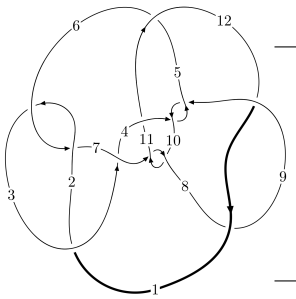
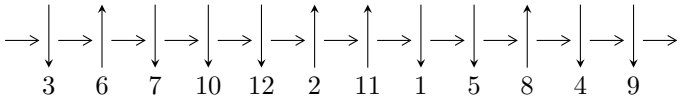
$12a_{0256}$ $(K12a_{0256})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$I_1^u = \langle 2.56758 \times 10^{188} u^{136} + 1.42936 \times 10^{189} u^{135} + \cdots + 2.47840 \times 10^{187} b - 1.95610 \times 10^{188},$
$2.04389 \times 10^{188} u^{136} + 1.15337 \times 10^{189} u^{135} + \cdots + 2.47840 \times 10^{187} a - 8.69370 \times 10^{187},\ u^{137} + 5u^{136} + \cdots -$
$I_2^u = \langle -5u^{26} - u^{25} + \cdots + b - 6,\ -5u^{27} - 3u^{26} + \cdots + a - 4,\ u^{28} + 8u^{26} + \cdots - 2u + 1 \rangle$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 165 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. $\boldsymbol{I_1^u = \langle 2.57 \times 10^{188} u^{136} + 1.43 \times 10^{189} u^{135} + \cdots + 2.48 \times 10^{187} b - 1.96 \times 10^{188},\ 2.04 \times 10^{188} u^{136} + 1.15 \times 10^{189} u^{135} + \cdots + 2.48 \times 10^{187} a - 8.69 \times 10^{187},\ u^{137} + 5u^{136} + \cdots - 3u - 1 \rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -8.24683u^{136} - 46.5369u^{135} + \cdots + 34.6876u + 3.50779 \\ -10.3598u^{136} - 57.6726u^{135} + \cdots + 28.1421u + 7.89259 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.62844u^{136} + 10.3502u^{135} + \cdots - 2.08567u + 3.05147 \\ -2.24765u^{136} - 7.89848u^{135} + \cdots - 14.2337u - 4.99920 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -4.73113u^{136} - 29.1031u^{135} + \cdots + 31.2965u + 2.98213 \\ -4.43686u^{136} - 28.1267u^{135} + \cdots + 16.0148u + 4.77163 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ -u^4 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.0634631u^{136} - 0.511369u^{135} + \cdots + 12.2936u + 6.46153 \\ -7.98027u^{136} - 38.7088u^{135} + \cdots + 0.862867u - 0.263602 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 5.35808u^{136} + 27.7315u^{135} + \cdots - 11.7973u + 0.359303 \\ 6.75832u^{136} + 37.5761u^{135} + \cdots - 38.0131u - 10.3110 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.550892u^{136} + 1.58672u^{135} + \cdots - 29.6268u - 8.41074 \\ 3.01851u^{136} + 18.3843u^{135} + \cdots - 8.86141u - 5.99470 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 3.41230u^{136} + 7.78483u^{135} + \cdots - 25.4529u - 5.81017$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{137} + 71u^{136} + \cdots - 11u - 1$
c_2, c_6	$u^{137} - 5u^{136} + \cdots - 3u + 1$
c_3	$u^{137} + 5u^{136} + \cdots - 28109u + 49282$
c_4, c_9	$u^{137} - u^{136} + \cdots + 37207u + 14092$
c_5	$u^{137} + 18u^{135} + \cdots + 38195407u + 7601057$
c_7, c_{10}	$u^{137} + 6u^{136} + \cdots - 20079u + 3169$
c_8, c_{12}	$u^{137} + 3u^{136} + \cdots - 1611854u + 205619$
c_{11}	$u^{137} + 5u^{136} + \cdots + 361656u + 26671$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{137} - y^{136} + \cdots + 61y - 1$
c_2, c_6	$y^{137} + 71y^{136} + \cdots - 11y - 1$
c_3	$y^{137} - 73y^{136} + \cdots + 30864949201y - 2428715524$
c_4, c_9	$y^{137} + 103y^{136} + \cdots - 3967076151y - 198584464$
c_5	$y^{137} + 36y^{136} + \cdots - 2839868740482897y - 57776067517249$
c_7, c_{10}	$y^{137} + 90y^{136} + \cdots - 824301543y - 10042561$
c_8, c_{12}	$y^{137} + 93y^{136} + \cdots - 669185450976y - 42279173161$
c_{11}	$y^{137} - 17y^{136} + \cdots + 62854050382y - 711342241$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.533319+0.849244I$ $a=\ 0.116988-0.644715I$ $b=\ 0.815465-1.064700I$	$-1.12416-2.04890I$	0
$u=-0.533319-0.849244I$ $a=\ 0.116988+0.644715I$ $b=\ 0.815465+1.064700I$	$-1.12416+2.04890I$	0
$u=\ 0.502796+0.853410I$ $a=\ 0.984550+0.293887I$ $b=\ 0.182920-0.493163I$	$0.28337-1.41442I$	0
$u=\ 0.502796-0.853410I$ $a=\ 0.984550-0.293887I$ $b=\ 0.182920+0.493163I$	$0.28337+1.41442I$	0
$u=-0.957173+0.102971I$ $a=-0.25823-1.86243I$ $b=-0.162071-0.899505I$	$3.30511-0.01751I$	0
$u=-0.957173-0.102971I$ $a=-0.25823+1.86243I$ $b=-0.162071+0.899505I$	$3.30511+0.01751I$	0
$u=-0.304693+0.910206I$ $a=-0.26481-1.50058I$ $b=\ 0.668726-0.857128I$	$2.61366-5.14297I$	0
$u=-0.304693-0.910206I$ $a=-0.26481+1.50058I$ $b=\ 0.668726+0.857128I$	$2.61366+5.14297I$	0
$u=\ 0.596239+0.863165I$ $a=-0.958277+0.025577I$ $b=-1.86008+0.32518I$	$7.73934-0.81536I$	0
$u=\ 0.596239-0.863165I$ $a=-0.958277-0.025577I$ $b=-1.86008-0.32518I$	$7.73934+0.81536I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.069847 + 1.050040I$ $a = 0.0056226 + 0.0646777I$ $b = -1.068510 + 0.267075I$	$-0.0265712 - 0.0562753I$	0
$u = 0.069847 - 1.050040I$ $a = 0.0056226 - 0.0646777I$ $b = -1.068510 - 0.267075I$	$-0.0265712 + 0.0562753I$	0
$u = -0.325030 + 0.878832I$ $a = 0.456202 - 0.441515I$ $b = 0.286899 - 0.477025I$	$-0.54203 - 1.42582I$	0
$u = -0.325030 - 0.878832I$ $a = 0.456202 + 0.441515I$ $b = 0.286899 + 0.477025I$	$-0.54203 + 1.42582I$	0
$u = 0.617489 + 0.700364I$ $a = 0.17956 - 1.41511I$ $b = -0.130881 - 0.287691I$	$8.20953 + 5.56566I$	0
$u = 0.617489 - 0.700364I$ $a = 0.17956 + 1.41511I$ $b = -0.130881 + 0.287691I$	$8.20953 - 5.56566I$	0
$u = 0.887754 + 0.262797I$ $a = 0.12921 + 2.14576I$ $b = 0.179272 + 0.677955I$	$-1.93538 - 7.48838I$	0
$u = 0.887754 - 0.262797I$ $a = 0.12921 - 2.14576I$ $b = 0.179272 - 0.677955I$	$-1.93538 + 7.48838I$	0
$u = 0.756689 + 0.764410I$ $a = -0.110558 - 0.663621I$ $b = 0.216956 + 0.337434I$	$6.38454 - 5.71250I$	0
$u = 0.756689 - 0.764410I$ $a = -0.110558 + 0.663621I$ $b = 0.216956 - 0.337434I$	$6.38454 + 5.71250I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.988134+0.432807I$ $a=-0.160589+1.032590I$ $b=\ \ 0.242816+0.384392I$	$3.73770-1.79692I$	0
$u=-0.988134-0.432807I$ $a=-0.160589-1.032590I$ $b=\ \ 0.242816-0.384392I$	$3.73770+1.79692I$	0
$u=\ \ 0.575110+0.713441I$ $a=-0.217900+0.741038I$ $b=\ \ 0.99074+1.18801I$	$0.68274+5.78618I$	0
$u=\ \ 0.575110-0.713441I$ $a=-0.217900-0.741038I$ $b=\ \ 0.99074-1.18801I$	$0.68274-5.78618I$	0
$u=-0.869875+0.251926I$ $a=\ \ 0.08200-2.32233I$ $b=\ \ 0.361982-0.715554I$	$2.71900+13.79220I$	0
$u=-0.869875-0.251926I$ $a=\ \ 0.08200+2.32233I$ $b=\ \ 0.361982+0.715554I$	$2.71900-13.79220I$	0
$u=\ \ 0.490407+0.755910I$ $a=\ \ 0.636976+1.124530I$ $b=\ \ 1.099390+0.433924I$	$3.99446+2.04024I$	0
$u=\ \ 0.490407-0.755910I$ $a=\ \ 0.636976-1.124530I$ $b=\ \ 1.099390-0.433924I$	$3.99446-2.04024I$	0
$u=\ \ 0.718798+0.835116I$ $a=-0.150342-0.075852I$ $b=-1.263490-0.320415I$	$6.16457+11.21360I$	0
$u=\ \ 0.718798-0.835116I$ $a=-0.150342+0.075852I$ $b=-1.263490+0.320415I$	$6.16457-11.21360I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.680528+0.577464I$ $a=\ \ 0.432488+0.843523I$ $b=\ \ 0.145641+0.260873I$	$3.38601-0.98367I$	0
$u=-0.680528-0.577464I$ $a=\ \ 0.432488-0.843523I$ $b=\ \ 0.145641-0.260873I$	$3.38601+0.98367I$	0
$u=\ \ 0.354562+1.052920I$ $a=\ \ 0.343872-0.019856I$ $b=\ \ 0.104155-0.950397I$	$-1.331140-0.354042I$	0
$u=\ \ 0.354562-1.052920I$ $a=\ \ 0.343872+0.019856I$ $b=\ \ 0.104155+0.950397I$	$-1.331140+0.354042I$	0
$u=-0.166408+1.098790I$ $a=-1.50293-0.36380I$ $b=-2.64367-0.36084I$	$-4.55631-3.25534I$	0
$u=-0.166408-1.098790I$ $a=-1.50293+0.36380I$ $b=-2.64367+0.36084I$	$-4.55631+3.25534I$	0
$u=-0.472124+1.038700I$ $a=\ \ 0.407735-1.282440I$ $b=-0.063430-0.465076I$	$3.23424-0.51796I$	0
$u=-0.472124-1.038700I$ $a=\ \ 0.407735+1.282440I$ $b=-0.063430+0.465076I$	$3.23424+0.51796I$	0
$u=\ \ 0.712987+0.446274I$ $a=\ \ 1.111570+0.012824I$ $b=\ \ 0.352809-0.679136I$	$4.76931-1.62940I$	0
$u=\ \ 0.712987-0.446274I$ $a=\ \ 1.111570-0.012824I$ $b=\ \ 0.352809+0.679136I$	$4.76931+1.62940I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.667112+0.501243I$ $a=\ 0.911117-0.658420I$ $b=\ 0.759339+0.465298I$	$5.05813+0.60000I$	0
$u=-0.667112-0.501243I$ $a=\ 0.911117+0.658420I$ $b=\ 0.759339-0.465298I$	$5.05813-0.60000I$	0
$u=-0.546634+1.030390I$ $a=\ 0.267839-1.154730I$ $b=\ 1.10542-1.03275I$	$3.50173-5.32217I$	0
$u=-0.546634-1.030390I$ $a=\ 0.267839+1.154730I$ $b=\ 1.10542+1.03275I$	$3.50173+5.32217I$	0
$u=-0.378661+1.103420I$ $a=\ 0.140117-0.141434I$ $b=\ 0.023825-0.869305I$	$-1.35691-0.78518I$	0
$u=-0.378661-1.103420I$ $a=\ 0.140117+0.141434I$ $b=\ 0.023825+0.869305I$	$-1.35691+0.78518I$	0
$u=\ 0.809928+0.190888I$ $a=-0.47628-2.02906I$ $b=-0.519671-0.606618I$	$-4.37189-2.92393I$	$-8.03585+0.I$
$u=\ 0.809928-0.190888I$ $a=-0.47628+2.02906I$ $b=-0.519671+0.606618I$	$-4.37189+2.92393I$	$-8.03585+0.I$
$u=\ 0.419233+1.096630I$ $a=\ 3.28779+0.82729I$ $b=\ 4.00138+1.08547I$	$1.63196-0.57127I$	0
$u=\ 0.419233-1.096630I$ $a=\ 3.28779-0.82729I$ $b=\ 4.00138-1.08547I$	$1.63196+0.57127I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.309532+1.135070I$ $a=\ \ 0.637035+0.462955I$ $b=\ \ 0.92097+1.47589I$	$2.06956+4.03324I$	0
$u=-0.309532-1.135070I$ $a=\ \ 0.637035-0.462955I$ $b=\ \ 0.92097-1.47589I$	$2.06956-4.03324I$	0
$u=\ \ 0.434697+1.101330I$ $a=-1.351880+0.178073I$ $b=-2.39197-0.79055I$	$-3.75315+0.76063I$	0
$u=\ \ 0.434697-1.101330I$ $a=-1.351880-0.178073I$ $b=-2.39197+0.79055I$	$-3.75315-0.76063I$	0
$u=-0.766102+0.246672I$ $a=-0.63871+2.36043I$ $b=-0.737180+0.709707I$	$-1.48537+7.19229I$	$-2.90359-6.29894I$
$u=-0.766102-0.246672I$ $a=-0.63871-2.36043I$ $b=-0.737180-0.709707I$	$-1.48537-7.19229I$	$-2.90359+6.29894I$
$u=-0.749282+0.261094I$ $a=-1.229260-0.235481I$ $b=\ \ 0.372948-0.002355I$	$6.22390+7.17173I$	$1.35640-5.57817I$
$u=-0.749282-0.261094I$ $a=-1.229260+0.235481I$ $b=\ \ 0.372948+0.002355I$	$6.22390-7.17173I$	$1.35640+5.57817I$
$u=-0.450406+1.119820I$ $a=-2.04217-0.38943I$ $b=-3.24431+0.11454I$	$-4.22382-5.85372I$	0
$u=-0.450406-1.119820I$ $a=-2.04217+0.38943I$ $b=-3.24431-0.11454I$	$-4.22382+5.85372I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.474163+1.111140I$		
$a=$	$1.88851+0.59079I$	$-3.45317+6.67791I$	0
$b=$	$3.19369+0.46268I$		
$u=$	$0.474163-1.111140I$		
$a=$	$1.88851-0.59079I$	$-3.45317-6.67791I$	0
$b=$	$3.19369-0.46268I$		
$u=$	$-0.309506+1.167930I$		
$a=$	$1.60936+0.86298I$	$-5.73719+3.86942I$	0
$b=$	$2.56755+0.23611I$		
$u=$	$-0.309506-1.167930I$		
$a=$	$1.60936-0.86298I$	$-5.73719-3.86942I$	0
$b=$	$2.56755-0.23611I$		
$u=$	$0.483929+1.108490I$		
$a=$	$-3.12745+0.85374I$	$2.11058+7.96960I$	0
$b=$	$-3.96728+0.63687I$		
$u=$	$0.483929-1.108490I$		
$a=$	$-3.12745-0.85374I$	$2.11058-7.96960I$	0
$b=$	$-3.96728-0.63687I$		
$u=$	$-0.447836+1.123900I$		
$a=$	$2.17137-0.64014I$	$-4.23233-1.82443I$	0
$b=$	$3.28589-0.91335I$		
$u=$	$-0.447836-1.123900I$		
$a=$	$2.17137+0.64014I$	$-4.23233+1.82443I$	0
$b=$	$3.28589+0.91335I$		
$u=$	$0.579612+1.066840I$		
$a=$	$-0.372465+0.966588I$	$2.94960+6.58219I$	0
$b=$	$0.159901+1.382820I$		
$u=$	$0.579612-1.066840I$		
$a=$	$-0.372465-0.966588I$	$2.94960-6.58219I$	0
$b=$	$0.159901-1.382820I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.446297 + 1.130490I$ $a = -0.347437 - 0.281460I$ $b = -0.428965 + 0.284776I$	$-4.22376 + 3.90424I$	0
$u = 0.446297 - 1.130490I$ $a = -0.347437 + 0.281460I$ $b = -0.428965 - 0.284776I$	$-4.22376 - 3.90424I$	0
$u = -0.628866 + 1.049280I$ $a = -0.509840 - 0.322071I$ $b = -0.802525 - 0.260188I$	$2.06270 - 4.14982I$	0
$u = -0.628866 - 1.049280I$ $a = -0.509840 + 0.322071I$ $b = -0.802525 + 0.260188I$	$2.06270 + 4.14982I$	0
$u = 0.769989 + 0.085192I$ $a = 0.69957 - 2.14608I$ $b = -0.334847 - 0.454878I$	$-0.21167 - 3.95519I$	$-0.70872 + 4.40749I$
$u = 0.769989 - 0.085192I$ $a = 0.69957 + 2.14608I$ $b = -0.334847 + 0.454878I$	$-0.21167 + 3.95519I$	$-0.70872 - 4.40749I$
$u = 0.690948 + 0.327915I$ $a = -0.534108 + 0.568309I$ $b = 0.437649 - 0.094786I$	$2.37595 - 2.88460I$	$-0.64698 + 3.62738I$
$u = 0.690948 - 0.327915I$ $a = -0.534108 - 0.568309I$ $b = 0.437649 + 0.094786I$	$2.37595 + 2.88460I$	$-0.64698 - 3.62738I$
$u = -0.761678 + 0.972727I$ $a = -0.513431 - 0.357447I$ $b = -1.164300 - 0.121244I$	$2.09836 - 4.33096I$	0
$u = -0.761678 - 0.972727I$ $a = -0.513431 + 0.357447I$ $b = -1.164300 + 0.121244I$	$2.09836 + 4.33096I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.494451+1.133360I$ $a=-0.945389-0.096475I$ $b=-1.19728-0.77220I$	$-0.53789-6.91554I$	0
$u=-0.494451-1.133360I$ $a=-0.945389+0.096475I$ $b=-1.19728+0.77220I$	$-0.53789+6.91554I$	0
$u=0.535487+1.114710I$ $a=0.528266+0.009933I$ $b=1.046600-0.694471I$	$0.07546+7.60673I$	0
$u=0.535487-1.114710I$ $a=0.528266-0.009933I$ $b=1.046600+0.694471I$	$0.07546-7.60673I$	0
$u=-0.424065+1.166910I$ $a=1.82804-0.27571I$ $b=2.84165-0.96154I$	$-4.83821-1.44208I$	0
$u=-0.424065-1.166910I$ $a=1.82804+0.27571I$ $b=2.84165+0.96154I$	$-4.83821+1.44208I$	0
$u=0.025066+0.753968I$ $a=0.564772-0.822293I$ $b=-0.233222-0.889953I$	$-0.93531-1.11977I$	$-7.63811+4.58075I$
$u=0.025066-0.753968I$ $a=0.564772+0.822293I$ $b=-0.233222+0.889953I$	$-0.93531+1.11977I$	$-7.63811-4.58075I$
$u=0.295392+0.690589I$ $a=-0.451041+0.994000I$ $b=1.086820+0.656532I$	$-0.14414+3.11446I$	$-8.84863+1.95541I$
$u=0.295392-0.690589I$ $a=-0.451041-0.994000I$ $b=1.086820-0.656532I$	$-0.14414-3.11446I$	$-8.84863-1.95541I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.473615+1.159220I$ $a=-2.23868-0.05116I$ $b=-3.47114-0.04967I$	$-4.48472-6.82060I$	0
$u=-0.473615-1.159220I$ $a=-2.23868+0.05116I$ $b=-3.47114+0.04967I$	$-4.48472+6.82060I$	0
$u=-0.478731+0.568594I$ $a=1.316230-0.160713I$ $b=0.035393+0.245607I$	$-0.39680-2.11027I$	$-3.71418+2.14261I$
$u=-0.478731-0.568594I$ $a=1.316230+0.160713I$ $b=0.035393-0.245607I$	$-0.39680+2.11027I$	$-3.71418-2.14261I$
$u=0.333106+1.214680I$ $a=1.52890-0.65967I$ $b=2.44133-0.21664I$	$-8.68461+0.83942I$	0
$u=0.333106-1.214680I$ $a=1.52890+0.65967I$ $b=2.44133+0.21664I$	$-8.68461-0.83942I$	0
$u=0.407231+1.196350I$ $a=1.285220+0.287911I$ $b=2.06870+1.29048I$	$-3.96480+0.12479I$	0
$u=0.407231-1.196350I$ $a=1.285220-0.287911I$ $b=2.06870-1.29048I$	$-3.96480-0.12479I$	0
$u=-0.538558+1.145630I$ $a=0.397123+0.477194I$ $b=0.69365+1.54220I$	$3.63696-12.02450I$	0
$u=-0.538558-1.145630I$ $a=0.397123-0.477194I$ $b=0.69365-1.54220I$	$3.63696+12.02450I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.541768+1.153570I$ $a=-2.22949+0.90829I$ $b=-3.30390+0.95277I$	$-4.13786-12.09350I$	0
$u=-0.541768-1.153570I$ $a=-2.22949-0.90829I$ $b=-3.30390-0.95277I$	$-4.13786+12.09350I$	0
$u=-0.275174+1.252270I$ $a=-1.71289-0.25641I$ $b=-2.64631+0.39413I$	$-2.15174+10.09580I$	0
$u=-0.275174-1.252270I$ $a=-1.71289+0.25641I$ $b=-2.64631-0.39413I$	$-2.15174-10.09580I$	0
$u=0.485122+1.187120I$ $a=-2.00112+0.05850I$ $b=-3.21581+0.44929I$	$-3.41641+8.54851I$	0
$u=0.485122-1.187120I$ $a=-2.00112-0.05850I$ $b=-3.21581-0.44929I$	$-3.41641-8.54851I$	0
$u=0.248468+1.263820I$ $a=-1.73417+0.22192I$ $b=-2.69325-0.19554I$	$-6.98987-3.80379I$	0
$u=0.248468-1.263820I$ $a=-1.73417-0.22192I$ $b=-2.69325+0.19554I$	$-6.98987+3.80379I$	0
$u=0.533106+1.180340I$ $a=-1.95084-0.63722I$ $b=-2.90642-0.73647I$	$-7.29057+7.87576I$	0
$u=0.533106-1.180340I$ $a=-1.95084+0.63722I$ $b=-2.90642+0.73647I$	$-7.29057-7.87576I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.663096+0.189723I$ $a=\ \ 0.789921+0.764446I$ $b=-0.336996+0.443443I$	$2.13907+2.48571I$	$-0.07943-3.19313I$
$u=-0.663096-0.189723I$ $a=\ \ 0.789921-0.764446I$ $b=-0.336996-0.443443I$	$2.13907-2.48571I$	$-0.07943+3.19313I$
$u=-0.570930+1.187360I$ $a=\ \ 2.21296-0.30007I$ $b=\ \ 3.37522-0.28961I$	$-0.0881-19.0756I$	0
$u=-0.570930-1.187360I$ $a=\ \ 2.21296+0.30007I$ $b=\ \ 3.37522+0.28961I$	$-0.0881+19.0756I$	0
$u=-0.678581+0.062843I$ $a=\ \ 0.45807+2.61890I$ $b=-0.049753+0.622208I$	$-1.43948+2.51411I$	$-3.67454-0.43519I$
$u=-0.678581-0.062843I$ $a=\ \ 0.45807-2.61890I$ $b=-0.049753-0.622208I$	$-1.43948-2.51411I$	$-3.67454+0.43519I$
$u=\ \ 0.577984+1.189160I$ $a=\ \ 2.04104+0.21797I$ $b=\ \ 3.12088+0.35123I$	$-4.72940+12.84590I$	0
$u=\ \ 0.577984-1.189160I$ $a=\ \ 2.04104-0.21797I$ $b=\ \ 3.12088-0.35123I$	$-4.72940-12.84590I$	0
$u=\ \ 0.062478+0.661502I$ $a=\ \ 1.59403+2.45404I$ $b=\ \ 0.90624+2.55894I$	$3.97109+3.39944I$	$-3.68341+1.39930I$
$u=\ \ 0.062478-0.661502I$ $a=\ \ 1.59403-2.45404I$ $b=\ \ 0.90624-2.55894I$	$3.97109-3.39944I$	$-3.68341-1.39930I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.473872+1.270700I$ $a=-1.84298+0.14674I$ $b=-2.41988+0.35596I$	$-0.86475-4.93494I$	0
$u=-0.473872-1.270700I$ $a=-1.84298-0.14674I$ $b=-2.41988-0.35596I$	$-0.86475+4.93494I$	0
$u=-0.275520+1.335420I$ $a=1.43990+0.43703I$ $b=2.22752+0.40675I$	$-2.14149-5.88208I$	0
$u=-0.275520-1.335420I$ $a=1.43990-0.43703I$ $b=2.22752-0.40675I$	$-2.14149+5.88208I$	0
$u=-0.589872+1.251000I$ $a=1.82282+0.25698I$ $b=2.59582+0.05410I$	$-0.11982-5.54446I$	0
$u=-0.589872-1.251000I$ $a=1.82282-0.25698I$ $b=2.59582-0.05410I$	$-0.11982+5.54446I$	0
$u=-0.426484+0.445189I$ $a=0.332045-0.391955I$ $b=1.88098-0.77902I$	$4.97034-3.39824I$	$4.02447+4.68678I$
$u=-0.426484-0.445189I$ $a=0.332045+0.391955I$ $b=1.88098+0.77902I$	$4.97034+3.39824I$	$4.02447-4.68678I$
$u=0.590002$ $a=0.311170$ $b=-0.471733$	-1.25020	-8.18790
$u=0.509954+0.217008I$ $a=0.36882-3.42715I$ $b=0.59694-1.77591I$	$4.55501-3.83548I$	$-0.52183+5.66712I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.509954 - 0.217008I$ $a = 0.36882 + 3.42715I$ $b = 0.59694 + 1.77591I$	$4.55501 + 3.83548I$	$-0.52183 - 5.66712I$
$u = -0.538359 + 0.029909I$ $a = 0.64786 - 3.00563I$ $b = 0.415245 - 0.505868I$	$-1.37258 - 2.04781I$	$-4.83102 + 3.56124I$
$u = -0.538359 - 0.029909I$ $a = 0.64786 + 3.00563I$ $b = 0.415245 + 0.505868I$	$-1.37258 + 2.04781I$	$-4.83102 - 3.56124I$
$u = 0.481827 + 0.203197I$ $a = 0.50493 + 2.88522I$ $b = 0.542964 + 0.155260I$	$-0.95953 - 2.63263I$	$-1.29118 + 1.16569I$
$u = 0.481827 - 0.203197I$ $a = 0.50493 - 2.88522I$ $b = 0.542964 - 0.155260I$	$-0.95953 + 2.63263I$	$-1.29118 - 1.16569I$
$u = 0.074277 + 0.488015I$ $a = -1.94274 + 0.35807I$ $b = 1.140730 + 0.138784I$	$-1.30856 + 2.47032I$	$-1.47299 - 5.97951I$
$u = 0.074277 - 0.488015I$ $a = -1.94274 - 0.35807I$ $b = 1.140730 - 0.138784I$	$-1.30856 - 2.47032I$	$-1.47299 + 5.97951I$

II.

$\boldsymbol{I_2^u = \langle -5u^{26}-u^{25}+\cdots+b-6,\ -5u^{27}-3u^{26}+\cdots+a-4,\ u^{28}+8u^{26}+\cdots-2u+1\rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u^4+u^2+1 \\ u^4 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 5u^{27}+3u^{26}+\cdots+3u+4 \\ 5u^{26}+u^{25}+\cdots-9u+6 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -3u^{27}-5u^{26}+\cdots+6u-4 \\ -4u^{27}-2u^{26}+\cdots-9u+1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 5u^{27}+2u^{26}+\cdots+5u+3 \\ 5u^{26}+2u^{25}+\cdots-8u+6 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2+1 \\ -u^4 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -4u^{26}-29u^{24}+\cdots+10u-5 \\ -2u^{27}-2u^{26}+\cdots-5u-1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 3u^{27}-7u^{26}+\cdots+28u-12 \\ 4u^{27}-2u^{26}+\cdots+14u-6 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{26}+u^{25}+\cdots+4u-2 \\ 2u^{27}+4u^{26}+\cdots-6u+6 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= -26u^{27}-11u^{26}-209u^{25}-83u^{24}-827u^{23}-304u^{22}-2019u^{21}-677u^{20}-3292u^{19}-984u^{18}-3611u^{17}-899u^{16}-2586u^{15}-323u^{14}-1184u^{13}+477u^{12}-630u^{11}+1072u^{10}-837u^9+1200u^8-947u^7+878u^6-629u^5+395u^4-258u^3+75u^2-53u-10$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{28} - 16u^{27} + \cdots - 10u + 1$
c_2	$u^{28} + 8u^{26} + \cdots - 2u + 1$
c_3	$u^{28} - 8u^{26} + \cdots - 2u + 1$
c_4	$u^{28} + 14u^{26} + \cdots - 3u + 1$
c_5	$u^{28} - u^{27} + \cdots + 2u + 1$
c_6	$u^{28} + 8u^{26} + \cdots + 2u + 1$
c_7	$u^{28} + 5u^{27} + \cdots - 2u + 1$
c_8	$u^{28} + 2u^{27} + \cdots - 5u + 1$
c_9	$u^{28} + 14u^{26} + \cdots + 3u + 1$
c_{10}	$u^{28} - 5u^{27} + \cdots + 2u + 1$
c_{11}	$u^{28} + 4u^{26} + \cdots - 3u + 1$
c_{12}	$u^{28} - 2u^{27} + \cdots + 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{28} + 32y^{26} + \cdots - 6y + 1$
c_2, c_6	$y^{28} + 16y^{27} + \cdots + 10y + 1$
c_3	$y^{28} - 16y^{27} + \cdots + 18y + 1$
c_4, c_9	$y^{28} + 28y^{27} + \cdots + 33y + 1$
c_5	$y^{28} + y^{27} + \cdots + 4y + 1$
c_7, c_{10}	$y^{28} + 23y^{27} + \cdots + 22y + 1$
c_8, c_{12}	$y^{28} + 22y^{27} + \cdots + 23y + 1$
c_{11}	$y^{28} + 8y^{27} + \cdots + 5y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.927627+0.310266I$ $a=\ 0.476646-1.306430I$ $b=\ 0.141645-0.548306I$	$3.71732-1.33828I$	$2.28500-1.95773I$
$u=-0.927627-0.310266I$ $a=\ 0.476646+1.306430I$ $b=\ 0.141645+0.548306I$	$3.71732+1.33828I$	$2.28500+1.95773I$
$u=-0.429176+0.929211I$ $a=\ 0.516897-0.021782I$ $b=\ 0.055854+0.774875I$	$-0.417008-0.074495I$	$-2.20975+1.98394I$
$u=-0.429176-0.929211I$ $a=\ 0.516897+0.021782I$ $b=\ 0.055854-0.774875I$	$-0.417008+0.074495I$	$-2.20975-1.98394I$
$u=\ 0.392480+1.019250I$ $a=\ 1.99736+0.72446I$ $b=\ 1.68008+0.22227I$	$2.74271-1.09825I$	$0.07581+2.01930I$
$u=\ 0.392480-1.019250I$ $a=\ 1.99736-0.72446I$ $b=\ 1.68008-0.22227I$	$2.74271+1.09825I$	$0.07581-2.01930I$
$u=-0.288262+1.113700I$ $a=\ 1.73094-0.01917I$ $b=\ 2.91182-0.22588I$	$-3.52283-3.88968I$	$-5.89753+4.23756I$
$u=-0.288262-1.113700I$ $a=\ 1.73094+0.01917I$ $b=\ 2.91182+0.22588I$	$-3.52283+3.88968I$	$-5.89753-4.23756I$
$u=-0.440389+0.714722I$ $a=-0.514138-0.686596I$ $b=\ 0.808306-0.627817I$	$0.22093-3.57942I$	$0.17898+8.99073I$
$u=-0.440389-0.714722I$ $a=-0.514138+0.686596I$ $b=\ 0.808306+0.627817I$	$0.22093+3.57942I$	$0.17898-8.99073I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.530263 + 1.045870I$ $a = -1.190230 + 0.613612I$ $b = -0.706757 + 0.604841I$	$3.76050 + 7.44396I$	$1.49824 - 9.02202I$
$u = 0.530263 - 1.045870I$ $a = -1.190230 - 0.613612I$ $b = -0.706757 - 0.604841I$	$3.76050 - 7.44396I$	$1.49824 + 9.02202I$
$u = 0.406570 + 1.160990I$ $a = 1.48927 + 0.23978I$ $b = 2.43638 + 1.20695I$	$-5.18932 + 0.02135I$	$-11.78845 + 2.28843I$
$u = 0.406570 - 1.160990I$ $a = 1.48927 - 0.23978I$ $b = 2.43638 - 1.20695I$	$-5.18932 - 0.02135I$	$-11.78845 - 2.28843I$
$u = 0.561190 + 0.517059I$ $a = 0.248990 - 0.696773I$ $b = -0.02581 - 1.46246I$	$5.37250 - 3.01778I$	$3.40635 + 1.78695I$
$u = 0.561190 - 0.517059I$ $a = 0.248990 + 0.696773I$ $b = -0.02581 + 1.46246I$	$5.37250 + 3.01778I$	$3.40635 - 1.78695I$
$u = 0.229239 + 0.711347I$ $a = 1.16053 + 2.42775I$ $b = 2.14265 + 2.15977I$	$4.04199 + 3.98407I$	$-1.99854 - 10.95718I$
$u = 0.229239 - 0.711347I$ $a = 1.16053 - 2.42775I$ $b = 2.14265 - 2.15977I$	$4.04199 - 3.98407I$	$-1.99854 + 10.95718I$
$u = -0.092522 + 0.736102I$ $a = 1.144440 - 0.744715I$ $b = -0.771373 - 0.011538I$	$-1.79219 + 2.06540I$	$-11.53599 + 0.86230I$
$u = -0.092522 - 0.736102I$ $a = 1.144440 + 0.744715I$ $b = -0.771373 + 0.011538I$	$-1.79219 - 2.06540I$	$-11.53599 - 0.86230I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.491650 + 1.162380I$ $a = -2.07659 - 0.11492I$ $b = -3.33038 + 0.11639I$	$-4.57612 + 8.23220I$	$-9.55306 - 8.45619I$
$u = 0.491650 - 1.162380I$ $a = -2.07659 + 0.11492I$ $b = -3.33038 - 0.11639I$	$-4.57612 - 8.23220I$	$-9.55306 + 8.45619I$
$u = -0.671255 + 1.082300I$ $a = 0.546251 - 0.154259I$ $b = 1.118220 - 0.403693I$	$1.54070 - 4.46634I$	$-8.22602 + 6.86506I$
$u = -0.671255 - 1.082300I$ $a = 0.546251 + 0.154259I$ $b = 1.118220 + 0.403693I$	$1.54070 + 4.46634I$	$-8.22602 - 6.86506I$
$u = 0.697120 + 0.130845I$ $a = 0.38376 - 2.49764I$ $b = -0.314180 - 0.479622I$	$-1.64038 - 3.74071I$	$-6.13159 + 6.29732I$
$u = 0.697120 - 0.130845I$ $a = 0.38376 + 2.49764I$ $b = -0.314180 + 0.479622I$	$-1.64038 + 3.74071I$	$-6.13159 - 6.29732I$
$u = -0.459282 + 1.281090I$ $a = -1.91412 - 0.41482I$ $b = -2.64645 - 0.34057I$	$-0.96893 - 5.94168I$	$-5.10346 + 10.57461I$
$u = -0.459282 - 1.281090I$ $a = -1.91412 + 0.41482I$ $b = -2.64645 + 0.34057I$	$-0.96893 + 5.94168I$	$-5.10346 - 10.57461I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{28}-16u^{27}+\cdots-10u+1)(u^{137}+71u^{136}+\cdots-11u-1)$
c_2	$(u^{28}+8u^{26}+\cdots-2u+1)(u^{137}-5u^{136}+\cdots-3u+1)$
c_3	$(u^{28}-8u^{26}+\cdots-2u+1)(u^{137}+5u^{136}+\cdots-28109u+49282)$
c_4	$(u^{28}+14u^{26}+\cdots-3u+1)(u^{137}-u^{136}+\cdots+37207u+14092)$
c_5	$(u^{28}-u^{27}+\cdots+2u+1)$ $\cdot(u^{137}+18u^{135}+\cdots+38195407u+7601057)$
c_6	$(u^{28}+8u^{26}+\cdots+2u+1)(u^{137}-5u^{136}+\cdots-3u+1)$
c_7	$(u^{28}+5u^{27}+\cdots-2u+1)(u^{137}+6u^{136}+\cdots-20079u+3169)$
c_8	$(u^{28}+2u^{27}+\cdots-5u+1)(u^{137}+3u^{136}+\cdots-1611854u+205619)$
c_9	$(u^{28}+14u^{26}+\cdots+3u+1)(u^{137}-u^{136}+\cdots+37207u+14092)$
c_{10}	$(u^{28}-5u^{27}+\cdots+2u+1)(u^{137}+6u^{136}+\cdots-20079u+3169)$
c_{11}	$(u^{28}+4u^{26}+\cdots-3u+1)(u^{137}+5u^{136}+\cdots+361656u+26671)$
c_{12}	$(u^{28}-2u^{27}+\cdots+5u+1)(u^{137}+3u^{136}+\cdots-1611854u+205619)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{28}+32y^{26}+\cdots-6y+1)(y^{137}-y^{136}+\cdots+61y-1)$
c_2, c_6	$(y^{28}+16y^{27}+\cdots+10y+1)(y^{137}+71y^{136}+\cdots-11y-1)$
c_3	$(y^{28}-16y^{27}+\cdots+18y+1)$ $\cdot(y^{137}-73y^{136}+\cdots+30864949201y-2428715524)$
c_4, c_9	$(y^{28}+28y^{27}+\cdots+33y+1)$ $\cdot(y^{137}+103y^{136}+\cdots-3967076151y-198584464)$
c_5	$(y^{28}+y^{27}+\cdots+4y+1)$ $\cdot(y^{137}+36y^{136}+\cdots-2839868740482897y-57776067517249)$
c_7, c_{10}	$(y^{28}+23y^{27}+\cdots+22y+1)$ $\cdot(y^{137}+90y^{136}+\cdots-824301543y-10042561)$
c_8, c_{12}	$(y^{28}+22y^{27}+\cdots+23y+1)$ $\cdot(y^{137}+93y^{136}+\cdots-669185450976y-42279173161)$
c_{11}	$(y^{28}+8y^{27}+\cdots+5y+1)$ $\cdot(y^{137}-17y^{136}+\cdots+62854050382y-711342241)$