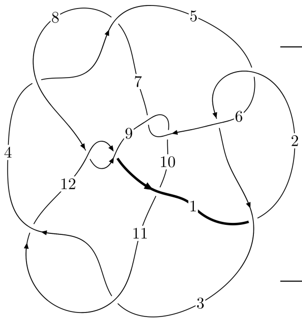
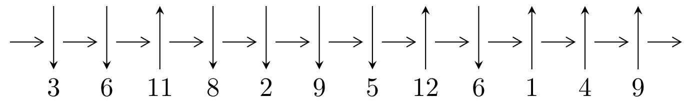
$12n_{0531}$ ($K12n_{0531}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

$$2{,}6 \underset{c_2}{\rightarrow} 3{,}9 \underset{c_6}{\rightarrow} 7 \underset{c_9}{\rightarrow} 10 \underset{c_1}{\rightarrow} 1 \underset{c_{10}}{\rightarrow} 11 \underset{c_5}{\rightarrow} 5 \underset{c_7}{\longrightarrow} 8 \underset{c_4}{\longrightarrow} 4 \underset{c_{12}}{\rightarrow} 12 \twoheadrightarrow c_3, c_8, c_{11}$$

Ideals for irreducible components[2] of $X_{\mathbf{par}}$

$$I_1^u = \langle 3.98168 \times 10^{59} u^{66} - 1.61635 \times 10^{59} u^{65} + \cdots + 8.56121 \times 10^{58} b + 6.93366 \times 10^{59},$$
$$- 3.91666 \times 10^{57} u^{66} - 2.46674 \times 10^{59} u^{65} + \cdots + 8.56121 \times 10^{58} a + 7.09288 \times 10^{59},\ u^{67} - u^{66} + \cdots - u - 1$$
$$I_2^u = \langle 2u^{18} - 2u^{17} + \cdots + b - 1,\ 3u^{18} - u^{17} + \cdots + a + 1,\ u^{19} - 5u^{17} + \cdots + u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 86 representations.

[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.

$I^u_1 = \langle 3.98\times 10^{59}u^{66} - 1.62\times 10^{59}u^{65} + \cdots + 8.56\times 10^{58}b + 6.93\times 10^{59},\ -3.92\times 10^{57}u^{66} - 2.47\times 10^{59}u^{65} + \cdots + 8.56\times 10^{58}a + 7.09\times 10^{59},\ u^{67} - u^{66} + \cdots - u - 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0.0457489u^{66} + 2.88130u^{65} + \cdots - 27.2442u - 8.28490\\-4.65084u^{66} + 1.88799u^{65} + \cdots - 26.3094u - 8.09892\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-11.1496u^{66} + 2.79842u^{65} + \cdots - 32.9791u - 16.1327\\-5.95825u^{66} - 0.0553272u^{65} + \cdots - 0.0564103u - 4.23853\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0.0457489u^{66} + 2.88130u^{65} + \cdots - 27.2442u - 8.28490\\-0.178100u^{66} + 1.80249u^{65} + \cdots - 23.3366u - 5.17187\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^2 + 1\\-u^4\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-2.13841u^{66} + 4.49817u^{65} + \cdots - 47.2572u - 13.4375\\-3.31213u^{66} + 2.20785u^{65} + \cdots - 30.1781u - 8.48270\end{pmatrix}$$
$$a_5 = \begin{pmatrix}u\\u\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-11.5127u^{66} + 4.27285u^{65} + \cdots - 40.5082u - 18.4704\\-6.32132u^{66} + 1.41910u^{65} + \cdots - 7.58545u - 6.57617\end{pmatrix}$$
$$a_4 = \begin{pmatrix}4.82960u^{66} - 5.95359u^{65} + \cdots + 62.5953u + 18.9033\\6.29424u^{66} - 4.13193u^{65} + \cdots + 48.8147u + 13.7851\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.918229u^{66} + 1.37577u^{65} + \cdots - 14.7930u - 2.94334\\-0.625938u^{66} + 2.40274u^{65} + \cdots - 25.0155u - 4.68849\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -60.9077u^{66} + 29.1274u^{65} + \cdots - 300.156u - 103.773$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{67} + 37u^{66} + \cdots + 7u + 1$
c_2, c_5	$u^{67} + u^{66} + \cdots - u + 1$
c_3, c_{11}	$u^{67} - 2u^{66} + \cdots - 89u + 29$
c_4, c_7	$u^{67} - 3u^{66} + \cdots + 1479u + 1799$
c_6, c_9	$u^{67} - 10u^{66} + \cdots - 14957u + 583$
c_8, c_{12}	$u^{67} - 3u^{66} + \cdots + 1963u + 409$
c_{10}	$u^{67} + 6u^{66} + \cdots + 958404u - 46939$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{67} - 5y^{66} + \cdots + 59y - 1$
c_2, c_5	$y^{67} - 37y^{66} + \cdots + 7y - 1$
c_3, c_{11}	$y^{67} - 66y^{66} + \cdots + 7283y - 841$
c_4, c_7	$y^{67} + 35y^{66} + \cdots - 114931057y - 3236401$
c_6, c_9	$y^{67} - 50y^{66} + \cdots - 1103445y - 339889$
c_8, c_{12}	$y^{67} - 43y^{66} + \cdots + 32507091y - 167281$
c_{10}	$y^{67} + 22y^{66} + \cdots + 83085423428y - 2203269721$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.252718 + 0.954803I$ $a = -0.26765 - 1.61765I$ $b = 0.0508940 - 0.0605544I$	$5.44022 + 9.83317I$	$3.49519 - 5.08650I$
$u = 0.252718 - 0.954803I$ $a = -0.26765 + 1.61765I$ $b = 0.0508940 + 0.0605544I$	$5.44022 - 9.83317I$	$3.49519 + 5.08650I$
$u = -0.992189 + 0.285907I$ $a = 0.299845 - 0.936902I$ $b = 0.110971 - 0.511676I$	$-0.72386 + 3.39798I$	0
$u = -0.992189 - 0.285907I$ $a = 0.299845 + 0.936902I$ $b = 0.110971 + 0.511676I$	$-0.72386 - 3.39798I$	0
$u = 1.003700 + 0.377660I$ $a = -0.36326 - 2.02909I$ $b = -0.22611 - 1.95101I$	$6.90463 - 5.17042I$	0
$u = 1.003700 - 0.377660I$ $a = -0.36326 + 2.02909I$ $b = -0.22611 + 1.95101I$	$6.90463 + 5.17042I$	0
$u = -0.407354 + 0.830734I$ $a = 0.62622 + 1.45214I$ $b = 0.0808578 - 0.0470274I$	$1.53350 - 1.63271I$	$4.18307 + 1.16614I$
$u = -0.407354 - 0.830734I$ $a = 0.62622 - 1.45214I$ $b = 0.0808578 + 0.0470274I$	$1.53350 + 1.63271I$	$4.18307 - 1.16614I$
$u = -0.999539 + 0.414079I$ $a = -0.68465 + 1.36026I$ $b = -1.62369 + 0.88630I$	$7.15973 + 0.55296I$	0
$u = -0.999539 - 0.414079I$ $a = -0.68465 - 1.36026I$ $b = -1.62369 - 0.88630I$	$7.15973 - 0.55296I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.123677 + 0.896241I$ $a = 0.46772 - 1.45771I$ $b = 0.188411 + 0.059427I$	$-0.54114 - 5.20408I$	$0.74353 + 5.07775I$
$u = -0.123677 - 0.896241I$ $a = 0.46772 + 1.45771I$ $b = 0.188411 - 0.059427I$	$-0.54114 + 5.20408I$	$0.74353 - 5.07775I$
$u = 0.058282 + 0.894932I$ $a = 0.22934 + 1.41748I$ $b = -0.420848 + 0.236426I$	$1.96860 + 2.63316I$	$3.47626 - 2.77896I$
$u = 0.058282 - 0.894932I$ $a = 0.22934 - 1.41748I$ $b = -0.420848 - 0.236426I$	$1.96860 - 2.63316I$	$3.47626 + 2.77896I$
$u = 0.888129 + 0.007732I$ $a = -0.216716 + 0.589577I$ $b = 0.397274 - 0.090049I$	$-1.42025 + 0.09498I$	$-5.88538 + 0.49320I$
$u = 0.888129 - 0.007732I$ $a = -0.216716 - 0.589577I$ $b = 0.397274 + 0.090049I$	$-1.42025 - 0.09498I$	$-5.88538 - 0.49320I$
$u = 0.818749 + 0.312512I$ $a = 0.261521 + 0.302439I$ $b = -0.94854 - 1.42046I$	$2.49844 - 1.45815I$	$5.05080 + 4.52220I$
$u = 0.818749 - 0.312512I$ $a = 0.261521 - 0.302439I$ $b = -0.94854 + 1.42046I$	$2.49844 + 1.45815I$	$5.05080 - 4.52220I$
$u = -0.826794 + 0.261915I$ $a = -1.15533 - 0.90370I$ $b = -1.65362 + 0.22840I$	$2.29966 + 1.29505I$	$7.24915 - 5.10541I$
$u = -0.826794 - 0.261915I$ $a = -1.15533 + 0.90370I$ $b = -1.65362 - 0.22840I$	$2.29966 - 1.29505I$	$7.24915 + 5.10541I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.062370 + 0.439025I$ $a = -0.1189350 + 0.0634968I$ $b = 0.08475 - 1.49717I$	$6.23019 + 6.25320I$	0
$u = -1.062370 - 0.439025I$ $a = -0.1189350 - 0.0634968I$ $b = 0.08475 + 1.49717I$	$6.23019 - 6.25320I$	0
$u = 1.078930 + 0.400055I$ $a = 0.966889 - 0.461546I$ $b = 1.50362 + 0.72539I$	$5.90798 - 0.58176I$	0
$u = 1.078930 - 0.400055I$ $a = 0.966889 + 0.461546I$ $b = 1.50362 - 0.72539I$	$5.90798 + 0.58176I$	0
$u = 1.139110 + 0.269989I$ $a = -1.336930 - 0.044286I$ $b = -2.77376 + 0.09507I$	$-3.24471 - 0.99304I$	0
$u = 1.139110 - 0.269989I$ $a = -1.336930 + 0.044286I$ $b = -2.77376 - 0.09507I$	$-3.24471 + 0.99304I$	0
$u = -0.870317 + 0.790370I$ $a = -0.382693 - 0.266135I$ $b = -0.207034 - 0.348229I$	$4.48838 + 2.95750I$	0
$u = -0.870317 - 0.790370I$ $a = -0.382693 + 0.266135I$ $b = -0.207034 + 0.348229I$	$4.48838 - 2.95750I$	0
$u = 0.790678 + 0.880867I$ $a = 0.506555 - 0.282964I$ $b = -0.109676 + 0.105383I$	$9.15754 - 5.60614I$	0
$u = 0.790678 - 0.880867I$ $a = 0.506555 + 0.282964I$ $b = -0.109676 - 0.105383I$	$9.15754 + 5.60614I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=0.126398+0.792019I$ $a=-0.34046+1.55116I$ $b=0.141669+0.103536I$	$-2.45188-0.35885I$	$-3.63602+0.23516I$
$u=0.126398-0.792019I$ $a=-0.34046-1.55116I$ $b=0.141669-0.103536I$	$-2.45188+0.35885I$	$-3.63602-0.23516I$
$u=0.962593+0.817723I$ $a=0.208169-0.306861I$ $b=0.616506-0.727645I$	$8.63874-0.64633I$	0
$u=0.962593-0.817723I$ $a=0.208169+0.306861I$ $b=0.616506+0.727645I$	$8.63874+0.64633I$	0
$u=1.196810+0.425223I$ $a=0.992583+0.428060I$ $b=2.34581+0.17564I$	$-2.51573-3.88919I$	0
$u=1.196810-0.425223I$ $a=0.992583-0.428060I$ $b=2.34581-0.17564I$	$-2.51573+3.88919I$	0
$u=-0.095962+0.718089I$ $a=-0.870727-1.075470I$ $b=-0.514432+0.209197I$	$1.107230-0.185144I$	$4.79017-0.71844I$
$u=-0.095962-0.718089I$ $a=-0.870727+1.075470I$ $b=-0.514432-0.209197I$	$1.107230+0.185144I$	$4.79017+0.71844I$
$u=-1.222550+0.406422I$ $a=1.373620+0.083582I$ $b=2.55563+0.01499I$	$-6.39757+4.49155I$	0
$u=-1.222550-0.406422I$ $a=1.373620-0.083582I$ $b=2.55563-0.01499I$	$-6.39757-4.49155I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.190060 + 0.501845I$ $a = -0.803790 - 0.598061I$ $b = -1.74421 - 0.52832I$	$-1.97091 + 4.80612I$	0
$u = -1.190060 - 0.501845I$ $a = -0.803790 + 0.598061I$ $b = -1.74421 + 0.52832I$	$-1.97091 - 4.80612I$	0
$u = -1.150470 + 0.612288I$ $a = 1.177240 + 0.454917I$ $b = 2.37784 + 0.80163I$	$-0.72397 + 7.05260I$	0
$u = -1.150470 - 0.612288I$ $a = 1.177240 - 0.454917I$ $b = 2.37784 - 0.80163I$	$-0.72397 - 7.05260I$	0
$u = 1.205080 + 0.518507I$ $a = -1.148840 + 0.185650I$ $b = -2.18745 + 0.58972I$	$-5.59025 - 4.50406I$	0
$u = 1.205080 - 0.518507I$ $a = -1.148840 - 0.185650I$ $b = -2.18745 - 0.58972I$	$-5.59025 + 4.50406I$	0
$u = 1.264300 + 0.382115I$ $a = 1.009520 - 0.475156I$ $b = 2.03470 - 0.67673I$	$-4.90333 + 0.82967I$	0
$u = 1.264300 - 0.382115I$ $a = 1.009520 + 0.475156I$ $b = 2.03470 + 0.67673I$	$-4.90333 - 0.82967I$	0
$u = -1.265610 + 0.421354I$ $a = 0.943794 - 0.070930I$ $b = 1.70252 + 0.53403I$	$-2.14236 + 1.98560I$	0
$u = -1.265610 - 0.421354I$ $a = 0.943794 + 0.070930I$ $b = 1.70252 - 0.53403I$	$-2.14236 - 1.98560I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.308880 + 0.267985I$ $a = -1.123170 - 0.336397I$ $b = -2.17522 - 0.78717I$	$0.18085 - 5.77518I$	0
$u = -1.308880 - 0.267985I$ $a = -1.123170 + 0.336397I$ $b = -2.17522 + 0.78717I$	$0.18085 + 5.77518I$	0
$u = 1.245830 + 0.493179I$ $a = -1.43974 + 0.17283I$ $b = -2.43608 - 0.13299I$	$-1.63829 - 7.60166I$	0
$u = 1.245830 - 0.493179I$ $a = -1.43974 - 0.17283I$ $b = -2.43608 + 0.13299I$	$-1.63829 + 7.60166I$	0
$u = -1.235560 + 0.521982I$ $a = -1.234460 + 0.179282I$ $b = -2.59326 + 0.12435I$	$-3.91456 + 10.33250I$	0
$u = -1.235560 - 0.521982I$ $a = -1.234460 - 0.179282I$ $b = -2.59326 - 0.12435I$	$-3.91456 - 10.33250I$	0
$u = 1.225640 + 0.591919I$ $a = 1.41828 + 0.02698I$ $b = 2.74705 + 0.09456I$	$2.4570 - 15.4421I$	0
$u = 1.225640 - 0.591919I$ $a = 1.41828 - 0.02698I$ $b = 2.74705 - 0.09456I$	$2.4570 + 15.4421I$	0
$u = 0.596336 + 0.122603I$ $a = 2.26885 + 1.87775I$ $b = 2.01780 + 0.76808I$	$8.49281 + 2.29820I$	$6.25286 - 4.10564I$
$u = 0.596336 - 0.122603I$ $a = 2.26885 - 1.87775I$ $b = 2.01780 - 0.76808I$	$8.49281 - 2.29820I$	$6.25286 + 4.10564I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.592523$ $a = -0.956423$ $b = 0.295328$	-1.13446	-10.7330
$u = -0.497958 + 0.215908I$ $a = 0.68502 - 2.08646I$ $b = 1.76295 - 0.08326I$	$8.74993 + 2.73352I$	$4.86441 - 2.29828I$
$u = -0.497958 - 0.215908I$ $a = 0.68502 + 2.08646I$ $b = 1.76295 + 0.08326I$	$8.74993 - 2.73352I$	$4.86441 + 2.29828I$
$u = -0.291880 + 0.442830I$ $a = -0.880180 - 0.165991I$ $b = -0.525541 + 0.323507I$	$1.258410 - 0.412792I$	$6.74896 + 1.13109I$
$u = -0.291880 - 0.442830I$ $a = -0.880180 + 0.165991I$ $b = -0.525541 - 0.323507I$	$1.258410 + 0.412792I$	$6.74896 - 1.13109I$
$u = -0.108371 + 0.359754I$ $a = -2.08944 - 0.74875I$ $b = 1.272570 - 0.328628I$	$8.55502 - 2.64869I$	$5.98628 + 2.06746I$
$u = -0.108371 - 0.359754I$ $a = -2.08944 + 0.74875I$ $b = 1.272570 + 0.328628I$	$8.55502 + 2.64869I$	$5.98628 - 2.06746I$

II.

$\boldsymbol{I_2^u = \langle 2u^{18} - 2u^{17} + \cdots + b - 1,\ 3u^{18} - u^{17} + \cdots + a + 1,\ u^{19} - 5u^{17} + \cdots + u - 1 \rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -3u^{18} + u^{17} + \cdots - 4u - 1 \\ -2u^{18} + 2u^{17} + \cdots - 5u^2 + 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 3u^{18} - 3u^{17} + \cdots + 4u - 4 \\ 5u^{18} - 3u^{17} + \cdots + 10u - 3 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -3u^{18} + u^{17} + \cdots - 4u - 1 \\ -4u^{18} + 3u^{17} + \cdots - 4u + 2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -3u^{18} + u^{17} + \cdots - u - 2 \\ -3u^{18} + 3u^{17} + \cdots - u + 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 3u^{18} - 3u^{17} + \cdots + 2u - 4 \\ 5u^{18} - 3u^{17} + \cdots + 8u - 3 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u^{18} - 6u^{16} + \cdots - 2u^2 + 8u \\ -2u^{18} + u^{17} + \cdots + 2u - 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 2u^{18} - 4u^{17} + \cdots + 3u - 3 \\ 3u^{18} - 4u^{17} + \cdots + 4u - 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 7u^{18} + 3u^{17} - 33u^{16} - 14u^{15} + 87u^{14} + 36u^{13} - 144u^{12} - 65u^{11} + 165u^{10} + 92u^9 - 115u^8 - 96u^7 + 35u^6 + 79u^5 + 21u^4 - 48u^3 - 25u^2 + 11u + 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{19} - 10u^{18} + \cdots + 11u - 1$
c_2	$u^{19} - 5u^{17} + \cdots + u - 1$
c_3	$u^{19} + u^{18} + \cdots + u - 1$
c_4	$u^{19} - 2u^{18} + \cdots - u - 1$
c_5	$u^{19} - 5u^{17} + \cdots + u + 1$
c_6	$u^{19} - 3u^{18} + \cdots - 7u - 1$
c_7	$u^{19} + 2u^{18} + \cdots - u + 1$
c_8	$u^{19} - 4u^{18} + \cdots + u + 1$
c_9	$u^{19} + 3u^{18} + \cdots - 7u + 1$
c_{10}	$u^{19} - u^{18} + \cdots + 236u + 43$
c_{11}	$u^{19} - u^{18} + \cdots + u + 1$
c_{12}	$u^{19} + 4u^{18} + \cdots + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{19} + 6y^{18} + \cdots + 27y - 1$
c_2, c_5	$y^{19} - 10y^{18} + \cdots + 11y - 1$
c_3, c_{11}	$y^{19} - 23y^{18} + \cdots - 13y - 1$
c_4, c_7	$y^{19} + 10y^{18} + \cdots + 3y - 1$
c_6, c_9	$y^{19} - 3y^{18} + \cdots + 35y - 1$
c_8, c_{12}	$y^{19} - 16y^{18} + \cdots - 5y - 1$
c_{10}	$y^{19} - 3y^{18} + \cdots + 26284y - 1849$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.978751 + 0.307404I$ $a = -0.08895 - 1.68231I$ $b = 0.094662 - 0.624680I$	$7.28503 + 4.10785I$	$2.95414 - 2.86490I$
$u = -0.978751 - 0.307404I$ $a = -0.08895 + 1.68231I$ $b = 0.094662 + 0.624680I$	$7.28503 - 4.10785I$	$2.95414 + 2.86490I$
$u = 0.904209 + 0.228834I$ $a = 0.786990 - 0.518544I$ $b = 1.44158 + 0.87989I$	$1.67334 - 1.02006I$	$-5.81141 - 0.72669I$
$u = 0.904209 - 0.228834I$ $a = 0.786990 + 0.518544I$ $b = 1.44158 - 0.87989I$	$1.67334 + 1.02006I$	$-5.81141 + 0.72669I$
$u = 0.818844 + 0.700124I$ $a = -0.333710 - 0.781860I$ $b = -0.51330 - 1.32368I$	$10.34880 - 4.45139I$	$6.18516 + 3.57443I$
$u = 0.818844 - 0.700124I$ $a = -0.333710 + 0.781860I$ $b = -0.51330 + 1.32368I$	$10.34880 + 4.45139I$	$6.18516 - 3.57443I$
$u = -0.880057 + 0.723725I$ $a = -0.183448 - 0.085198I$ $b = 0.138934 - 0.604807I$	$4.90128 + 2.76357I$	$8.38876 + 0.35727I$
$u = -0.880057 - 0.723725I$ $a = -0.183448 + 0.085198I$ $b = 0.138934 + 0.604807I$	$4.90128 - 2.76357I$	$8.38876 - 0.35727I$
$u = -0.787321 + 0.274997I$ $a = -1.42135 + 0.91420I$ $b = -2.37267 + 1.42356I$	$8.01888 - 1.56355I$	$1.27949 - 2.89433I$
$u = -0.787321 - 0.274997I$ $a = -1.42135 - 0.91420I$ $b = -2.37267 - 1.42356I$	$8.01888 + 1.56355I$	$1.27949 + 2.89433I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.940062 + 0.692222I$ $a = 0.550056 + 0.651231I$ $b = 0.133210 + 0.249610I$	$9.96906 - 0.91166I$	$6.80985 + 1.74521I$
$u = 0.940062 - 0.692222I$ $a = 0.550056 - 0.651231I$ $b = 0.133210 - 0.249610I$	$9.96906 + 0.91166I$	$6.80985 - 1.74521I$
$u = -0.233447 + 0.755562I$ $a = 0.49290 + 1.41879I$ $b = 0.316972 - 0.038293I$	$-0.214249 - 0.827859I$	$-0.372742 + 0.698304I$
$u = -0.233447 - 0.755562I$ $a = 0.49290 - 1.41879I$ $b = 0.316972 + 0.038293I$	$-0.214249 + 0.827859I$	$-0.372742 - 0.698304I$
$u = 1.193260 + 0.407397I$ $a = -1.117000 - 0.146511I$ $b = -2.25532 + 0.23263I$	$-4.05195 - 2.93073I$	$-3.39124 + 2.59909I$
$u = 1.193260 - 0.407397I$ $a = -1.117000 + 0.146511I$ $b = -2.25532 - 0.23263I$	$-4.05195 + 2.93073I$	$-3.39124 - 2.59909I$
$u = -1.199490 + 0.536666I$ $a = 1.122270 + 0.371800I$ $b = 2.14595 + 0.39527I$	$-3.09315 + 5.79872I$	$-2.42694 - 4.74421I$
$u = -1.199490 - 0.536666I$ $a = 1.122270 - 0.371800I$ $b = 2.14595 - 0.39527I$	$-3.09315 - 5.79872I$	$-2.42694 + 4.74421I$
$u = 0.445385$ $a = -1.61551$ $b = 0.739953$	-0.586933	5.76990

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{19} - 10u^{18} + \cdots + 11u - 1)(u^{67} + 37u^{66} + \cdots + 7u + 1)$
c_2	$(u^{19} - 5u^{17} + \cdots + u - 1)(u^{67} + u^{66} + \cdots - u + 1)$
c_3	$(u^{19} + u^{18} + \cdots + u - 1)(u^{67} - 2u^{66} + \cdots - 89u + 29)$
c_4	$(u^{19} - 2u^{18} + \cdots - u - 1)(u^{67} - 3u^{66} + \cdots + 1479u + 1799)$
c_5	$(u^{19} - 5u^{17} + \cdots + u + 1)(u^{67} + u^{66} + \cdots - u + 1)$
c_6	$(u^{19} - 3u^{18} + \cdots - 7u - 1)(u^{67} - 10u^{66} + \cdots - 14957u + 583)$
c_7	$(u^{19} + 2u^{18} + \cdots - u + 1)(u^{67} - 3u^{66} + \cdots + 1479u + 1799)$
c_8	$(u^{19} - 4u^{18} + \cdots + u + 1)(u^{67} - 3u^{66} + \cdots + 1963u + 409)$
c_9	$(u^{19} + 3u^{18} + \cdots - 7u + 1)(u^{67} - 10u^{66} + \cdots - 14957u + 583)$
c_{10}	$(u^{19} - u^{18} + \cdots + 236u + 43)(u^{67} + 6u^{66} + \cdots + 958404u - 46939)$
c_{11}	$(u^{19} - u^{18} + \cdots + u + 1)(u^{67} - 2u^{66} + \cdots - 89u + 29)$
c_{12}	$(u^{19} + 4u^{18} + \cdots + u - 1)(u^{67} - 3u^{66} + \cdots + 1963u + 409)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{19}+6y^{18}+\cdots+27y-1)(y^{67}-5y^{66}+\cdots+59y-1)$
c_2, c_5	$(y^{19}-10y^{18}+\cdots+11y-1)(y^{67}-37y^{66}+\cdots+7y-1)$
c_3, c_{11}	$(y^{19}-23y^{18}+\cdots-13y-1)(y^{67}-66y^{66}+\cdots+7283y-841)$
c_4, c_7	$(y^{19}+10y^{18}+\cdots+3y-1)$ $\cdot(y^{67}+35y^{66}+\cdots-114931057y-3236401)$
c_6, c_9	$(y^{19}-3y^{18}+\cdots+35y-1)(y^{67}-50y^{66}+\cdots-1103445y-339889)$
c_8, c_{12}	$(y^{19}-16y^{18}+\cdots-5y-1)$ $\cdot(y^{67}-43y^{66}+\cdots+32507091y-167281)$
c_{10}	$(y^{19}-3y^{18}+\cdots+26284y-1849)$ $\cdot(y^{67}+22y^{66}+\cdots+83085423428y-2203269721)$