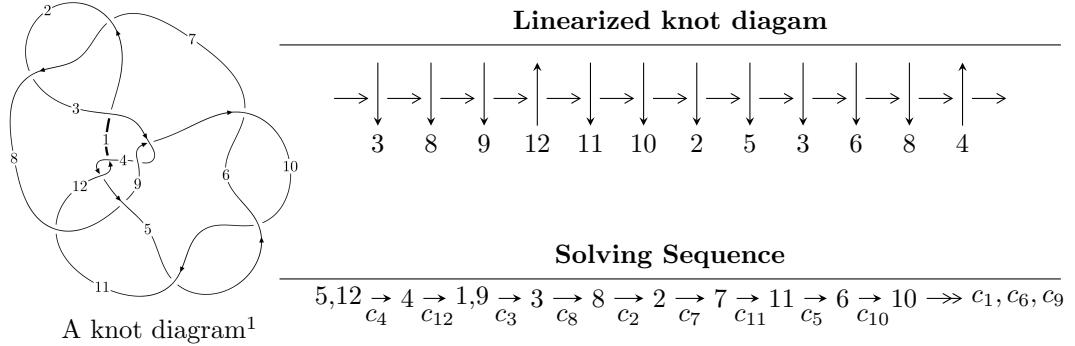


$12n_{0659}$  ( $K12n_{0659}$ )



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

$$I_1^u = \langle -3.74446 \times 10^{123} u^{53} - 1.80068 \times 10^{124} u^{52} + \dots + 2.83000 \times 10^{124} b - 8.02256 \times 10^{125}, \\ 1.03240 \times 10^{126} u^{53} + 4.93019 \times 10^{126} u^{52} + \dots + 1.38670 \times 10^{126} a + 2.28691 \times 10^{128}, \\ u^{54} + 5u^{53} + \dots + 528u + 49 \rangle$$

$$I_2^u = \langle 2u^{17} + 16u^{16} + \dots + b + 43, 11u^{17} - 31u^{16} + \dots + a - 24, u^{18} - 2u^{17} + \dots - 2u + 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 72 representations.

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<sup>1</sup>The image of knot diagram is generated by the software “**Draw programme**” developed by Andrew Bartholomew(<http://www.layer8.co.uk/math/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.

$$\text{I. } I_1^u = \langle -3.74 \times 10^{123}u^{53} - 1.80 \times 10^{124}u^{52} + \dots + 2.83 \times 10^{124}b - 8.02 \times 10^{125}, 1.03 \times 10^{126}u^{53} + 4.93 \times 10^{126}u^{52} + \dots + 1.39 \times 10^{126}a + 2.29 \times 10^{128}, u^{54} + 5u^{53} + \dots + 528u + 49 \rangle$$

(i) **Arc colorings**

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -0.744500u^{53} - 3.55533u^{52} + \dots - 1001.93u - 164.918 \\ 0.132313u^{53} + 0.636282u^{52} + \dots + 178.673u + 28.3483 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.980752u^{53} + 4.70300u^{52} + \dots + 1409.41u + 228.585 \\ -0.0620997u^{53} - 0.294145u^{52} + \dots - 86.5558u - 14.5888 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.612187u^{53} - 2.91905u^{52} + \dots - 823.256u - 136.569 \\ 0.132313u^{53} + 0.636282u^{52} + \dots + 178.673u + 28.3483 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 2.27754u^{53} + 10.9226u^{52} + \dots + 3266.86u + 527.076 \\ -0.155250u^{53} - 0.741079u^{52} + \dots - 221.237u - 36.9171 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 2.69305u^{53} + 12.8497u^{52} + \dots + 3650.99u + 598.393 \\ -0.178103u^{53} - 0.850344u^{52} + \dots - 239.834u - 38.4779 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.22947u^{53} - 5.89896u^{52} + \dots - 1731.81u - 275.141 \\ 0.129646u^{53} + 0.617545u^{52} + \dots + 192.287u + 31.3383 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1.12462u^{53} - 5.37150u^{52} + \dots - 1476.98u - 234.162 \\ 0.0650075u^{53} + 0.315357u^{52} + \dots + 100.049u + 15.3130 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1.86297u^{53} - 8.89331u^{52} + \dots - 2509.47u - 410.424 \\ 0.218460u^{53} + 1.04761u^{52} + \dots + 297.149u + 47.1762 \end{pmatrix}$$

(ii) **Obstruction class** = -1

(iii) **Cusp Shapes** =  $-0.164546u^{53} - 0.781563u^{52} + \dots - 246.802u - 54.5462$

**(iv) u-Polynomials at the component**

Crossings	u-Polynomials at each crossing
$c_1$	$u^{54} + 57u^{53} + \cdots + 4309293u + 130321$
$c_2, c_7$	$u^{54} + u^{53} + \cdots + 1811u - 361$
$c_3, c_9$	$u^{54} - u^{53} + \cdots - 171u - 37$
$c_4, c_{12}$	$u^{54} + 5u^{53} + \cdots + 528u + 49$
$c_5, c_6, c_{10}$	$u^{54} + u^{53} + \cdots + 146u - 143$
$c_8$	$u^{54} + 3u^{53} + \cdots - 53u - 11$
$c_{11}$	$u^{54} - 6u^{52} + \cdots - 2734u + 439$

**(v) Riley Polynomials at the component**

Crossings	Riley Polynomials at each crossing
$c_1$	$y^{54} - 121y^{53} + \cdots + 1173617520891y + 16983563041$
$c_2, c_7$	$y^{54} - 57y^{53} + \cdots - 4309293y + 130321$
$c_3, c_9$	$y^{54} - 3y^{53} + \cdots - 82743y + 1369$
$c_4, c_{12}$	$y^{54} + 43y^{53} + \cdots - 40056y + 2401$
$c_5, c_6, c_{10}$	$y^{54} + 43y^{53} + \cdots + 236656y + 20449$
$c_8$	$y^{54} + 17y^{53} + \cdots + 1393y + 121$
$c_{11}$	$y^{54} - 12y^{53} + \cdots - 2068032y + 192721$

**(vi) Complex Volumes and Cusp Shapes**

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.234320 + 0.969892I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = -0.148625 + 1.288510I$	$3.14147 + 2.14385I$	$-8.00000 - 2.27953I$
$b = 0.475743 - 1.092990I$		
$u = -0.234320 - 0.969892I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = -0.148625 - 1.288510I$	$3.14147 - 2.14385I$	$-8.00000 + 2.27953I$
$b = 0.475743 + 1.092990I$		
$u = 0.027994 + 0.970519I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = -0.553301 - 0.417496I$	$3.04092 - 2.63323I$	$-6.79514 + 3.39134I$
$b = 0.36927 + 1.64804I$		
$u = 0.027994 - 0.970519I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = -0.553301 + 0.417496I$	$3.04092 + 2.63323I$	$-6.79514 - 3.39134I$
$b = 0.36927 - 1.64804I$		
$u = -0.782902 + 0.567024I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = -0.515595 + 1.182860I$	$-2.46486 - 3.78662I$	$-6.40927 + 1.45545I$
$b = -0.368436 + 0.517578I$		
$u = -0.782902 - 0.567024I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = -0.515595 - 1.182860I$	$-2.46486 + 3.78662I$	$-6.40927 - 1.45545I$
$b = -0.368436 - 0.517578I$		
$u = -0.362509 + 1.006200I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = -1.74365 + 0.26534I$	$2.07901 - 4.91557I$	$-8.00000 + 0.I$
$b = 1.03182 + 1.06263I$		
$u = -0.362509 - 1.006200I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = -1.74365 - 0.26534I$	$2.07901 + 4.91557I$	$-8.00000 + 0.I$
$b = 1.03182 - 1.06263I$		
$u = 0.562881 + 1.010060I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	0
$a = 1.70829 + 0.19125I$	$0.36171 + 5.69112I$	
$b = -1.08761 + 0.91934I$		
$u = 0.562881 - 1.010060I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = 1.70829 - 0.19125I$	$0.36171 - 5.69112I$	0
$b = -1.08761 - 0.91934I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.311601 + 1.189300I$		
$a = 1.261750 - 0.239301I$	$-3.40881 - 2.20781I$	0
$b = -0.846614 - 0.808655I$		
$u = -0.311601 - 1.189300I$		
$a = 1.261750 + 0.239301I$	$-3.40881 + 2.20781I$	0
$b = -0.846614 + 0.808655I$		
$u = 0.475047 + 0.535369I$		
$a = 0.075261 + 0.763788I$	$2.01849 - 1.23122I$	$-3.26105 - 1.16198I$
$b = -0.550857 - 1.221260I$		
$u = 0.475047 - 0.535369I$		
$a = 0.075261 - 0.763788I$	$2.01849 + 1.23122I$	$-3.26105 + 1.16198I$
$b = -0.550857 + 1.221260I$		
$u = 0.465598 + 1.208790I$		
$a = -1.173780 + 0.049718I$	$-1.16225 + 2.99382I$	0
$b = 0.795766 - 0.488765I$		
$u = 0.465598 - 1.208790I$		
$a = -1.173780 - 0.049718I$	$-1.16225 - 2.99382I$	0
$b = 0.795766 + 0.488765I$		
$u = -0.665299 + 1.133700I$		
$a = 0.975711 - 0.647626I$	$-4.11326 - 2.05845I$	0
$b = -0.441264 - 0.844294I$		
$u = -0.665299 - 1.133700I$		
$a = 0.975711 + 0.647626I$	$-4.11326 + 2.05845I$	0
$b = -0.441264 + 0.844294I$		
$u = 0.039718 + 1.317490I$		
$a = -1.060890 - 0.018811I$	$-2.35880 + 2.03182I$	0
$b = 0.932021 + 0.518191I$		
$u = 0.039718 - 1.317490I$		
$a = -1.060890 + 0.018811I$	$-2.35880 - 2.03182I$	0
$b = 0.932021 - 0.518191I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.352052 + 0.575861I$		
$a = 0.49680 - 1.33952I$	$8.88135 + 1.75033I$	$-0.23249 - 5.30216I$
$b = 0.143466 - 1.197570I$		
$u = 0.352052 - 0.575861I$		
$a = 0.49680 + 1.33952I$	$8.88135 - 1.75033I$	$-0.23249 + 5.30216I$
$b = 0.143466 + 1.197570I$		
$u = 0.103091 + 1.329410I$		
$a = 1.221790 + 0.330306I$	$-6.43910 + 4.65775I$	0
$b = -0.717176 + 1.156320I$		
$u = 0.103091 - 1.329410I$		
$a = 1.221790 - 0.330306I$	$-6.43910 - 4.65775I$	0
$b = -0.717176 - 1.156320I$		
$u = 0.655732 + 0.001796I$		
$a = -0.426767 - 0.217995I$	$2.33536 + 1.33301I$	$-3.31811 - 4.81791I$
$b = -0.216342 + 0.945304I$		
$u = 0.655732 - 0.001796I$		
$a = -0.426767 + 0.217995I$	$2.33536 - 1.33301I$	$-3.31811 + 4.81791I$
$b = -0.216342 - 0.945304I$		
$u = -0.099058 + 1.403950I$		
$a = -1.200600 + 0.034439I$	$-11.55370 - 1.21518I$	0
$b = 1.00529 - 0.99657I$		
$u = -0.099058 - 1.403950I$		
$a = -1.200600 - 0.034439I$	$-11.55370 + 1.21518I$	0
$b = 1.00529 + 0.99657I$		
$u = 1.383890 + 0.257220I$		
$a = 0.042622 + 0.310020I$	$4.07354 - 1.34058I$	0
$b = 0.327830 + 0.748998I$		
$u = 1.383890 - 0.257220I$		
$a = 0.042622 - 0.310020I$	$4.07354 + 1.34058I$	0
$b = 0.327830 - 0.748998I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.304294 + 0.499465I$		
$a = 1.02836 + 1.02465I$	$3.32556 + 1.82215I$	$-7.68501 - 4.30894I$
$b = 0.511575 - 0.716466I$		
$u = -0.304294 - 0.499465I$		
$a = 1.02836 - 1.02465I$	$3.32556 - 1.82215I$	$-7.68501 + 4.30894I$
$b = 0.511575 + 0.716466I$		
$u = -0.29988 + 1.38353I$		
$a = 1.167220 - 0.318667I$	$-8.06461 - 7.14617I$	0
$b = -1.25222 + 0.74442I$		
$u = -0.29988 - 1.38353I$		
$a = 1.167220 + 0.318667I$	$-8.06461 + 7.14617I$	0
$b = -1.25222 - 0.74442I$		
$u = -1.44175 + 0.12669I$		
$a = 0.163034 - 0.101692I$	$-1.51180 - 7.69812I$	0
$b = -0.564264 - 0.875736I$		
$u = -1.44175 - 0.12669I$		
$a = 0.163034 + 0.101692I$	$-1.51180 + 7.69812I$	0
$b = -0.564264 + 0.875736I$		
$u = 0.41538 + 1.39497I$		
$a = 0.473978 - 0.650086I$	$5.88808 + 0.92042I$	0
$b = 0.037314 + 0.438841I$		
$u = 0.41538 - 1.39497I$		
$a = 0.473978 + 0.650086I$	$5.88808 - 0.92042I$	0
$b = 0.037314 - 0.438841I$		
$u = 0.25489 + 1.47796I$		
$a = 0.911154 - 0.269340I$	$-3.02616 + 3.86573I$	0
$b = -0.801265 + 0.938714I$		
$u = 0.25489 - 1.47796I$		
$a = 0.911154 + 0.269340I$	$-3.02616 - 3.86573I$	0
$b = -0.801265 - 0.938714I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.56773 + 1.48140I$		
$a = -1.040690 + 0.016279I$	$-0.36984 + 8.31182I$	0
$b = 0.752725 - 1.177120I$		
$u = 0.56773 - 1.48140I$		
$a = -1.040690 - 0.016279I$	$-0.36984 - 8.31182I$	0
$b = 0.752725 + 1.177120I$		
$u = -0.63065 + 1.50296I$		
$a = 1.250760 + 0.035031I$	$-6.5506 - 14.8339I$	0
$b = -0.91992 - 1.19790I$		
$u = -0.63065 - 1.50296I$		
$a = 1.250760 - 0.035031I$	$-6.5506 + 14.8339I$	0
$b = -0.91992 + 1.19790I$		
$u = -0.149852 + 0.300455I$		
$a = -1.23317 + 5.69132I$	$-2.60231 - 4.18203I$	$-11.45087 - 0.72915I$
$b = -0.541979 - 0.188288I$		
$u = -0.149852 - 0.300455I$		
$a = -1.23317 - 5.69132I$	$-2.60231 + 4.18203I$	$-11.45087 + 0.72915I$
$b = -0.541979 + 0.188288I$		
$u = -0.51673 + 1.64071I$		
$a = -1.063790 - 0.161215I$	$-11.5956 - 8.4499I$	0
$b = 0.980622 + 0.969393I$		
$u = -0.51673 - 1.64071I$		
$a = -1.063790 + 0.161215I$	$-11.5956 + 8.4499I$	0
$b = 0.980622 - 0.969393I$		
$u = -1.48162 + 0.91100I$		
$a = -0.133736 - 0.101440I$	$-4.30577 - 1.29948I$	0
$b = 0.190419 + 0.615231I$		
$u = -1.48162 - 0.91100I$		
$a = -0.133736 + 0.101440I$	$-4.30577 + 1.29948I$	0
$b = 0.190419 - 0.615231I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.30454 + 1.73276I$		
$a = 0.825545 + 0.324392I$	$-8.04995 - 1.38990I$	0
$b = -0.878673 - 0.649779I$		
$u = -0.30454 - 1.73276I$		
$a = 0.825545 - 0.324392I$	$-8.04995 + 1.38990I$	0
$b = -0.878673 + 0.649779I$		
$u = -0.221783$		
$a = -1.37508$	$-0.627945$	-15.7990
$b = -0.409309$		
$u = -0.216213$		
$a = -7.73007$	$-6.62446$	-17.2110
$b = 0.674840$		

$$\text{II. } I_2^u = \langle 2u^{17} + 16u^{16} + \dots + b + 43, 11u^{17} - 31u^{16} + \dots + a - 24, u^{18} - 2u^{17} + \dots - 2u + 1 \rangle$$

(i) **Arc colorings**

$$\begin{aligned} a_5 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_4 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_1 &= \begin{pmatrix} u \\ u^3 + u \end{pmatrix} \\ a_9 &= \begin{pmatrix} -11u^{17} + 31u^{16} + \dots - 48u + 24 \\ -2u^{17} - 16u^{16} + \dots + 60u - 43 \end{pmatrix} \\ a_3 &= \begin{pmatrix} -3u^{17} + 10u^{16} + \dots + 32u^2 - 9u \\ u^{16} - 2u^{15} + \dots - 2u + 2 \end{pmatrix} \\ a_8 &= \begin{pmatrix} -13u^{17} + 15u^{16} + \dots + 12u - 19 \\ -2u^{17} - 16u^{16} + \dots + 60u - 43 \end{pmatrix} \\ a_2 &= \begin{pmatrix} -7u^{17} + 19u^{16} + \dots - 34u + 6 \\ u^{17} - u^{16} + \dots - 5u^2 + 7u \end{pmatrix} \\ a_7 &= \begin{pmatrix} 11u^{17} - 8u^{16} + \dots - 10u + 19 \\ -2u^{17} + 8u^{16} + \dots - 12u + 4 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} -12u^{17} + 17u^{16} + \dots + 4u - 11 \\ u^{16} + 4u^{14} + \dots + 2u + 5 \end{pmatrix} \\ a_6 &= \begin{pmatrix} 19u^{17} - 56u^{16} + \dots + 94u - 30 \\ 19u^{17} - 41u^{16} + \dots + 58u - 13 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 35u^{17} - 51u^{16} + \dots + 16u + 31 \\ 9u^{17} - 10u^{16} + \dots - 7u + 10 \end{pmatrix} \end{aligned}$$

(ii) **Obstruction class = 1**

(iii) **Cusp Shapes**

$$= -116u^{17} + 218u^{16} - 732u^{15} + 1098u^{14} - 2099u^{13} + 3132u^{12} - 4657u^{11} + 6171u^{10} - 6988u^9 + 6776u^8 - 6308u^7 + 4541u^6 - 4126u^5 + 2176u^4 - 1742u^3 + 599u^2 - 297u + 39$$

**(iv) u-Polynomials at the component**

Crossings	u-Polynomials at each crossing
$c_1$	$u^{18} - 14u^{17} + \cdots - 11u + 1$
$c_2$	$u^{18} - 7u^{16} + \cdots + u + 1$
$c_3$	$u^{18} + 6u^{16} + \cdots - u + 1$
$c_4$	$u^{18} - 2u^{17} + \cdots - 2u + 1$
$c_5, c_6$	$u^{18} + 11u^{16} + \cdots - 4u + 1$
$c_7$	$u^{18} - 7u^{16} + \cdots - u + 1$
$c_8$	$u^{18} - 2u^{17} + \cdots - 3u + 1$
$c_9$	$u^{18} + 6u^{16} + \cdots + u + 1$
$c_{10}$	$u^{18} + 11u^{16} + \cdots + 4u + 1$
$c_{11}$	$u^{18} - u^{17} + \cdots - 11u^2 + 1$
$c_{12}$	$u^{18} + 2u^{17} + \cdots + 2u + 1$

**(v) Riley Polynomials at the component**

Crossings	Riley Polynomials at each crossing
$c_1$	$y^{18} - 22y^{17} + \cdots + y + 1$
$c_2, c_7$	$y^{18} - 14y^{17} + \cdots - 11y + 1$
$c_3, c_9$	$y^{18} + 12y^{17} + \cdots + 11y + 1$
$c_4, c_{12}$	$y^{18} + 10y^{17} + \cdots + 14y + 1$
$c_5, c_6, c_{10}$	$y^{18} + 22y^{17} + \cdots + 14y + 1$
$c_8$	$y^{18} + 12y^{17} + \cdots + 11y + 1$
$c_{11}$	$y^{18} - y^{17} + \cdots - 22y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.433983 + 1.043760I$		
$a = 1.76917 + 0.06570I$	$2.38044 + 5.58075I$	$-3.29349 - 9.18069I$
$b = -1.10704 + 1.10280I$		
$u = 0.433983 - 1.043760I$		
$a = 1.76917 - 0.06570I$	$2.38044 - 5.58075I$	$-3.29349 + 9.18069I$
$b = -1.10704 - 1.10280I$		
$u = 1.109000 + 0.375523I$		
$a = -0.336175 - 0.040796I$	$4.68841 - 1.16029I$	$1.77241 + 1.34126I$
$b = -0.330973 - 0.824788I$		
$u = 1.109000 - 0.375523I$		
$a = -0.336175 + 0.040796I$	$4.68841 + 1.16029I$	$1.77241 - 1.34126I$
$b = -0.330973 + 0.824788I$		
$u = -0.527284 + 0.639053I$		
$a = -1.03264 + 2.28395I$	$-2.36972 - 4.87568I$	$-7.53244 + 9.08177I$
$b = 0.542663 + 0.578885I$		
$u = -0.527284 - 0.639053I$		
$a = -1.03264 - 2.28395I$	$-2.36972 + 4.87568I$	$-7.53244 - 9.08177I$
$b = 0.542663 - 0.578885I$		
$u = 0.030219 + 0.770891I$		
$a = 0.89608 - 1.10632I$	$8.30714 - 1.03793I$	$-7.10521 - 1.06063I$
$b = -0.275066 - 1.229750I$		
$u = 0.030219 - 0.770891I$		
$a = 0.89608 + 1.10632I$	$8.30714 + 1.03793I$	$-7.10521 + 1.06063I$
$b = -0.275066 + 1.229750I$		
$u = 0.441547 + 1.178770I$		
$a = -1.208310 + 0.169945I$	$-1.27644 + 3.83272I$	$-8.04046 - 6.78992I$
$b = 0.835779 - 0.722556I$		
$u = 0.441547 - 1.178770I$		
$a = -1.208310 - 0.169945I$	$-1.27644 - 3.83272I$	$-8.04046 + 6.78992I$
$b = 0.835779 + 0.722556I$		

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.090717 + 0.687766I$		
$a = -0.811399 - 0.398978I$	$1.34686 - 1.58107I$	$-12.80363 + 3.25466I$
$b = 0.37619 + 1.36678I$		
$u = 0.090717 - 0.687766I$		
$a = -0.811399 + 0.398978I$	$1.34686 + 1.58107I$	$-12.80363 - 3.25466I$
$b = 0.37619 - 1.36678I$		
$u = 0.186640 + 0.604958I$		
$a = 0.03137 + 1.98200I$	$4.32414 - 2.28815I$	$0.92523 + 2.22693I$
$b = -0.47824 - 1.53175I$		
$u = 0.186640 - 0.604958I$		
$a = 0.03137 - 1.98200I$	$4.32414 + 2.28815I$	$0.92523 - 2.22693I$
$b = -0.47824 + 1.53175I$		
$u = -0.93428 + 1.11326I$		
$a = 0.409560 - 0.526106I$	$-5.08793 - 1.14055I$	$-13.57284 + 0.84904I$
$b = -0.240017 - 0.368514I$		
$u = -0.93428 - 1.11326I$		
$a = 0.409560 + 0.526106I$	$-5.08793 + 1.14055I$	$-13.57284 - 0.84904I$
$b = -0.240017 + 0.368514I$		
$u = 0.16946 + 1.46145I$		
$a = 0.282355 - 0.799726I$	$5.78138 + 1.58656I$	$-4.84957 - 7.40440I$
$b = -0.323299 + 0.565718I$		
$u = 0.16946 - 1.46145I$		
$a = 0.282355 + 0.799726I$	$5.78138 - 1.58656I$	$-4.84957 + 7.40440I$
$b = -0.323299 - 0.565718I$		

### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^{18} - 14u^{17} + \dots - 11u + 1)$ $\cdot (u^{54} + 57u^{53} + \dots + 4309293u + 130321)$
$c_2$	$(u^{18} - 7u^{16} + \dots + u + 1)(u^{54} + u^{53} + \dots + 1811u - 361)$
$c_3$	$(u^{18} + 6u^{16} + \dots - u + 1)(u^{54} - u^{53} + \dots - 171u - 37)$
$c_4$	$(u^{18} - 2u^{17} + \dots - 2u + 1)(u^{54} + 5u^{53} + \dots + 528u + 49)$
$c_5, c_6$	$(u^{18} + 11u^{16} + \dots - 4u + 1)(u^{54} + u^{53} + \dots + 146u - 143)$
$c_7$	$(u^{18} - 7u^{16} + \dots - u + 1)(u^{54} + u^{53} + \dots + 1811u - 361)$
$c_8$	$(u^{18} - 2u^{17} + \dots - 3u + 1)(u^{54} + 3u^{53} + \dots - 53u - 11)$
$c_9$	$(u^{18} + 6u^{16} + \dots + u + 1)(u^{54} - u^{53} + \dots - 171u - 37)$
$c_{10}$	$(u^{18} + 11u^{16} + \dots + 4u + 1)(u^{54} + u^{53} + \dots + 146u - 143)$
$c_{11}$	$(u^{18} - u^{17} + \dots - 11u^2 + 1)(u^{54} - 6u^{52} + \dots - 2734u + 439)$
$c_{12}$	$(u^{18} + 2u^{17} + \dots + 2u + 1)(u^{54} + 5u^{53} + \dots + 528u + 49)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1$	$(y^{18} - 22y^{17} + \dots + y + 1)$ $\cdot (y^{54} - 121y^{53} + \dots + 1173617520891y + 16983563041)$
$c_2, c_7$	$(y^{18} - 14y^{17} + \dots - 11y + 1)$ $\cdot (y^{54} - 57y^{53} + \dots - 4309293y + 130321)$
$c_3, c_9$	$(y^{18} + 12y^{17} + \dots + 11y + 1)(y^{54} - 3y^{53} + \dots - 82743y + 1369)$
$c_4, c_{12}$	$(y^{18} + 10y^{17} + \dots + 14y + 1)(y^{54} + 43y^{53} + \dots - 40056y + 2401)$
$c_5, c_6, c_{10}$	$(y^{18} + 22y^{17} + \dots + 14y + 1)(y^{54} + 43y^{53} + \dots + 236656y + 20449)$
$c_8$	$(y^{18} + 12y^{17} + \dots + 11y + 1)(y^{54} + 17y^{53} + \dots + 1393y + 121)$
$c_{11}$	$(y^{18} - y^{17} + \dots - 22y + 1)(y^{54} - 12y^{53} + \dots - 2068032y + 192721)$