u^2 + 3u + 3)$ $\cdot (u^{66} + u^{65} + \dots - 1128u + 193)$
$c_2$	$(u^{12} - 4u^{11} + \dots - 2u + 1)(u^{66} + 3u^{65} + \dots - 77u + 21)$
$c_3$	$(u^{12} + 2u^{11} - u^9 + 6u^8 + 12u^7 + 2u^6 - 11u^5 - 5u^4 + u^3 + u^2 + 1)$ $\cdot (u^{66} - 5u^{65} + \dots - 7u + 3)$
$c_4$	$(u^{12} - 2u^{10} + u^8 + 6u^7 - 12u^5 + 4u^4 + 8u^3 + u^2 - 3u + 3)$ $\cdot (u^{66} - u^{65} + \dots + 1128u + 193)$
$c_5$	$(u^{12} + 4u^{11} + \dots + 2u + 1)(u^{66} + 3u^{65} + \dots - 77u + 21)$
$c_6$	$(u^{12} + 4u^{11} + \dots + 2u + 1)(u^{66} - 3u^{65} + \dots + 77u + 21)$
$c_7$	$(u^{12} + 3u^{10} + u^9 + 3u^8 + 4u^7 + 3u^6 + 4u^5 + 3u^4 + u^3 + 3u^2 + 1)$ $\cdot (u^{66} - u^{65} + \dots - 31u + 3)$
$c_8$	$(u^{12} + 3u^{10} - u^9 + 3u^8 - 4u^7 + 3u^6 - 4u^5 + 3u^4 - u^3 + 3u^2 + 1)$ $\cdot (u^{66} + u^{65} + \dots + 31u + 3)$
$c_9$	$(u^{12} - 4u^{11} + \dots - 2u + 1)(u^{66} - 3u^{65} + \dots + 77u + 21)$
$c_{10}$	$(u^{12} - 2u^{11} + u^9 + 6u^8 - 12u^7 + 2u^6 + 11u^5 - 5u^4 - u^3 + u^2 + 1)$ $\cdot (u^{66} + 5u^{65} + \dots + 7u + 3)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1, c_4$	$(y^{12} - 4y^{11} + \dots - 3y + 9)(y^{66} + 5y^{65} + \dots + 1235072y + 37249)$
$c_2, c_5, c_6$ $c_9$	$(y^{12} + 6y^{11} + \dots + 12y + 1)(y^{66} + 35y^{65} + \dots + 7259y + 441)$
$c_3, c_{10}$	$(y^{12} - 4y^{11} + \dots + 2y + 1)(y^{66} + y^{65} + \dots + 149y + 9)$
$c_7, c_8$	$(y^{12} + 6y^{11} + \dots + 6y + 1)(y^{66} + 3y^{65} + \dots - 31y + 9)$