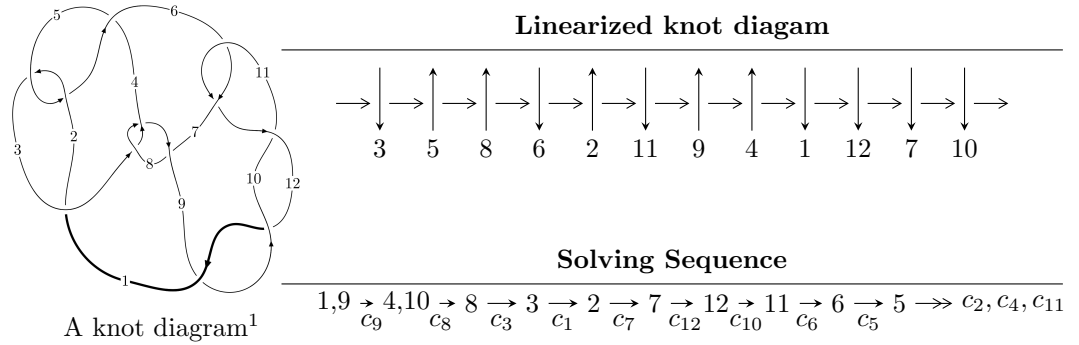


12a<sub>0130</sub> (K12a<sub>0130</sub>)



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

$$I_1^u = \langle 1.71551 \times 10^{48} u^{81} - 3.44735 \times 10^{49} u^{80} + \dots + 8.87210 \times 10^{48} b + 2.83258 \times 10^{48}, \\ 2.41231 \times 10^{48} u^{81} - 5.91476 \times 10^{49} u^{80} + \dots + 1.77442 \times 10^{49} a - 5.95155 \times 10^{49}, u^{82} - 21u^{81} + \dots - 6u + \\ I_2^u = \langle b, u^2 a + a^2 - au + 2u^2 + 2a - u + 3, u^3 - u^2 + 2u - 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 88 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.

$$\text{I. } I_1^u = \langle 1.72 \times 10^{48} u^{81} - 3.45 \times 10^{49} u^{80} + \dots + 8.87 \times 10^{48} b + 2.83 \times 10^{48}, 2.41 \times 10^{48} u^{81} - 5.91 \times 10^{49} u^{80} + \dots + 1.77 \times 10^{49} a - 5.95 \times 10^{49}, u^{82} - 21u^{81} + \dots - 6u + 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_1 &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_9 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_4 &= \begin{pmatrix} -0.135949u^{81} + 3.33335u^{80} + \dots - 14.6043u + 3.35408 \\ -0.193360u^{81} + 3.88560u^{80} + \dots - 1.25258u - 0.319268 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_8 &= \begin{pmatrix} 0.279029u^{81} - 5.76662u^{80} + \dots - 2.69338u - 0.263304 \\ 0.124157u^{81} - 2.30644u^{80} + \dots + 0.756435u - 0.180204 \end{pmatrix} \\ a_3 &= \begin{pmatrix} 0.423190u^{81} - 8.54849u^{80} + \dots - 15.2890u + 3.49093 \\ 0.112206u^{81} - 2.46762u^{80} + \dots - 4.37396u + 0.0898841 \end{pmatrix} \\ a_2 &= \begin{pmatrix} -1.77927u^{81} + 36.7421u^{80} + \dots - 25.6185u + 3.03635 \\ -0.339356u^{81} + 7.17752u^{80} + \dots - 1.91577u + 0.353373 \end{pmatrix} \\ a_7 &= \begin{pmatrix} 0.154872u^{81} - 3.46018u^{80} + \dots - 3.44981u - 0.0831007 \\ 0.124157u^{81} - 2.30644u^{80} + \dots + 0.756435u - 0.180204 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} u \\ u^3 + u \end{pmatrix} \\ a_{11} &= \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix} \\ a_6 &= \begin{pmatrix} -0.180204u^{81} + 3.66012u^{80} + \dots - 5.94908u + 0.324786 \\ -0.0929984u^{81} + 2.05540u^{80} + \dots - 1.41087u + 0.279029 \end{pmatrix} \\ a_5 &= \begin{pmatrix} 0.347186u^{81} - 7.10288u^{80} + \dots - 17.9030u + 3.60140 \\ 0.0229512u^{81} - 0.648699u^{80} + \dots - 3.43429u - 0.230274 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes =  $6.00126u^{81} - 124.839u^{80} + \dots + 77.6881u - 11.3348$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1, c_4$	$u^{82} + 28u^{81} + \dots + 17u + 1$
$c_2, c_5$	$u^{82} + 4u^{81} + \dots + u + 1$
$c_3, c_8$	$u^{82} - u^{81} + \dots + 224u + 64$
$c_6, c_{11}$	$u^{82} + 3u^{81} + \dots - 3u^2 + 1$
$c_7$	$u^{82} - 35u^{81} + \dots - 62464u + 4096$
$c_9, c_{10}, c_{12}$	$u^{82} + 21u^{81} + \dots + 6u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1, c_4$	$y^{82} + 56y^{81} + \dots - 247y + 1$
$c_2, c_5$	$y^{82} + 28y^{81} + \dots + 17y + 1$
$c_3, c_8$	$y^{82} - 35y^{81} + \dots - 62464y + 4096$
$c_6, c_{11}$	$y^{82} - 21y^{81} + \dots - 6y + 1$
$c_7$	$y^{82} + 13y^{81} + \dots + 200278016y + 16777216$
$c_9, c_{10}, c_{12}$	$y^{82} + 83y^{81} + \dots + 34y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.966335 + 0.246919I$ $a = -0.915807 - 0.552310I$ $b = -0.932256 - 0.420934I$	$-0.0961212 - 0.0220843I$	0
$u = 0.966335 - 0.246919I$ $a = -0.915807 + 0.552310I$ $b = -0.932256 + 0.420934I$	$-0.0961212 + 0.0220843I$	0
$u = 0.868429 + 0.444440I$ $a = 0.686912 + 0.981827I$ $b = 0.754394 + 0.707664I$	$-5.26651 - 0.17540I$	0
$u = 0.868429 - 0.444440I$ $a = 0.686912 - 0.981827I$ $b = 0.754394 - 0.707664I$	$-5.26651 + 0.17540I$	0
$u = 0.835016 + 0.604230I$ $a = -0.11512 - 1.66139I$ $b = 0.906919 - 0.662661I$	$-4.79650 - 5.41790I$	0
$u = 0.835016 - 0.604230I$ $a = -0.11512 + 1.66139I$ $b = 0.906919 + 0.662661I$	$-4.79650 + 5.41790I$	0
$u = 0.735295 + 0.603136I$ $a = 0.401497 + 1.324250I$ $b = 0.548094 + 0.869830I$	$-1.46626 - 5.79986I$	0
$u = 0.735295 - 0.603136I$ $a = 0.401497 - 1.324250I$ $b = 0.548094 - 0.869830I$	$-1.46626 + 5.79986I$	0
$u = 1.003680 + 0.315252I$ $a = 0.993929 + 0.707315I$ $b = 0.984089 + 0.537506I$	$-0.98184 + 5.34647I$	0
$u = 1.003680 - 0.315252I$ $a = 0.993929 - 0.707315I$ $b = 0.984089 - 0.537506I$	$-0.98184 - 5.34647I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.658324 + 0.598113I$ $a = 0.485356 + 1.246000I$ $b = -0.843150 + 0.470953I$	$-0.30459 - 3.53700I$	0
$u = 0.658324 - 0.598113I$ $a = 0.485356 - 1.246000I$ $b = -0.843150 - 0.470953I$	$-0.30459 + 3.53700I$	0
$u = -0.117177 + 0.876232I$ $a = -0.486743 - 0.492557I$ $b = -1.077990 + 0.309869I$	$4.85512 - 5.44738I$	0
$u = -0.117177 - 0.876232I$ $a = -0.486743 + 0.492557I$ $b = -1.077990 - 0.309869I$	$4.85512 + 5.44738I$	0
$u = 0.838027 + 0.747480I$ $a = -0.18699 + 1.40186I$ $b = -1.077520 + 0.593293I$	$1.35820 - 5.83610I$	0
$u = 0.838027 - 0.747480I$ $a = -0.18699 - 1.40186I$ $b = -1.077520 - 0.593293I$	$1.35820 + 5.83610I$	0
$u = 0.887691 + 0.734910I$ $a = 0.24737 - 1.52308I$ $b = 1.093880 - 0.659857I$	$0.24237 - 11.48170I$	0
$u = 0.887691 - 0.734910I$ $a = 0.24737 + 1.52308I$ $b = 1.093880 + 0.659857I$	$0.24237 + 11.48170I$	0
$u = 0.635956 + 0.545968I$ $a = -0.179327 - 1.211200I$ $b = -0.459141 - 0.788281I$	$-0.506279 - 0.677239I$	0
$u = 0.635956 - 0.545968I$ $a = -0.179327 + 1.211200I$ $b = -0.459141 + 0.788281I$	$-0.506279 + 0.677239I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.715873 + 0.435930I$ $a = -0.80244 - 1.80351I$ $b = 0.675859 - 0.557026I$	$-1.97685 + 0.93597I$	0
$u = 0.715873 - 0.435930I$ $a = -0.80244 + 1.80351I$ $b = 0.675859 + 0.557026I$	$-1.97685 - 0.93597I$	0
$u = -0.146062 + 0.758722I$ $a = 0.421743 + 0.799543I$ $b = 1.107210 - 0.191890I$	$5.29425 + 0.12843I$	0
$u = -0.146062 - 0.758722I$ $a = 0.421743 - 0.799543I$ $b = 1.107210 + 0.191890I$	$5.29425 - 0.12843I$	0
$u = 0.440280 + 1.196460I$ $a = -0.432093 + 0.139176I$ $b = -0.922439 - 0.078807I$	$4.33216 - 5.00431I$	0
$u = 0.440280 - 1.196460I$ $a = -0.432093 - 0.139176I$ $b = -0.922439 + 0.078807I$	$4.33216 + 5.00431I$	0
$u = 0.023208 + 1.284920I$ $a = -0.383313 + 0.281914I$ $b = -0.563238 + 0.690993I$	$1.17539 - 1.44130I$	0
$u = 0.023208 - 1.284920I$ $a = -0.383313 - 0.281914I$ $b = -0.563238 - 0.690993I$	$1.17539 + 1.44130I$	0
$u = 0.438517 + 1.303740I$ $a = 0.520590 + 0.015462I$ $b = 0.902982 + 0.290713I$	$3.99679 + 0.22630I$	0
$u = 0.438517 - 1.303740I$ $a = 0.520590 - 0.015462I$ $b = 0.902982 - 0.290713I$	$3.99679 - 0.22630I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.586540 + 0.193354I$ $a = -0.084170 - 0.399139I$ $b = -0.342644 - 0.399247I$	$-1.308760 - 0.330994I$	0
$u = 0.586540 - 0.193354I$ $a = -0.084170 + 0.399139I$ $b = -0.342644 + 0.399247I$	$-1.308760 + 0.330994I$	0
$u = -0.056956 + 1.397260I$ $a = 0.93185 - 1.30759I$ $b = -1.040060 - 0.573472I$	$2.65572 + 3.44471I$	0
$u = -0.056956 - 1.397260I$ $a = 0.93185 + 1.30759I$ $b = -1.040060 + 0.573472I$	$2.65572 - 3.44471I$	0
$u = 0.172171 + 1.400860I$ $a = -0.008660 - 0.390304I$ $b = -0.043316 - 0.693600I$	$3.77917 - 2.96134I$	0
$u = 0.172171 - 1.400860I$ $a = -0.008660 + 0.390304I$ $b = -0.043316 + 0.693600I$	$3.77917 + 2.96134I$	0
$u = 0.04901 + 1.42040I$ $a = 1.38947 - 0.82694I$ $b = -0.953515 - 0.285513I$	$4.58909 - 3.68918I$	0
$u = 0.04901 - 1.42040I$ $a = 1.38947 + 0.82694I$ $b = -0.953515 + 0.285513I$	$4.58909 + 3.68918I$	0
$u = -0.02690 + 1.43465I$ $a = -0.410227 + 0.611814I$ $b = -0.456620 + 1.092150I$	$5.98206 + 3.30923I$	0
$u = -0.02690 - 1.43465I$ $a = -0.410227 - 0.611814I$ $b = -0.456620 - 1.092150I$	$5.98206 - 3.30923I$	0



Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.12979 + 1.43945I$ $a = 0.57070 - 1.35363I$ $b = -1.216760 - 0.697773I$	$8.43626 + 9.73494I$	0
$u = -0.12979 - 1.43945I$ $a = 0.57070 + 1.35363I$ $b = -1.216760 + 0.697773I$	$8.43626 - 9.73494I$	0
$u = 0.01079 + 1.45064I$ $a = 0.316445 - 0.626909I$ $b = 0.342032 - 1.084310I$	$6.69030 - 2.27941I$	0
$u = 0.01079 - 1.45064I$ $a = 0.316445 + 0.626909I$ $b = 0.342032 + 1.084310I$	$6.69030 + 2.27941I$	0
$u = -0.00942 + 1.45315I$ $a = -0.952194 + 0.918789I$ $b = 1.116400 + 0.390200I$	$7.12609 + 0.70813I$	0
$u = -0.00942 - 1.45315I$ $a = -0.952194 - 0.918789I$ $b = 1.116400 - 0.390200I$	$7.12609 - 0.70813I$	0
$u = -0.10934 + 1.45497I$ $a = -0.587644 + 1.249560I$ $b = 1.233530 + 0.633587I$	$9.57155 + 3.83374I$	0
$u = -0.10934 - 1.45497I$ $a = -0.587644 - 1.249560I$ $b = 1.233530 - 0.633587I$	$9.57155 - 3.83374I$	0
$u = 0.31412 + 1.45604I$ $a = 0.388311 + 0.407195I$ $b = 0.586739 + 0.740171I$	$0.74863 - 4.43752I$	0
$u = 0.31412 - 1.45604I$ $a = 0.388311 - 0.407195I$ $b = 0.586739 - 0.740171I$	$0.74863 + 4.43752I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.444777 + 0.241252I$ $a = -1.29181 - 2.55165I$ $b = -1.116200 - 0.565155I$	$2.90706 + 7.74412I$	$3.19240 - 6.08323I$
$u = -0.444777 - 0.241252I$ $a = -1.29181 + 2.55165I$ $b = -1.116200 + 0.565155I$	$2.90706 - 7.74412I$	$3.19240 + 6.08323I$
$u = -0.403547 + 0.284113I$ $a = 1.11899 + 2.48613I$ $b = 1.108970 + 0.473452I$	$3.82381 + 2.08409I$	$5.12534 - 0.96293I$
$u = -0.403547 - 0.284113I$ $a = 1.11899 - 2.48613I$ $b = 1.108970 - 0.473452I$	$3.82381 - 2.08409I$	$5.12534 + 0.96293I$
$u = 0.22823 + 1.50166I$ $a = -1.25764 - 0.90746I$ $b = 0.956045 - 0.354047I$	$4.34801 - 2.40982I$	0
$u = 0.22823 - 1.50166I$ $a = -1.25764 + 0.90746I$ $b = 0.956045 + 0.354047I$	$4.34801 + 2.40982I$	0
$u = 0.22821 + 1.54217I$ $a = -0.259834 - 0.677815I$ $b = -0.395064 - 1.080160I$	$6.40684 - 3.91879I$	0
$u = 0.22821 - 1.54217I$ $a = -0.259834 + 0.677815I$ $b = -0.395064 + 1.080160I$	$6.40684 + 3.91879I$	0
$u = 0.23827 + 1.55598I$ $a = 0.854337 + 0.910276I$ $b = -1.111540 + 0.439099I$	$6.80534 - 6.93103I$	0
$u = 0.23827 - 1.55598I$ $a = 0.854337 - 0.910276I$ $b = -1.111540 - 0.439099I$	$6.80534 + 6.93103I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.25959 + 1.55619I$ $a = 0.346137 + 0.684211I$ $b = 0.502939 + 1.091370I$	$5.60875 - 9.51344I$	0
$u = 0.25959 - 1.55619I$ $a = 0.346137 - 0.684211I$ $b = 0.502939 - 1.091370I$	$5.60875 + 9.51344I$	0
$u = 0.29684 + 1.55310I$ $a = -0.78073 - 1.26132I$ $b = 1.047760 - 0.610616I$	$2.18928 - 9.60793I$	0
$u = 0.29684 - 1.55310I$ $a = -0.78073 + 1.26132I$ $b = 1.047760 + 0.610616I$	$2.18928 + 9.60793I$	0
$u = 0.06659 + 1.58893I$ $a = -0.517511 + 0.119760I$ $b = 1.393120 + 0.025476I$	$13.42750 - 0.18395I$	0
$u = 0.06659 - 1.58893I$ $a = -0.517511 - 0.119760I$ $b = 1.393120 - 0.025476I$	$13.42750 + 0.18395I$	0
$u = 0.316207 + 0.256940I$ $a = 2.75499 - 0.01098I$ $b = -0.603808 + 0.128465I$	$-0.71341 - 2.60028I$	$1.59907 + 9.28858I$
$u = 0.316207 - 0.256940I$ $a = 2.75499 + 0.01098I$ $b = -0.603808 - 0.128465I$	$-0.71341 + 2.60028I$	$1.59907 - 9.28858I$
$u = 0.09605 + 1.60007I$ $a = 0.509209 + 0.059139I$ $b = -1.392400 + 0.070113I$	$13.3912 - 6.2552I$	0
$u = 0.09605 - 1.60007I$ $a = 0.509209 - 0.059139I$ $b = -1.392400 - 0.070113I$	$13.3912 + 6.2552I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.29645 + 1.61228I$ $a = 0.480060 + 1.172130I$ $b = -1.220590 + 0.664279I$	$9.06027 - 10.15210I$	0
$u = 0.29645 - 1.61228I$ $a = 0.480060 - 1.172130I$ $b = -1.220590 - 0.664279I$	$9.06027 + 10.15210I$	0
$u = 0.31671 + 1.61338I$ $a = -0.452534 - 1.266320I$ $b = 1.204560 - 0.723604I$	$7.8725 - 16.0422I$	0
$u = 0.31671 - 1.61338I$ $a = -0.452534 + 1.266320I$ $b = 1.204560 + 0.723604I$	$7.8725 + 16.0422I$	0
$u = -0.308601 + 0.101944I$ $a = -1.34635 - 3.22772I$ $b = -0.811719 - 0.580510I$	$-2.19827 + 2.31052I$	$-2.41183 - 3.57340I$
$u = -0.308601 - 0.101944I$ $a = -1.34635 + 3.22772I$ $b = -0.811719 + 0.580510I$	$-2.19827 - 2.31052I$	$-2.41183 + 3.57340I$
$u = -0.104373 + 0.295289I$ $a = -0.47896 + 2.73242I$ $b = 0.825317 + 0.181714I$	$1.35824 + 0.44076I$	$6.52747 - 0.76489I$
$u = -0.104373 - 0.295289I$ $a = -0.47896 - 2.73242I$ $b = 0.825317 - 0.181714I$	$1.35824 - 0.44076I$	$6.52747 + 0.76489I$
$u = -0.010297 + 0.291539I$ $a = 2.15155 - 1.29958I$ $b = 0.099129 - 0.761027I$	$0.95053 - 2.17721I$	$1.51932 + 4.74837I$
$u = -0.010297 - 0.291539I$ $a = 2.15155 + 1.29958I$ $b = 0.099129 + 0.761027I$	$0.95053 + 2.17721I$	$1.51932 - 4.74837I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.155166 + 0.198549I$	$0.58271 + 2.77775I$	$0.95085 - 1.97842I$
$a = -2.63934 + 2.32241I$		
$b = -0.310013 + 0.766636I$		
$u = -0.155166 - 0.198549I$	$0.58271 - 2.77775I$	$0.95085 + 1.97842I$
$a = -2.63934 - 2.32241I$		
$b = -0.310013 - 0.766636I$		

$$\text{II. } I_2^u = \langle b, u^2a + a^2 - au + 2u^2 + 2a - u + 3, u^3 - u^2 + 2u - 1 \rangle$$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} a \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} a \\ 0 \end{pmatrix}$$

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

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

$$a_{12} = \begin{pmatrix} u \\ u^2 - u + 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^2 + 1 \\ u^2 - u + 1 \end{pmatrix}$$

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

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

(ii) Obstruction class = 1

(iii) Cusp Shapes =  $-3au - 2u^2 + a + 3u - 7$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1, c_4, c_5$	$(u^2 - u + 1)^3$
$c_2$	$(u^2 + u + 1)^3$
$c_3, c_7, c_8$	$u^6$
$c_6$	$(u^3 + u^2 - 1)^2$
$c_9, c_{10}$	$(u^3 - u^2 + 2u - 1)^2$
$c_{11}$	$(u^3 - u^2 + 1)^2$
$c_{12}$	$(u^3 + u^2 + 2u + 1)^2$

(v) Riley Polynomials at the component

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



(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = -0.706350 + 0.266290I$ $b = 0$	$3.02413 - 4.85801I$	$-2.23639 + 5.66123I$
$u = 0.215080 + 1.307140I$ $a = 0.583789 + 0.478572I$ $b = 0$	$3.02413 - 0.79824I$	$-0.946254 + 0.677361I$
$u = 0.215080 - 1.307140I$ $a = -0.706350 - 0.266290I$ $b = 0$	$3.02413 + 4.85801I$	$-2.23639 - 5.66123I$
$u = 0.215080 - 1.307140I$ $a = 0.583789 - 0.478572I$ $b = 0$	$3.02413 + 0.79824I$	$-0.946254 - 0.677361I$
$u = 0.569840$ $a = -0.87744 + 1.51977I$ $b = 0$	$-1.11345 + 2.02988I$	$-5.31735 - 1.07831I$
$u = 0.569840$ $a = -0.87744 - 1.51977I$ $b = 0$	$-1.11345 - 2.02988I$	$-5.31735 + 1.07831I$

### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1, c_4$	$((u^2 - u + 1)^3)(u^{82} + 28u^{81} + \dots + 17u + 1)$
$c_2$	$((u^2 + u + 1)^3)(u^{82} + 4u^{81} + \dots + u + 1)$
$c_3, c_8$	$u^6(u^{82} - u^{81} + \dots + 224u + 64)$
$c_5$	$((u^2 - u + 1)^3)(u^{82} + 4u^{81} + \dots + u + 1)$
$c_6$	$((u^3 + u^2 - 1)^2)(u^{82} + 3u^{81} + \dots - 3u^2 + 1)$
$c_7$	$u^6(u^{82} - 35u^{81} + \dots - 62464u + 4096)$
$c_9, c_{10}$	$((u^3 - u^2 + 2u - 1)^2)(u^{82} + 21u^{81} + \dots + 6u + 1)$
$c_{11}$	$((u^3 - u^2 + 1)^2)(u^{82} + 3u^{81} + \dots - 3u^2 + 1)$
$c_{12}$	$((u^3 + u^2 + 2u + 1)^2)(u^{82} + 21u^{81} + \dots + 6u + 1)$

#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1, c_4$	$((y^2 + y + 1)^3)(y^{82} + 56y^{81} + \dots - 247y + 1)$
$c_2, c_5$	$((y^2 + y + 1)^3)(y^{82} + 28y^{81} + \dots + 17y + 1)$
$c_3, c_8$	$y^6(y^{82} - 35y^{81} + \dots - 62464y + 4096)$
$c_6, c_{11}$	$((y^3 - y^2 + 2y - 1)^2)(y^{82} - 21y^{81} + \dots - 6y + 1)$
$c_7$	$y^6(y^{82} + 13y^{81} + \dots + 2.00278 \times 10^8 y + 1.67772 \times 10^7)$
$c_9, c_{10}, c_{12}$	$((y^3 + 3y^2 + 2y - 1)^2)(y^{82} + 83y^{81} + \dots + 34y + 1)$