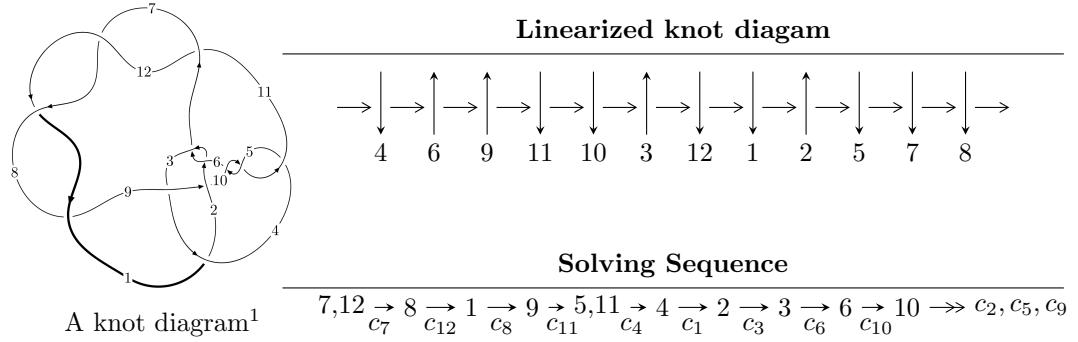


$12a_{0926}$  ( $K12a_{0926}$ )



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

$$I_1^u = \langle 8.47533 \times 10^{71} u^{79} + 3.31160 \times 10^{71} u^{78} + \dots + 2.05866 \times 10^{72} b - 2.65713 \times 10^{72},$$

$$- 7.84336 \times 10^{72} u^{79} - 1.83623 \times 10^{73} u^{78} + \dots + 1.85280 \times 10^{73} a - 1.38382 \times 10^{73}, u^{80} + u^{79} + \dots + 2u +$$

$$I_2^u = \langle -u^{15} - 2u^{14} + \dots + b + 2, 2u^{16} - 3u^{15} + \dots + a + 8, u^{17} - 11u^{15} + \dots + 2u + 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 97 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.

I.

$$I_1^u = \langle 8.48 \times 10^{71} u^{79} + 3.31 \times 10^{71} u^{78} + \dots + 2.06 \times 10^{72} b - 2.66 \times 10^{72}, -7.84 \times 10^{72} u^{79} - 1.84 \times 10^{73} u^{78} + \dots + 1.85 \times 10^{73} a - 1.38 \times 10^{73}, u^{80} + u^{79} + \dots + 2u + 1 \rangle$$

(i) **Arc colorings**

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

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

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

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

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.423326u^{79} + 0.991058u^{78} + \dots - 9.58238u + 0.746882 \\ -0.411691u^{79} - 0.160862u^{78} + \dots - 1.54970u + 1.29071 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.609160u^{79} + 0.709751u^{78} + \dots - 8.11356u + 1.06379 \\ -0.225856u^{79} - 0.442169u^{78} + \dots - 0.0808800u + 1.60761 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.652505u^{79} + 1.32207u^{78} + \dots - 10.5607u + 0.0192152 \\ -0.943472u^{79} + 0.111525u^{78} + \dots - 3.28103u + 0.0878461 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.862772u^{79} + 0.642394u^{78} + \dots - 7.88631u + 0.131545 \\ 0.0159171u^{79} - 0.185399u^{78} + \dots - 0.538693u + 1.44431 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.11988u^{79} + 0.492728u^{78} + \dots - 4.34134u + 2.80234 \\ 0.596804u^{79} + 0.790725u^{78} + \dots - 2.03464u + 1.22731 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.19980u^{79} - 0.534214u^{78} + \dots + 5.11355u - 0.488944 \\ -1.56332u^{79} + 0.378993u^{78} + \dots + 3.09382u - 0.595903 \end{pmatrix}$$

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

(iii) **Cusp Shapes** =  $0.629075u^{79} + 3.23575u^{78} + \dots - 28.6021u + 0.810717$

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

Crossings	u-Polynomials at each crossing
$c_1$	$u^{80} - 13u^{79} + \cdots + 1636u - 233$
$c_2, c_6$	$u^{80} - 31u^{78} + \cdots + 4811u - 917$
$c_3$	$u^{80} - u^{79} + \cdots + 55u - 43$
$c_4, c_5, c_{10}$	$u^{80} - u^{79} + \cdots - 26u + 1$
$c_7, c_8, c_{11}$ $c_{12}$	$u^{80} - u^{79} + \cdots - 2u + 1$
$c_9$	$u^{80} + 2u^{79} + \cdots + 105006u + 58531$

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

Crossings	Riley Polynomials at each crossing
$c_1$	$y^{80} - 9y^{79} + \cdots - 1784106y + 54289$
$c_2, c_6$	$y^{80} - 62y^{79} + \cdots - 33892961y + 840889$
$c_3$	$y^{80} + 11y^{79} + \cdots + 14347y + 1849$
$c_4, c_5, c_{10}$	$y^{80} + 83y^{79} + \cdots - 450y + 1$
$c_7, c_8, c_{11}$ $c_{12}$	$y^{80} - 95y^{79} + \cdots - 28y + 1$
$c_9$	$y^{80} - 34y^{79} + \cdots - 99189866468y + 3425877961$

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

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.897708 + 0.453066I$		
$a = 0.53900 + 1.82561I$	$2.78959 + 1.45843I$	0
$b = 1.167400 + 0.634500I$		
$u = -0.897708 - 0.453066I$		
$a = 0.53900 - 1.82561I$	$2.78959 - 1.45843I$	0
$b = 1.167400 - 0.634500I$		
$u = 0.762672 + 0.629552I$		
$a = -1.12215 + 1.68586I$	$7.9204 - 12.3069I$	0
$b = -2.34369 + 0.66567I$		
$u = 0.762672 - 0.629552I$		
$a = -1.12215 - 1.68586I$	$7.9204 + 12.3069I$	0
$b = -2.34369 - 0.66567I$		
$u = -0.572465 + 0.750938I$		
$a = -1.17173 - 1.57864I$	$3.67383 + 2.53720I$	0
$b = -2.37823 - 0.70667I$		
$u = -0.572465 - 0.750938I$		
$a = -1.17173 + 1.57864I$	$3.67383 - 2.53720I$	0
$b = -2.37823 + 0.70667I$		
$u = -0.773820 + 0.517620I$		
$a = -0.269244 + 0.677104I$	$1.07794 + 8.21292I$	0
$b = 0.802233 + 0.675829I$		
$u = -0.773820 - 0.517620I$		
$a = -0.269244 - 0.677104I$	$1.07794 - 8.21292I$	0
$b = 0.802233 - 0.675829I$		
$u = 0.791077 + 0.464930I$		
$a = 1.14601 - 1.43541I$	$3.22885 - 5.95807I$	0
$b = 2.08530 - 0.15769I$		
$u = 0.791077 - 0.464930I$		
$a = 1.14601 + 1.43541I$	$3.22885 + 5.95807I$	0
$b = 2.08530 + 0.15769I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.031290 + 0.352939I$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	
$a = 0.585092 - 0.011311I$	$-0.394182 + 0.525357I$	0
$b = 0.168013 + 0.347384I$		
$u = 1.031290 - 0.352939I$		
$a = 0.585092 + 0.011311I$	$-0.394182 - 0.525357I$	0
$b = 0.168013 - 0.347384I$		
$u = -0.614673 + 0.600907I$		
$a = 0.57482 + 1.46306I$	$2.17329 + 2.14394I$	0
$b = 1.64181 + 0.64625I$		
$u = -0.614673 - 0.600907I$		
$a = 0.57482 - 1.46306I$	$2.17329 - 2.14394I$	0
$b = 1.64181 - 0.64625I$		
$u = 0.627888 + 0.556081I$		
$a = 0.241217 - 0.178544I$	$-1.22309 - 1.89098I$	0
$b = 0.438984 - 0.279024I$		
$u = 0.627888 - 0.556081I$		
$a = 0.241217 + 0.178544I$	$-1.22309 + 1.89098I$	0
$b = 0.438984 + 0.279024I$		
$u = 0.215373 + 0.805835I$		
$a = -0.456300 + 1.014000I$	$9.58477 + 7.55429I$	0
$b = -2.12939 + 0.26584I$		
$u = 0.215373 - 0.805835I$		
$a = -0.456300 - 1.014000I$	$9.58477 - 7.55429I$	0
$b = -2.12939 - 0.26584I$		
$u = -0.746808 + 0.334933I$		
$a = -0.118659 - 0.117796I$	$-2.53049 + 3.60833I$	$-9.69090 - 7.89703I$
$b = -0.864888 - 0.020645I$		
$u = -0.746808 - 0.334933I$		
$a = -0.118659 + 0.117796I$	$-2.53049 - 3.60833I$	$-9.69090 + 7.89703I$
$b = -0.864888 + 0.020645I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.691584 + 0.363567I$		
$a = 0.90879 - 1.21008I$	$1.17370 - 2.56864I$	$-1.56142 + 6.00737I$
$b = 0.282684 + 0.028990I$		
$u = 0.691584 - 0.363567I$		
$a = 0.90879 + 1.21008I$	$1.17370 + 2.56864I$	$-1.56142 - 6.00737I$
$b = 0.282684 - 0.028990I$		
$u = -0.628233 + 0.302083I$		
$a = 0.05350 + 1.67415I$	$1.38631 + 2.18514I$	$-0.53306 - 7.27019I$
$b = 0.754684 + 1.015830I$		
$u = -0.628233 - 0.302083I$		
$a = 0.05350 - 1.67415I$	$1.38631 - 2.18514I$	$-0.53306 + 7.27019I$
$b = 0.754684 - 1.015830I$		
$u = -0.108684 + 0.688204I$		
$a = -0.071269 + 0.542015I$	$3.07552 - 4.18485I$	$-0.43694 + 5.65022I$
$b = 0.468950 - 0.513867I$		
$u = -0.108684 - 0.688204I$		
$a = -0.071269 - 0.542015I$	$3.07552 + 4.18485I$	$-0.43694 - 5.65022I$
$b = 0.468950 + 0.513867I$		
$u = -1.258050 + 0.418420I$		
$a = -1.03868 - 2.32084I$	$5.06105 - 3.22792I$	0
$b = -1.23958 - 1.24602I$		
$u = -1.258050 - 0.418420I$		
$a = -1.03868 + 2.32084I$	$5.06105 + 3.22792I$	0
$b = -1.23958 + 1.24602I$		
$u = 0.667781$		
$a = 0.487700$	-1.04488	-9.73780
$b = -0.209816$		
$u = 0.025531 + 0.645716I$		
$a = -0.600777 - 0.451263I$	$5.51085 + 2.26331I$	$0.63689 - 2.84719I$
$b = 1.62555 - 0.26182I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.025531 - 0.645716I$		
$a = -0.600777 + 0.451263I$	$5.51085 - 2.26331I$	$0.63689 + 2.84719I$
$b = 1.62555 + 0.26182I$		
$u = -0.525952 + 0.362720I$		
$a = 0.05531 - 1.50930I$	$8.70489 + 4.16019I$	$0.88771 - 7.52875I$
$b = -1.71229 + 0.18267I$		
$u = -0.525952 - 0.362720I$		
$a = 0.05531 + 1.50930I$	$8.70489 - 4.16019I$	$0.88771 + 7.52875I$
$b = -1.71229 - 0.18267I$		
$u = 0.543476 + 0.317534I$		
$a = -1.50383 + 1.71269I$	$8.35841 + 1.11561I$	$1.24449 + 2.28226I$
$b = -2.59856 - 0.33649I$		
$u = 0.543476 - 0.317534I$		
$a = -1.50383 - 1.71269I$	$8.35841 - 1.11561I$	$1.24449 - 2.28226I$
$b = -2.59856 + 0.33649I$		
$u = 0.584085 + 0.142445I$		
$a = 0.41745 + 1.57646I$	$-1.244310 - 0.535370I$	$-8.05750 - 1.18114I$
$b = 0.582932 + 0.172246I$		
$u = 0.584085 - 0.142445I$		
$a = 0.41745 - 1.57646I$	$-1.244310 + 0.535370I$	$-8.05750 + 1.18114I$
$b = 0.582932 - 0.172246I$		
$u = -0.440351 + 0.339228I$		
$a = 0.44794 - 3.10571I$	$8.97976 - 1.56779I$	$1.41507 - 3.29338I$
$b = -1.032530 - 0.547736I$		
$u = -0.440351 - 0.339228I$		
$a = 0.44794 + 3.10571I$	$8.97976 + 1.56779I$	$1.41507 + 3.29338I$
$b = -1.032530 + 0.547736I$		
$u = 0.451812 + 0.285869I$		
$a = 0.01425 + 4.02316I$	$8.66848 - 3.38611I$	$1.93467 + 10.61768I$
$b = -1.66425 + 1.64707I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.451812 - 0.285869I$		
$a = 0.01425 - 4.02316I$	$8.66848 + 3.38611I$	$1.93467 - 10.61768I$
$b = -1.66425 - 1.64707I$		
$u = -1.53404$		
$a = 0.842388$	$-3.33210$	0
$b = 1.58111$		
$u = 1.54067 + 0.06449I$		
$a = -0.37763 + 2.51075I$	$2.23015 + 0.29285I$	0
$b = -0.31465 + 1.39016I$		
$u = 1.54067 - 0.06449I$		
$a = -0.37763 - 2.51075I$	$2.23015 - 0.29285I$	0
$b = -0.31465 - 1.39016I$		
$u = 1.54920$		
$a = 2.83820$	$-3.72894$	0
$b = 2.87076$		
$u = -1.55170 + 0.05496I$		
$a = -1.03030 - 4.23683I$	$1.77758 + 4.46121I$	0
$b = -1.11321 - 3.21040I$		
$u = -1.55170 - 0.05496I$		
$a = -1.03030 + 4.23683I$	$1.77758 - 4.46121I$	0
$b = -1.11321 + 3.21040I$		
$u = 1.55602 + 0.08523I$		
$a = -1.59620 + 1.17492I$	$1.62886 - 5.69662I$	0
$b = -1.93007 + 0.24131I$		
$u = 1.55602 - 0.08523I$		
$a = -1.59620 - 1.17492I$	$1.62886 + 5.69662I$	0
$b = -1.93007 - 0.24131I$		
$u = -1.56802 + 0.07630I$		
$a = -3.14350 - 1.53675I$	$1.127770 + 0.244515I$	0
$b = -3.19753 - 0.64428I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.56802 - 0.07630I$		
$a = -3.14350 + 1.53675I$	$1.127770 - 0.244515I$	0
$b = -3.19753 + 0.64428I$		
$u = -1.59242 + 0.04099I$		
$a = 0.916576 - 0.936210I$	$-8.83047 + 1.21032I$	0
$b = 1.207410 - 0.346945I$		
$u = -1.59242 - 0.04099I$		
$a = 0.916576 + 0.936210I$	$-8.83047 - 1.21032I$	0
$b = 1.207410 + 0.346945I$		
$u = 1.57711 + 0.23413I$		
$a = -1.76969 + 2.79741I$	$-3.46792 - 6.14781I$	0
$b = -1.96908 + 1.92097I$		
$u = 1.57711 - 0.23413I$		
$a = -1.76969 - 2.79741I$	$-3.46792 + 6.14781I$	0
$b = -1.96908 - 1.92097I$		
$u = -1.60772 + 0.10277I$		
$a = 0.253216 + 0.532374I$	$-6.70981 + 4.30334I$	0
$b = -0.334162 + 0.016794I$		
$u = -1.60772 - 0.10277I$		
$a = 0.253216 - 0.532374I$	$-6.70981 - 4.30334I$	0
$b = -0.334162 - 0.016794I$		
$u = 1.60492 + 0.15465I$		
$a = 1.25630 - 2.19459I$	$-5.44265 - 4.83428I$	0
$b = 1.57461 - 1.42887I$		
$u = 1.60492 - 0.15465I$		
$a = 1.25630 + 2.19459I$	$-5.44265 + 4.83428I$	0
$b = 1.57461 + 1.42887I$		
$u = -1.60845 + 0.16253I$		
$a = 0.646490 + 0.754251I$	$-8.88074 + 4.56754I$	0
$b = 0.864116 + 0.652647I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.60845 - 0.16253I$		
$a = 0.646490 - 0.754251I$	$-8.88074 - 4.56754I$	0
$b = 0.864116 - 0.652647I$		
$u = 1.61690 + 0.05351I$		
$a = 0.24899 - 1.71195I$	$-6.36499 - 3.34102I$	0
$b = 0.390593 - 1.173160I$		
$u = 1.61690 - 0.05351I$		
$a = 0.24899 + 1.71195I$	$-6.36499 + 3.34102I$	0
$b = 0.390593 + 1.173160I$		
$u = 0.048314 + 0.376770I$		
$a = 0.950830 - 0.770511I$	$-0.321687 - 1.099740I$	$-5.16173 + 5.57656I$
$b = -0.125377 - 0.125502I$		
$u = 0.048314 - 0.376770I$		
$a = 0.950830 + 0.770511I$	$-0.321687 + 1.099740I$	$-5.16173 - 5.57656I$
$b = -0.125377 + 0.125502I$		
$u = 1.62240 + 0.09388I$		
$a = -1.104360 + 0.436109I$	$-10.67900 - 5.22234I$	0
$b = -1.51382 + 0.28264I$		
$u = 1.62240 - 0.09388I$		
$a = -1.104360 - 0.436109I$	$-10.67900 + 5.22234I$	0
$b = -1.51382 - 0.28264I$		
$u = 1.62969 + 0.14995I$		
$a = 0.541795 - 1.239540I$	$-7.10233 - 10.73870I$	0
$b = 1.15132 - 0.94374I$		
$u = 1.62969 - 0.14995I$		
$a = 0.541795 + 1.239540I$	$-7.10233 + 10.73870I$	0
$b = 1.15132 + 0.94374I$		
$u = -1.63362 + 0.13334I$		
$a = 2.28386 + 1.66716I$	$-5.05567 + 8.23073I$	0
$b = 2.48020 + 0.79917I$		

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.63362 - 0.13334I$		
$a = 2.28386 - 1.66716I$	$-5.05567 - 8.23073I$	0
$b = 2.48020 - 0.79917I$		
$u = -1.62892 + 0.19087I$		
$a = -2.01228 - 2.42364I$	$-0.1459 + 15.4160I$	0
$b = -2.32487 - 1.49521I$		
$u = -1.62892 - 0.19087I$		
$a = -2.01228 + 2.42364I$	$-0.1459 - 15.4160I$	0
$b = -2.32487 + 1.49521I$		
$u = -1.63946 + 0.05983I$		
$a = -0.195978 - 0.314649I$	$-9.50437 + 0.48404I$	0
$b = -0.688340 - 0.308411I$		
$u = -1.63946 - 0.05983I$		
$a = -0.195978 + 0.314649I$	$-9.50437 - 0.48404I$	0
$b = -0.688340 + 0.308411I$		
$u = 1.66283 + 0.06492I$		
$a = 0.25223 - 1.51301I$	$-6.30175 - 3.30209I$	0
$b = 0.344862 - 0.827753I$		
$u = 1.66283 - 0.06492I$		
$a = 0.25223 + 1.51301I$	$-6.30175 + 3.30209I$	0
$b = 0.344862 + 0.827753I$		
$u = 0.052852 + 0.256538I$		
$a = -0.31946 + 1.98144I$	$2.82618 + 0.04932I$	$4.47353 + 1.03862I$
$b = 1.096280 - 0.155665I$		
$u = 0.052852 - 0.256538I$		
$a = -0.31946 - 1.98144I$	$2.82618 - 0.04932I$	$4.47353 - 1.03862I$
$b = 1.096280 + 0.155665I$		
$u = -0.161841$		
$a = 3.96844$	2.81287	8.31090
$b = 1.45110$		

$$I_2^u = \langle -u^{15} - 2u^{14} + \dots + b + 2, \ 2u^{16} - 3u^{15} + \dots + a + 8, \ u^{17} - 11u^{15} + \dots + 2u + 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_7 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_8 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_1 &= \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix} \\ a_9 &= \begin{pmatrix} -u^2 + 1 \\ -u^4 + 2u^2 \end{pmatrix} \\ a_5 &= \begin{pmatrix} -2u^{16} + 3u^{15} + \dots - u - 8 \\ u^{15} + 2u^{14} + \dots + 5u - 2 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} u \\ u \end{pmatrix} \\ a_4 &= \begin{pmatrix} -2u^{16} + u^{15} + \dots + u - 6 \\ -u^{15} + u^{14} + \dots + 2u^2 + 7u \end{pmatrix} \\ a_2 &= \begin{pmatrix} -2u^{15} - 3u^{14} + \dots + 9u + 1 \\ -u^{15} - 3u^{14} + \dots - 3u + 3 \end{pmatrix} \\ a_3 &= \begin{pmatrix} -2u^{16} + 2u^{15} + \dots - 3u - 7 \\ u^{14} - 9u^{12} + \dots + 5u - 1 \end{pmatrix} \\ a_6 &= \begin{pmatrix} 3u^{16} - 3u^{15} + \dots + 4u + 8 \\ -u^{15} - u^{14} + \dots + u + 4 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -2u^{14} - u^{13} + \dots - 12u + 6 \\ -2u^{16} + 20u^{14} + \dots - 2u - 3 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = 1

$$(iii) \text{ Cusp Shapes} = 2u^{16} + 2u^{15} - 23u^{14} - 22u^{13} + 104u^{12} + 101u^{11} - 231u^{10} - 248u^9 + 256u^8 + 348u^7 - 128u^6 - 281u^5 + 25u^4 + 131u^3 + u^2 - 31u - 10$$

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

Crossings	u-Polynomials at each crossing
$c_1$	$u^{17} - 6u^{14} + \cdots - 9u^2 + 1$
$c_2$	$u^{17} - 3u^{16} + \cdots - 3u + 1$
$c_3$	$u^{17} - 2u^{14} + \cdots + u + 1$
$c_4, c_5$	$u^{17} + 10u^{15} + \cdots - 2u + 1$
$c_6$	$u^{17} + 3u^{16} + \cdots - 3u - 1$
$c_7, c_8$	$u^{17} - 11u^{15} + \cdots + 2u + 1$
$c_9$	$u^{17} + u^{16} + \cdots - 2u^3 + 1$
$c_{10}$	$u^{17} + 10u^{15} + \cdots - 2u - 1$
$c_{11}, c_{12}$	$u^{17} - 11u^{15} + \cdots + 2u - 1$

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

Crossings	Riley Polynomials at each crossing
$c_1$	$y^{17} + 12y^{15} + \cdots + 18y - 1$
$c_2, c_6$	$y^{17} - 17y^{16} + \cdots + 13y - 1$
$c_3$	$y^{17} - 6y^{15} + \cdots + y - 1$
$c_4, c_5, c_{10}$	$y^{17} + 20y^{16} + \cdots + 2y - 1$
$c_7, c_8, c_{11}$ $c_{12}$	$y^{17} - 22y^{16} + \cdots + 24y - 1$
$c_9$	$y^{17} - y^{16} + \cdots + 6y^2 - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.626313 + 0.713258I$ $a = 0.91659 + 1.38681I$ $b = 1.91813 + 0.62490I$	$1.57585 + 2.47208I$	$-8.54955 - 6.13183I$
$u = -0.626313 - 0.713258I$ $a = 0.91659 - 1.38681I$ $b = 1.91813 - 0.62490I$	$1.57585 - 2.47208I$	$-8.54955 + 6.13183I$
$u = 1.08998$ $a = 1.11293$ $b = 0.782217$	0.325751	0.134820
$u = -1.176760 + 0.114364I$ $a = -0.98628 - 2.29232I$ $b = -1.00098 - 1.03467I$	$5.70880 - 1.80135I$	$-1.122547 + 0.188747I$
$u = -1.176760 - 0.114364I$ $a = -0.98628 + 2.29232I$ $b = -1.00098 + 1.03467I$	$5.70880 + 1.80135I$	$-1.122547 - 0.188747I$
$u = 0.612949 + 0.407051I$ $a = -0.106942 - 0.820564I$ $b = 0.1137180 - 0.0132110I$	$-0.62429 - 1.48809I$	$-2.11165 + 3.17907I$
$u = 0.612949 - 0.407051I$ $a = -0.106942 + 0.820564I$ $b = 0.1137180 + 0.0132110I$	$-0.62429 + 1.48809I$	$-2.11165 - 3.17907I$
$u = 1.54436 + 0.03744I$ $a = -1.77826 + 3.02855I$ $b = -1.90520 + 1.99564I$	$1.80124 - 3.29346I$	$-2.09053 + 0.51086I$
$u = 1.54436 - 0.03744I$ $a = -1.77826 - 3.02855I$ $b = -1.90520 - 1.99564I$	$1.80124 + 3.29346I$	$-2.09053 - 0.51086I$
$u = -1.55895$ $a = 1.77390$ $b = 2.22323$	-4.45563	-10.3540

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.404142$		
$a = 0.0659620$	2.46717	-15.9350
$b = 1.52397$		
$u = -1.60556 + 0.10472I$		
$a = -0.217995 + 0.537820I$	$-8.33054 + 3.31829I$	$-7.24383 - 1.36502I$
$b = -0.453815 + 0.128688I$		
$u = -1.60556 - 0.10472I$		
$a = -0.217995 - 0.537820I$	$-8.33054 - 3.31829I$	$-7.24383 + 1.36502I$
$b = -0.453815 - 0.128688I$		
$u = 1.62171 + 0.18775I$		
$a = 1.43333 - 2.04334I$	$-6.10698 - 5.75541I$	$-6.89335 + 5.66580I$
$b = 1.66112 - 1.31589I$		
$u = 1.62171 - 0.18775I$		
$a = 1.43333 + 2.04334I$	$-6.10698 + 5.75541I$	$-6.89335 - 5.66580I$
$b = 1.66112 + 1.31589I$		
$u = -0.337973 + 0.124397I$		
$a = 0.26316 - 4.67596I$	$8.45221 + 2.71521I$	$-2.41151 - 0.31079I$
$b = -1.59769 - 0.76708I$		
$u = -0.337973 - 0.124397I$		
$a = 0.26316 + 4.67596I$	$8.45221 - 2.71521I$	$-2.41151 + 0.31079I$
$b = -1.59769 + 0.76708I$		

### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$(u^{17} - 6u^{14} + \dots - 9u^2 + 1)(u^{80} - 13u^{79} + \dots + 1636u - 233)$
$c_2$	$(u^{17} - 3u^{16} + \dots - 3u + 1)(u^{80} - 31u^{78} + \dots + 4811u - 917)$
$c_3$	$(u^{17} - 2u^{14} + \dots + u + 1)(u^{80} - u^{79} + \dots + 55u - 43)$
$c_4, c_5$	$(u^{17} + 10u^{15} + \dots - 2u + 1)(u^{80} - u^{79} + \dots - 26u + 1)$
$c_6$	$(u^{17} + 3u^{16} + \dots - 3u - 1)(u^{80} - 31u^{78} + \dots + 4811u - 917)$
$c_7, c_8$	$(u^{17} - 11u^{15} + \dots + 2u + 1)(u^{80} - u^{79} + \dots - 2u + 1)$
$c_9$	$(u^{17} + u^{16} + \dots - 2u^3 + 1)(u^{80} + 2u^{79} + \dots + 105006u + 58531)$
$c_{10}$	$(u^{17} + 10u^{15} + \dots - 2u - 1)(u^{80} - u^{79} + \dots - 26u + 1)$
$c_{11}, c_{12}$	$(u^{17} - 11u^{15} + \dots + 2u - 1)(u^{80} - u^{79} + \dots - 2u + 1)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1$	$(y^{17} + 12y^{15} + \dots + 18y - 1)(y^{80} - 9y^{79} + \dots - 1784106y + 54289)$
$c_2, c_6$	$(y^{17} - 17y^{16} + \dots + 13y - 1)$ $\cdot (y^{80} - 62y^{79} + \dots - 33892961y + 840889)$
$c_3$	$(y^{17} - 6y^{15} + \dots + y - 1)(y^{80} + 11y^{79} + \dots + 14347y + 1849)$
$c_4, c_5, c_{10}$	$(y^{17} + 20y^{16} + \dots + 2y - 1)(y^{80} + 83y^{79} + \dots - 450y + 1)$
$c_7, c_8, c_{11}$ $c_{12}$	$(y^{17} - 22y^{16} + \dots + 24y - 1)(y^{80} - 95y^{79} + \dots - 28y + 1)$
$c_9$	$(y^{17} - y^{16} + \dots + 6y^2 - 1)$ $\cdot (y^{80} - 34y^{79} + \dots - 99189866468y + 3425877961)$