$\underline{12a_{0848}\ (K12a_{0848})}$

A knot diagram[1]

Linearized knot diagam

$$\rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow \big| \rightarrow$$

| 4 | 5 | 9 | 8 | 3 | 11 | 12 | 2 | 1 | 6 | 7 | 10 |

Solving Sequence

$$6,11 \underset{c_6}{\rightarrow} 7 \underset{c_{11}}{\rightarrow} 12 \underset{c_7}{\rightarrow} 3,8 \underset{c_5}{\rightarrow} 5 \underset{c_2}{\rightarrow} 2 \underset{c_4}{\rightarrow} 4 \underset{c_{10}}{\rightarrow} 10 \underset{c_{12}}{\rightarrow} 1 \underset{c_9}{\rightarrow} 9 \twoheadrightarrow c_1, c_3, c_8$$
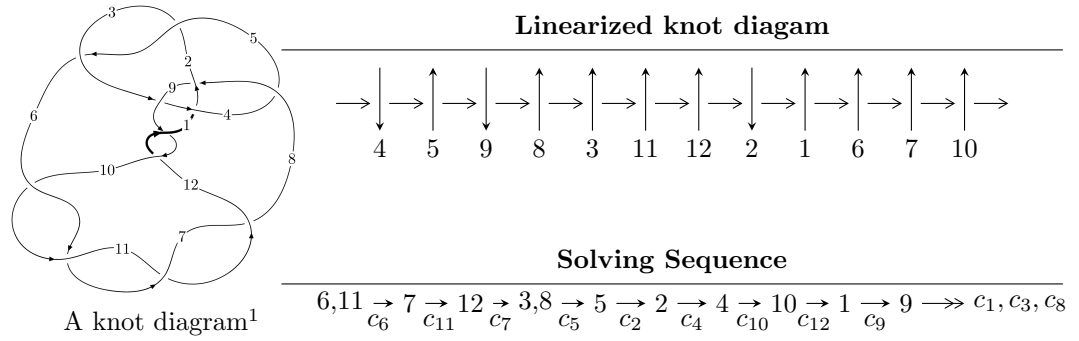
Ideals for irreducible components[2]of $X_{\mathbf{par}}$

$I_1^u = \langle 6.79509 \times 10^{25} u^{81} - 1.87697 \times 10^{26} u^{80} + \cdots + 3.12829 \times 10^{26} b + 3.70010 \times 10^{26},$
$\quad - 1.25500 \times 10^{27} u^{81} + 4.42966 \times 10^{27} u^{80} + \cdots + 3.12829 \times 10^{26} a - 3.60905 \times 10^{27}, \ u^{82} - 2u^{81} + \cdots + 5u +$
$I_2^u = \langle b - 1, \ a - u + 4, \ u^2 - u - 1 \rangle$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 84 representations.

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[1]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`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I.

$I_1^u = \langle 6.80 \times 10^{25} u^{81} - 1.88 \times 10^{26} u^{80} + \cdots + 3.13 \times 10^{26} b + 3.70 \times 10^{26}, \; -1.26 \times 10^{27} u^{81} + 4.43 \times 10^{27} u^{80} + \cdots + 3.13 \times 10^{26} a - 3.61 \times 10^{27}, \; u^{82} - 2u^{81} + \cdots + 5u + 1 \rangle$

(i) Arc colorings

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

$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$

$a_7 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$

$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$

$a_3 = \begin{pmatrix} 4.01178u^{81} - 14.1600u^{80} + \cdots + 49.3240u + 11.5368 \\ -0.217214u^{81} + 0.599999u^{80} + \cdots - 0.525322u - 1.18279 \end{pmatrix}$

$a_8 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$

$a_5 = \begin{pmatrix} -3.73565u^{81} + 13.7600u^{80} + \cdots - 50.1788u - 10.6699 \\ 0.131143u^{81} - 0.600003u^{80} + \cdots + 0.898711u + 1.26886 \end{pmatrix}$

$a_2 = \begin{pmatrix} 1.23051u^{81} - 0.600008u^{80} + \cdots - 4.81570u + 0.0834147 \\ -0.827859u^{81} + 7.27353 \times 10^{-6} u^{80} + \cdots + 4.25322u + 0.827859 \end{pmatrix}$

$a_4 = \begin{pmatrix} -3.69924u^{81} + 10.1600u^{80} + \cdots - 30.3291u - 6.30999 \\ 0.0984670u^{81} + 1.40003u^{80} + \cdots - 9.34157u - 1.49847 \end{pmatrix}$

$a_{10} = \begin{pmatrix} -u \\ u \end{pmatrix}$

$a_1 = \begin{pmatrix} -u^5 + 2u^3 + u \\ u^5 - 3u^3 + u \end{pmatrix}$

$a_9 = \begin{pmatrix} -u^9 + 4u^7 - 3u^5 - 2u^3 - u \\ u^9 - 5u^7 + 7u^5 - 2u^3 + u \end{pmatrix}$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -\frac{12431619809245966583934679162}{3128290218995270507663390809} u^{81} + \frac{35624969286962567890354505997}{3128290218995270507663390809} u^{80} + \cdots - \frac{8389123779595535264548092762}{3128290218995270507663390809} u - \frac{25270533899815883781765835149}{3128290218995270507663390809}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{82} - 13u^{81} + \cdots + 20u + 4$
c_2, c_5	$u^{82} + 3u^{81} + \cdots - 10u + 1$
c_3	$u^{82} - 41u^{80} + \cdots - 320u + 56$
c_4	$u^{82} - 2u^{81} + \cdots + 9u + 1$
c_6, c_7, c_{10} c_{11}	$u^{82} + 2u^{81} + \cdots - 5u + 1$
c_8	$u^{82} + 4u^{81} + \cdots + u + 1$
c_9, c_{12}	$u^{82} + 14u^{81} + \cdots + 13953u + 1583$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{82} - 15y^{81} + \cdots - 424y + 16$
c_2, c_5	$y^{82} - 49y^{81} + \cdots - 138y + 1$
c_3	$y^{82} - 82y^{81} + \cdots - 254496y + 3136$
c_4	$y^{82} - 78y^{81} + \cdots - 291y + 1$
c_6, c_7, c_{10} c_{11}	$y^{82} - 90y^{81} + \cdots - 3y + 1$
c_8	$y^{82} + 10y^{81} + \cdots - 3y + 1$
c_9, c_{12}	$y^{82} + 54y^{81} + \cdots + 132694021y + 2505889$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.870995$ $a = -1.72046$ $b = 0.696147$	1.59278	0
$u = 0.811511 + 0.271221I$ $a = -2.19736 + 0.75030I$ $b = 1.239060 + 0.452098I$	$4.42119 + 8.06572I$	0
$u = 0.811511 - 0.271221I$ $a = -2.19736 - 0.75030I$ $b = 1.239060 - 0.452098I$	$4.42119 - 8.06572I$	0
$u = -0.594864 + 0.611462I$ $a = -1.22801 - 2.05470I$ $b = 1.31195 - 0.61880I$	$-1.30842 - 13.62090I$	0
$u = -0.594864 - 0.611462I$ $a = -1.22801 + 2.05470I$ $b = 1.31195 + 0.61880I$	$-1.30842 + 13.62090I$	0
$u = -0.764155 + 0.376279I$ $a = -1.13837 - 1.23153I$ $b = 1.113830 + 0.304908I$	$3.83447 + 1.89000I$	0
$u = -0.764155 - 0.376279I$ $a = -1.13837 + 1.23153I$ $b = 1.113830 - 0.304908I$	$3.83447 - 1.89000I$	0
$u = 0.610557 + 0.592676I$ $a = -1.25430 + 1.40948I$ $b = 0.964576 + 0.401078I$	$-2.62652 + 5.81470I$	0
$u = 0.610557 - 0.592676I$ $a = -1.25430 - 1.40948I$ $b = 0.964576 - 0.401078I$	$-2.62652 - 5.81470I$	0
$u = -0.556885 + 0.597439I$ $a = 1.214540 + 0.434604I$ $b = 0.184378 + 1.180630I$	$-4.87343 - 7.34073I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.556885 - 0.597439I$		
$a = 1.214540 - 0.434604I$	$-4.87343 + 7.34073I$	0
$b = 0.184378 - 1.180630I$		
$u = 0.528286 + 0.620135I$		
$a = 0.124296 + 0.097755I$	$-4.10622 + 2.32469I$	0
$b = 0.406875 - 0.376887I$		
$u = 0.528286 - 0.620135I$		
$a = 0.124296 - 0.097755I$	$-4.10622 - 2.32469I$	0
$b = 0.406875 + 0.376887I$		
$u = 0.462275 + 0.639883I$		
$a = -0.332685 + 0.621312I$	$-4.30287 + 1.94000I$	0
$b = 0.536469 + 0.377022I$		
$u = 0.462275 - 0.639883I$		
$a = -0.332685 - 0.621312I$	$-4.30287 - 1.94000I$	0
$b = 0.536469 - 0.377022I$		
$u = -0.543646 + 0.553436I$		
$a = 0.95361 + 2.22060I$	$0.40590 - 5.34297I$	$6.00000 + 9.52274I$
$b = -1.18611 + 0.80921I$		
$u = -0.543646 - 0.553436I$		
$a = 0.95361 - 2.22060I$	$0.40590 + 5.34297I$	$6.00000 - 9.52274I$
$b = -1.18611 - 0.80921I$		
$u = 0.513004 + 0.563882I$		
$a = 0.90964 - 3.31132I$	$-1.20160 + 2.58017I$	$6.00000 + 7.53733I$
$b = -0.978158 - 0.173023I$		
$u = 0.513004 - 0.563882I$		
$a = 0.90964 + 3.31132I$	$-1.20160 - 2.58017I$	$6.00000 - 7.53733I$
$b = -0.978158 + 0.173023I$		
$u = -0.384471 + 0.651387I$		
$a = 0.161962 + 0.374695I$	$-1.93003 + 9.35126I$	$6.00000 - 4.19971I$
$b = 1.28132 + 0.61475I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.384471 - 0.651387I$ $a = 0.161962 - 0.374695I$ $b = 1.28132 - 0.61475I$	$-1.93003 - 9.35126I$	$6.00000 + 4.19971I$
$u = -0.423577 + 0.616541I$ $a = -0.612466 - 1.070720I$ $b = 0.227379 - 1.135570I$	$-5.26621 + 3.21097I$	$2.08818 - 1.93788I$
$u = -0.423577 - 0.616541I$ $a = -0.612466 + 1.070720I$ $b = 0.227379 + 1.135570I$	$-5.26621 - 3.21097I$	$2.08818 + 1.93788I$
$u = 0.469113 + 0.564443I$ $a = -0.00398 + 1.58925I$ $b = -0.924415 + 0.181797I$	$-1.33155 + 1.29922I$	$5.09604 - 13.12638I$
$u = 0.469113 - 0.564443I$ $a = -0.00398 - 1.58925I$ $b = -0.924415 - 0.181797I$	$-1.33155 - 1.29922I$	$5.09604 + 13.12638I$
$u = 0.354693 + 0.630587I$ $a = -0.277083 - 0.223148I$ $b = 0.879813 - 0.422336I$	$-3.37714 - 1.66121I$	$1.62414 + 2.54415I$
$u = 0.354693 - 0.630587I$ $a = -0.277083 + 0.223148I$ $b = 0.879813 + 0.422336I$	$-3.37714 + 1.66121I$	$1.62414 - 2.54415I$
$u = -0.501466 + 0.511705I$ $a = 0.13756 + 1.63725I$ $b = -1.55579 - 0.07559I$	$1.77607 - 1.77523I$	$11.62947 + 4.03448I$
$u = -0.501466 - 0.511705I$ $a = 0.13756 - 1.63725I$ $b = -1.55579 + 0.07559I$	$1.77607 + 1.77523I$	$11.62947 - 4.03448I$
$u = -0.427166 + 0.550491I$ $a = -0.978268 - 0.385975I$ $b = -1.083790 - 0.789192I$	$0.06386 + 1.53089I$	$8.01853 - 2.55528I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.427166 - 0.550491I$ $a = -0.978268 + 0.385975I$ $b = -1.083790 + 0.789192I$	$0.06386 - 1.53089I$	$8.01853 + 2.55528I$
$u = 0.638658 + 0.225748I$ $a = 0.389590 + 0.593475I$ $b = -0.065745 - 0.839937I$	$0.57980 + 3.50184I$	$9.13977 - 8.90490I$
$u = 0.638658 - 0.225748I$ $a = 0.389590 - 0.593475I$ $b = -0.065745 + 0.839937I$	$0.57980 - 3.50184I$	$9.13977 + 8.90490I$
$u = 0.652505 + 0.065512I$ $a = 2.65287 - 0.29373I$ $b = -1.316620 - 0.452019I$	$4.30182 + 1.62654I$	$18.7241 - 4.7341I$
$u = 0.652505 - 0.065512I$ $a = 2.65287 + 0.29373I$ $b = -1.316620 + 0.452019I$	$4.30182 - 1.62654I$	$18.7241 + 4.7341I$
$u = -0.053845 + 0.582038I$ $a = -0.014038 - 0.437876I$ $b = 1.139860 - 0.413488I$	$1.64921 - 5.15659I$	$5.38071 + 6.28870I$
$u = -0.053845 - 0.582038I$ $a = -0.014038 + 0.437876I$ $b = 1.139860 + 0.413488I$	$1.64921 + 5.15659I$	$5.38071 - 6.28870I$
$u = -1.42911 + 0.12607I$ $a = -1.021550 - 0.129914I$ $b = 0.738343 + 0.519400I$	$2.22829 - 0.95699I$	0
$u = -1.42911 - 0.12607I$ $a = -1.021550 + 0.129914I$ $b = 0.738343 - 0.519400I$	$2.22829 + 0.95699I$	0
$u = 1.42513 + 0.16645I$ $a = -0.951642 + 0.179384I$ $b = 1.230580 - 0.607759I$	$3.83137 - 6.45058I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.42513 - 0.16645I$ $a = -0.951642 - 0.179384I$ $b = 1.230580 + 0.607759I$	$3.83137 + 6.45058I$	0
$u = -0.545660 + 0.113928I$ $a = -0.983595 + 0.442700I$ $b = -0.1046930 - 0.0437336I$	$0.978391 - 0.167632I$	$10.95193 + 1.32595I$
$u = -0.545660 - 0.113928I$ $a = -0.983595 - 0.442700I$ $b = -0.1046930 + 0.0437336I$	$0.978391 + 0.167632I$	$10.95193 - 1.32595I$
$u = -0.529899$ $a = 10.3142$ $b = -1.02032$	2.51211	-88.5500
$u = 1.47193 + 0.16091I$ $a = -0.855076 + 0.061099I$ $b = 0.297685 + 1.084440I$	$0.865552 - 0.485531I$	0
$u = 1.47193 - 0.16091I$ $a = -0.855076 - 0.061099I$ $b = 0.297685 - 1.084440I$	$0.865552 + 0.485531I$	0
$u = -1.48145 + 0.19094I$ $a = -0.844562 - 0.272193I$ $b = 0.669605 - 0.422650I$	$2.01541 - 4.91638I$	0
$u = -1.48145 - 0.19094I$ $a = -0.844562 + 0.272193I$ $b = 0.669605 + 0.422650I$	$2.01541 + 4.91638I$	0
$u = 1.50668 + 0.13219I$ $a = -0.036896 - 0.447336I$ $b = -0.940587 + 0.842768I$	$6.42569 + 0.77348I$	0
$u = 1.50668 - 0.13219I$ $a = -0.036896 + 0.447336I$ $b = -0.940587 - 0.842768I$	$6.42569 - 0.77348I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.51364 + 0.15219I$		
$a = 0.536167 - 1.247610I$	$5.21063 - 3.80691I$	0
$b = -0.866187 - 0.214071I$		
$u = -1.51364 - 0.15219I$		
$a = 0.536167 + 1.247610I$	$5.21063 + 3.80691I$	0
$b = -0.866187 + 0.214071I$		
$u = -1.53024 + 0.16174I$		
$a = 2.19828 + 2.75110I$	$5.57532 - 5.16892I$	0
$b = -1.021300 + 0.173147I$		
$u = -1.53024 - 0.16174I$		
$a = 2.19828 - 2.75110I$	$5.57532 + 5.16892I$	0
$b = -1.021300 - 0.173147I$		
$u = -1.52923 + 0.18520I$		
$a = -0.206185 - 0.261817I$	$2.67887 - 5.22504I$	0
$b = 0.296189 + 0.412108I$		
$u = -1.52923 - 0.18520I$		
$a = -0.206185 + 0.261817I$	$2.67887 + 5.22504I$	0
$b = 0.296189 - 0.412108I$		
$u = 1.54149 + 0.02620I$		
$a = -0.413194 - 0.502741I$	$8.01688 + 0.66095I$	0
$b = -0.273232 - 0.149623I$		
$u = 1.54149 - 0.02620I$		
$a = -0.413194 + 0.502741I$	$8.01688 - 0.66095I$	0
$b = -0.273232 + 0.149623I$		
$u = 1.53502 + 0.14471I$		
$a = 1.76397 - 1.36906I$	$8.58492 + 4.10520I$	0
$b = -1.62122 + 0.15951I$		
$u = 1.53502 - 0.14471I$		
$a = 1.76397 + 1.36906I$	$8.58492 - 4.10520I$	0
$b = -1.62122 - 0.15951I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.54999$		
$a = 5.72235$	9.62835	0
$b = -1.07156$		
$u = 1.54264 + 0.16225I$		
$a = 1.98586 - 1.16029I$	$7.35240 + 7.92215I$	0
$b = -1.25596 - 0.83173I$		
$u = 1.54264 - 0.16225I$		
$a = 1.98586 + 1.16029I$	$7.35240 - 7.92215I$	0
$b = -1.25596 + 0.83173I$		
$u = 1.54406 + 0.18057I$		
$a = 0.898342 + 0.570588I$	$2.09607 + 10.16370I$	0
$b = 0.148551 - 1.220200I$		
$u = 1.54406 - 0.18057I$		
$a = 0.898342 - 0.570588I$	$2.09607 - 10.16370I$	0
$b = 0.148551 + 1.220200I$		
$u = -1.56208 + 0.04407I$		
$a = 0.356577 - 1.009890I$	$8.00277 - 4.37968I$	0
$b = -0.205192 + 0.989853I$		
$u = -1.56208 - 0.04407I$		
$a = 0.356577 + 1.009890I$	$8.00277 + 4.37968I$	0
$b = -0.205192 - 0.989853I$		
$u = -1.56847 + 0.01217I$		
$a = 2.90549 - 0.18562I$	$11.82620 - 1.87309I$	0
$b = -1.44541 + 0.51761I$		
$u = -1.56847 - 0.01217I$		
$a = 2.90549 + 0.18562I$	$11.82620 + 1.87309I$	0
$b = -1.44541 - 0.51761I$		
$u = 1.55988 + 0.18904I$		
$a = -2.19841 + 1.29679I$	$5.8572 + 16.5563I$	0
$b = 1.33759 + 0.61959I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.55988 - 0.18904I$ $a = -2.19841 - 1.29679I$ $b = 1.33759 - 0.61959I$	$5.8572 - 16.5563I$	0
$u = -1.56748 + 0.18297I$ $a = -1.93274 - 0.91566I$ $b = 1.026650 - 0.384762I$	$4.64101 - 8.66957I$	0
$u = -1.56748 - 0.18297I$ $a = -1.93274 + 0.91566I$ $b = 1.026650 + 0.384762I$	$4.64101 + 8.66957I$	0
$u = 0.064511 + 0.412780I$ $a = -0.902893 + 0.694446I$ $b = 0.152912 + 0.585524I$	$-1.19387 - 1.28666I$	$-0.50594 + 1.92491I$
$u = 0.064511 - 0.412780I$ $a = -0.902893 - 0.694446I$ $b = 0.152912 - 0.585524I$	$-1.19387 + 1.28666I$	$-0.50594 - 1.92491I$
$u = -1.60578 + 0.05889I$ $a = -2.75309 - 0.20122I$ $b = 1.313760 - 0.435079I$	$12.6240 - 9.1945I$	0
$u = -1.60578 - 0.05889I$ $a = -2.75309 + 0.20122I$ $b = 1.313760 + 0.435079I$	$12.6240 + 9.1945I$	0
$u = 1.60958 + 0.08865I$ $a = -2.02010 + 0.86926I$ $b = 1.157150 - 0.210437I$	$11.93040 - 0.22921I$	0
$u = 1.60958 - 0.08865I$ $a = -2.02010 - 0.86926I$ $b = 1.157150 + 0.210437I$	$11.93040 + 0.22921I$	0
$u = 1.64214$ $a = -2.06417$ $b = 0.911522$	10.2733	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.153931 + 0.229405I$ $a = -2.65823 + 0.79988I$ $b = -1.068010 + 0.189730I$	$1.95141 - 0.72099I$	$4.92941 - 0.08019I$
$u = -0.153931 - 0.229405I$ $a = -2.65823 - 0.79988I$ $b = -1.068010 - 0.189730I$	$1.95141 + 0.72099I$	$4.92941 + 0.08019I$

$$\text{II. } I_2^u = \langle b - 1, \ a - u + 4, \ u^2 - u - 1 \rangle$$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1 \\ -u - 1 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} u - 4 \\ 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u - 3 \\ 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u - 2 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u \\ u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} -2u \\ u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 21$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.618034$ $a = -4.61803$ $b = 1.00000$	2.63189	21.0000
$u = 1.61803$ $a = -2.38197$ $b = 1.00000$	10.5276	21.0000

17

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^2(u^{82} - 13u^{81} + \cdots + 20u + 4)$
c_2	$((u+1)^2)(u^{82} + 3u^{81} + \cdots - 10u + 1)$
c_3	$(u^2 - u - 1)(u^{82} - 41u^{80} + \cdots - 320u + 56)$
c_4	$(u^2 - u - 1)(u^{82} - 2u^{81} + \cdots + 9u + 1)$
c_5	$((u-1)^2)(u^{82} + 3u^{81} + \cdots - 10u + 1)$
c_6, c_7	$(u^2 - u - 1)(u^{82} + 2u^{81} + \cdots - 5u + 1)$
c_8	$(u^2 - u - 1)(u^{82} + 4u^{81} + \cdots + u + 1)$
c_9	$(u^2 - u - 1)(u^{82} + 14u^{81} + \cdots + 13953u + 1583)$
c_{10}, c_{11}	$(u^2 + u - 1)(u^{82} + 2u^{81} + \cdots - 5u + 1)$
c_{12}	$(u^2 + u - 1)(u^{82} + 14u^{81} + \cdots + 13953u + 1583)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^2(y^{82} - 15y^{81} + \cdots - 424y + 16)$
c_2, c_5	$((y-1)^2)(y^{82} - 49y^{81} + \cdots - 138y + 1)$
c_3	$(y^2 - 3y + 1)(y^{82} - 82y^{81} + \cdots - 254496y + 3136)$
c_4	$(y^2 - 3y + 1)(y^{82} - 78y^{81} + \cdots - 291y + 1)$
c_6, c_7, c_{10} c_{11}	$(y^2 - 3y + 1)(y^{82} - 90y^{81} + \cdots - 3y + 1)$
c_8	$(y^2 - 3y + 1)(y^{82} + 10y^{81} + \cdots - 3y + 1)$
c_9, c_{12}	$(y^2 - 3y + 1)(y^{82} + 54y^{81} + \cdots + 1.32694 \times 10^8 y + 2505889)$