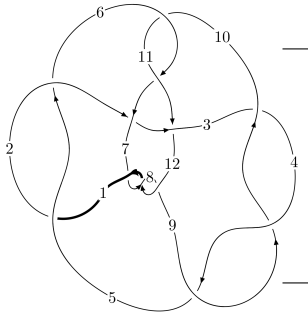
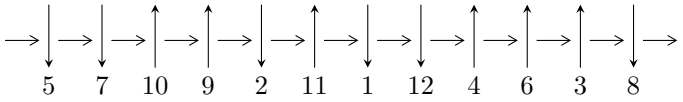
$12a_{1265}$ $(K12a_{1265})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 2.07379 \times 10^{255} u^{108} - 2.75072 \times 10^{255} u^{107} + \cdots + 1.59536 \times 10^{256} b - 5.93025 \times 10^{255},$$
$$- 2.85670 \times 10^{255} u^{108} - 2.09806 \times 10^{255} u^{107} + \cdots + 1.59536 \times 10^{256} a + 1.89502 \times 10^{257},$$
$$u^{109} - u^{108} + \cdots - 11u - 1 \rangle$$
$$I_2^u = \langle -61909880 u^{26} - 37523313 u^{25} + \cdots + 242539 b - 102346633,$$
$$- 121965917 u^{26} - 75233918 u^{25} + \cdots + 242539 a - 193272722,\ u^{27} - 6u^{25} + \cdots + 9u^2 - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 136 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. $\boldsymbol{I_1^u = \langle 2.07 \times 10^{255} u^{108} - 2.75 \times 10^{255} u^{107} + \cdots + 1.60 \times 10^{256} b - 5.93 \times 10^{255},\ -2.86 \times 10^{255} u^{108} - 2.10 \times 10^{255} u^{107} + \cdots + 1.60 \times 10^{256} a + 1.90 \times 10^{257},\ u^{109} - u^{108} + \cdots - 11u - 1 \rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.179063u^{108} + 0.131510u^{107} + \cdots - 1.04736u - 11.8784 \\ -0.129989u^{108} + 0.172420u^{107} + \cdots - 0.912281u + 0.371719 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.309052u^{108} - 0.0409100u^{107} + \cdots - 0.135083u - 12.2501 \\ -0.129989u^{108} + 0.172420u^{107} + \cdots - 0.912281u + 0.371719 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -3.71909u^{108} + 4.03133u^{107} + \cdots - 6.89095u + 6.17203 \\ -1.53240u^{108} + 0.953587u^{107} + \cdots - 4.61684u - 0.402304 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.631835u^{108} - 0.198694u^{107} + \cdots - 0.0460130u - 12.1832 \\ -0.0170239u^{108} + 0.114081u^{107} + \cdots - 2.96097u + 0.273605 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.688228u^{108} + 0.412394u^{107} + \cdots + 34.8906u - 11.0803 \\ 0.406094u^{108} + 0.104249u^{107} + \cdots + 5.65327u + 1.03987 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 3.60935u^{108} - 4.32794u^{107} + \cdots - 4.82469u + 3.17695 \\ 1.46357u^{108} - 0.289308u^{107} + \cdots + 18.8077u + 1.37757 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.37268u^{108} - 1.78944u^{107} + \cdots + 4.90531u - 4.99223 \\ 0.330824u^{108} - 0.403588u^{107} + \cdots - 4.64106u - 0.253700 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0243952u^{108} + 2.39013u^{107} + \cdots + 51.8115u + 3.31575 \\ -0.617749u^{108} + 1.05009u^{107} + \cdots - 10.7866u - 0.532978 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.197018u^{108} - 0.211745u^{107} + \cdots - 32.0632u - 8.93887$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{109} - 37u^{107} + \cdots + 59522u + 7979$
c_2	$u^{109} - u^{108} + \cdots + 8276u + 1297$
c_3, c_4, c_9	$u^{109} + u^{108} + \cdots + 256u + 32$
c_6, c_{10}	$u^{109} + u^{108} + \cdots - 11u + 1$
c_7, c_8, c_{12}	$u^{109} + 2u^{108} + \cdots - 1969u - 419$
c_{11}	$u^{109} - 7u^{108} + \cdots + 35263u + 3563$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{109} - 74y^{108} + \cdots + 1156541080y - 63664441$
c_2	$y^{109} + 13y^{108} + \cdots - 254211800y - 1682209$
c_3, c_4, c_9	$y^{109} + 109y^{108} + \cdots + 137216y - 1024$
c_6, c_{10}	$y^{109} - 55y^{108} + \cdots + 109y - 1$
c_7, c_8, c_{12}	$y^{109} + 104y^{108} + \cdots + 3301255y - 175561$
c_{11}	$y^{109} - 7y^{108} + \cdots + 969448839y - 12694969$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.917295 + 0.388841I$ $a = -2.97771 + 0.64132I$ $b = -0.062160 + 1.316590I$	$-1.67290 - 3.11299I$	0
$u = \quad 0.917295 - 0.388841I$ $a = -2.97771 - 0.64132I$ $b = -0.062160 - 1.316590I$	$-1.67290 + 3.11299I$	0
$u = \quad 0.228541 + 0.969277I$ $a = \quad 0.403082 - 0.308766I$ $b = \quad 0.541312 - 0.401025I$	$-2.94127 - 3.17384I$	0
$u = \quad 0.228541 - 0.969277I$ $a = \quad 0.403082 + 0.308766I$ $b = \quad 0.541312 + 0.401025I$	$-2.94127 + 3.17384I$	0
$u = -0.888968 + 0.445422I$ $a = \quad 1.71464 + 0.48468I$ $b = -0.45791 + 1.36846I$	$-2.11543 - 7.53198I$	0
$u = -0.888968 - 0.445422I$ $a = \quad 1.71464 - 0.48468I$ $b = -0.45791 - 1.36846I$	$-2.11543 + 7.53198I$	0
$u = \quad 0.877149 + 0.430029I$ $a = -1.90212 + 0.77696I$ $b = \quad 0.28424 + 1.48490I$	$-7.93888 + 4.00907I$	0
$u = \quad 0.877149 - 0.430029I$ $a = -1.90212 - 0.77696I$ $b = \quad 0.28424 - 1.48490I$	$-7.93888 - 4.00907I$	0
$u = -0.888800 + 0.394316I$ $a = \quad 2.55286 + 1.03132I$ $b = -0.04364 + 1.44473I$	$-7.67955 - 0.12193I$	0
$u = -0.888800 - 0.394316I$ $a = \quad 2.55286 - 1.03132I$ $b = -0.04364 - 1.44473I$	$-7.67955 + 0.12193I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.995644 + 0.311398I$ $a = 0.706710 - 0.278460I$ $b = -0.409925 + 0.785108I$	$8.58686 + 1.56893I$	0
$u = 0.995644 - 0.311398I$ $a = 0.706710 + 0.278460I$ $b = -0.409925 - 0.785108I$	$8.58686 - 1.56893I$	0
$u = -0.951558 + 0.088021I$ $a = -0.804740 + 0.333709I$ $b = 0.351609 + 0.845050I$	$1.361510 - 0.218866I$	0
$u = -0.951558 - 0.088021I$ $a = -0.804740 - 0.333709I$ $b = 0.351609 - 0.845050I$	$1.361510 + 0.218866I$	0
$u = -0.030115 + 0.932446I$ $a = -0.41453 - 1.41539I$ $b = -0.190470 - 1.327410I$	$-3.24398 + 0.72576I$	0
$u = -0.030115 - 0.932446I$ $a = -0.41453 + 1.41539I$ $b = -0.190470 + 1.327410I$	$-3.24398 - 0.72576I$	0
$u = -0.177661 + 0.911697I$ $a = -0.616810 - 0.190827I$ $b = -0.809475 - 0.389422I$	$2.65935 + 7.11690I$	0
$u = -0.177661 - 0.911697I$ $a = -0.616810 + 0.190827I$ $b = -0.809475 + 0.389422I$	$2.65935 - 7.11690I$	0
$u = -0.818616 + 0.425892I$ $a = 1.33364 + 1.27306I$ $b = -0.07438 + 1.77511I$	$-6.74853 - 1.80740I$	0
$u = -0.818616 - 0.425892I$ $a = 1.33364 - 1.27306I$ $b = -0.07438 - 1.77511I$	$-6.74853 + 1.80740I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.041810 + 0.281133I$ $a = 0.195601 - 0.995537I$ $b = -0.091742 - 0.730542I$	$-0.47156 + 2.62732I$	0
$u = 1.041810 - 0.281133I$ $a = 0.195601 + 0.995537I$ $b = -0.091742 + 0.730542I$	$-0.47156 - 2.62732I$	0
$u = 0.841457 + 0.348859I$ $a = -2.30224 + 2.55558I$ $b = 0.00477 + 1.64810I$	$-6.24517 + 1.53642I$	0
$u = 0.841457 - 0.348859I$ $a = -2.30224 - 2.55558I$ $b = 0.00477 - 1.64810I$	$-6.24517 - 1.53642I$	0
$u = -1.043380 + 0.349847I$ $a = 0.59169 - 1.31110I$ $b = 0.213307 - 0.288789I$	$3.76245 - 4.90249I$	0
$u = -1.043380 - 0.349847I$ $a = 0.59169 + 1.31110I$ $b = 0.213307 + 0.288789I$	$3.76245 + 4.90249I$	0
$u = -0.056570 + 0.887294I$ $a = 0.23778 - 1.92158I$ $b = -0.059940 - 1.405360I$	$-5.49952 + 1.73654I$	0
$u = -0.056570 - 0.887294I$ $a = 0.23778 + 1.92158I$ $b = -0.059940 + 1.405360I$	$-5.49952 - 1.73654I$	0
$u = 1.035550 + 0.405055I$ $a = -0.248386 + 0.014630I$ $b = 0.987429 - 0.256543I$	$3.47799 + 0.92445I$	0
$u = 1.035550 - 0.405055I$ $a = -0.248386 - 0.014630I$ $b = 0.987429 + 0.256543I$	$3.47799 - 0.92445I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.768950 + 0.400282I$ $a = -0.42544 + 1.60470I$ $b = -0.15501 + 1.61674I$	$-8.31025 - 0.46293I$	0
$u = 0.768950 - 0.400282I$ $a = -0.42544 - 1.60470I$ $b = -0.15501 - 1.61674I$	$-8.31025 + 0.46293I$	0
$u = 0.351659 + 1.087250I$ $a = -0.14092 + 1.98936I$ $b = -0.31351 + 1.47441I$	$-3.32481 - 11.20770I$	0
$u = 0.351659 - 1.087250I$ $a = -0.14092 - 1.98936I$ $b = -0.31351 - 1.47441I$	$-3.32481 + 11.20770I$	0
$u = -0.779063 + 0.357335I$ $a = 0.65483 + 2.72737I$ $b = -0.02730 + 1.56178I$	$-8.07250 - 3.15214I$	$0. + 9.48648I$
$u = -0.779063 - 0.357335I$ $a = 0.65483 - 2.72737I$ $b = -0.02730 - 1.56178I$	$-8.07250 + 3.15214I$	$0. - 9.48648I$
$u = -0.748158 + 0.403532I$ $a = -0.017264 + 1.191600I$ $b = 0.32327 + 1.53971I$	$-2.59809 + 3.91150I$	0
$u = -0.748158 - 0.403532I$ $a = -0.017264 - 1.191600I$ $b = 0.32327 - 1.53971I$	$-2.59809 - 3.91150I$	0
$u = -1.082180 + 0.405592I$ $a = 0.011986 - 0.151685I$ $b = -0.846547 - 0.667650I$	$-0.19217 - 3.18270I$	0
$u = -1.082180 - 0.405592I$ $a = 0.011986 + 0.151685I$ $b = -0.846547 + 0.667650I$	$-0.19217 + 3.18270I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.751805 + 0.334380I$ $a = -0.00652 + 3.35811I$ $b = 0.11632 + 1.47827I$	$-2.26710 + 6.30546I$	$0. - 8.32600I$
$u = 0.751805 - 0.334380I$ $a = -0.00652 - 3.35811I$ $b = 0.11632 - 1.47827I$	$-2.26710 - 6.30546I$	$0. + 8.32600I$
$u = -0.530917 + 1.054470I$ $a = -0.160119 - 0.275138I$ $b = -0.255742 - 0.184696I$	$-1.27003 - 1.78460I$	0
$u = -0.530917 - 1.054470I$ $a = -0.160119 + 0.275138I$ $b = -0.255742 + 0.184696I$	$-1.27003 + 1.78460I$	0
$u = 1.132170 + 0.343312I$ $a = -0.779850 + 0.293221I$ $b = 0.619776 + 0.241214I$	$3.19928 + 3.72682I$	0
$u = 1.132170 - 0.343312I$ $a = -0.779850 - 0.293221I$ $b = 0.619776 - 0.241214I$	$3.19928 - 3.72682I$	0
$u = 1.106170 + 0.430111I$ $a = 0.199472 - 0.114291I$ $b = 0.952381 - 0.979483I$	$4.41035 + 5.76275I$	0
$u = 1.106170 - 0.430111I$ $a = 0.199472 + 0.114291I$ $b = 0.952381 + 0.979483I$	$4.41035 - 5.76275I$	0
$u = 1.065550 + 0.525972I$ $a = 0.265703 - 0.607157I$ $b = -0.411673 + 0.260447I$	$8.70742 + 1.89196I$	0
$u = 1.065550 - 0.525972I$ $a = 0.265703 + 0.607157I$ $b = -0.411673 - 0.260447I$	$8.70742 - 1.89196I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.075170+0.509388I$ $a=-1.01403-1.73330I$ $b=\ \ 0.428502-1.184510I$	$3.93776-1.49242I$	0
$u=-1.075170-0.509388I$ $a=-1.01403+1.73330I$ $b=\ \ 0.428502+1.184510I$	$3.93776+1.49242I$	0
$u=-1.171430+0.225646I$ $a=\ \ 0.376353+0.225896I$ $b=-0.684877+0.065030I$	$2.41069-0.38377I$	0
$u=-1.171430-0.225646I$ $a=\ \ 0.376353-0.225896I$ $b=-0.684877-0.065030I$	$2.41069+0.38377I$	0
$u=\ \ 0.044851+0.798516I$ $a=-0.35190-2.19219I$ $b=\ \ 0.21212-1.47986I$	$-0.26000-5.08901I$	$-0.55328+3.56824I$
$u=\ \ 0.044851-0.798516I$ $a=-0.35190+2.19219I$ $b=\ \ 0.21212+1.47986I$	$-0.26000+5.08901I$	$-0.55328-3.56824I$
$u=-1.167220+0.394638I$ $a=\ \ 0.929843+0.663040I$ $b=-0.747986+0.442209I$	$9.47349-5.89379I$	0
$u=-1.167220-0.394638I$ $a=\ \ 0.929843-0.663040I$ $b=-0.747986-0.442209I$	$9.47349+5.89379I$	0
$u=-0.466833+1.152340I$ $a=\ \ 0.16664+2.01458I$ $b=\ \ 0.20934+1.45400I$	$-8.92272+5.97813I$	0
$u=-0.466833-1.152340I$ $a=\ \ 0.16664-2.01458I$ $b=\ \ 0.20934-1.45400I$	$-8.92272-5.97813I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.975840+0.821780I$ $a=\ \ 0.97284+2.27758I$ $b=-0.069377+1.308370I$	$5.21318-3.15719I$	0
$u=-0.975840-0.821780I$ $a=\ \ 0.97284-2.27758I$ $b=-0.069377-1.308370I$	$5.21318+3.15719I$	0
$u=\ \ 1.194580+0.481018I$ $a=\ \ 1.71374-1.16758I$ $b=-0.28135-1.51574I$	$3.07744+9.68491I$	0
$u=\ \ 1.194580-0.481018I$ $a=\ \ 1.71374+1.16758I$ $b=-0.28135+1.51574I$	$3.07744-9.68491I$	0
$u=-1.228300+0.398830I$ $a=-0.413599-0.569071I$ $b=-0.225505-1.343420I$	$3.60602+0.77733I$	0
$u=-1.228300-0.398830I$ $a=-0.413599+0.569071I$ $b=-0.225505+1.343420I$	$3.60602-0.77733I$	0
$u=-1.209680+0.504015I$ $a=-1.48165-0.97700I$ $b=\ \ 0.20369-1.41076I$	$-2.09618-6.64117I$	0
$u=-1.209680-0.504015I$ $a=-1.48165+0.97700I$ $b=\ \ 0.20369+1.41076I$	$-2.09618+6.64117I$	0
$u=\ \ 1.285130+0.289960I$ $a=-0.155336+0.482884I$ $b=\ \ 0.817856-0.026014I$	$7.51555-2.97756I$	0
$u=\ \ 1.285130-0.289960I$ $a=-0.155336-0.482884I$ $b=\ \ 0.817856+0.026014I$	$7.51555+2.97756I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.181230 + 0.593275I$ $a = 0.92384 - 1.23266I$ $b = -0.285366 - 1.285050I$	$-1.75785 + 3.90884I$	0
$u = 1.181230 - 0.593275I$ $a = 0.92384 + 1.23266I$ $b = -0.285366 + 1.285050I$	$-1.75785 - 3.90884I$	0
$u = 1.307670 + 0.198580I$ $a = 0.268050 - 0.667472I$ $b = -0.109734 - 1.163540I$	$-0.69842 + 2.74484I$	0
$u = 1.307670 - 0.198580I$ $a = 0.268050 + 0.667472I$ $b = -0.109734 + 1.163540I$	$-0.69842 - 2.74484I$	0
$u = -1.214220 + 0.546616I$ $a = -0.383948 - 0.819267I$ $b = 1.025080 - 0.443897I$	$5.80203 - 12.37070I$	0
$u = -1.214220 - 0.546616I$ $a = -0.383948 + 0.819267I$ $b = 1.025080 + 0.443897I$	$5.80203 + 12.37070I$	0
$u = 1.212590 + 0.561823I$ $a = 0.445795 - 0.745015I$ $b = -0.800033 - 0.503774I$	$0.11561 + 8.62374I$	0
$u = 1.212590 - 0.561823I$ $a = 0.445795 + 0.745015I$ $b = -0.800033 + 0.503774I$	$0.11561 - 8.62374I$	0
$u = -1.192060 + 0.605034I$ $a = -0.416600 - 0.574954I$ $b = 0.446997 - 0.333198I$	$1.13170 - 4.19601I$	0
$u = -1.192060 - 0.605034I$ $a = -0.416600 + 0.574954I$ $b = 0.446997 + 0.333198I$	$1.13170 + 4.19601I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.700060 + 1.142770I$ $a = -0.29581 + 2.05476I$ $b = -0.109401 + 1.404370I$	$-6.51472 + 0.35305I$	0
$u = 0.700060 - 1.142770I$ $a = -0.29581 - 2.05476I$ $b = -0.109401 - 1.404370I$	$-6.51472 - 0.35305I$	0
$u = 0.032243 + 0.654206I$ $a = -0.038798 + 0.603960I$ $b = 0.620537 + 0.468341I$	$6.04660 + 2.07633I$	$3.96983 - 3.09128I$
$u = 0.032243 - 0.654206I$ $a = -0.038798 - 0.603960I$ $b = 0.620537 - 0.468341I$	$6.04660 - 2.07633I$	$3.96983 + 3.09128I$
$u = 1.254860 + 0.509749I$ $a = 1.33186 - 0.51982I$ $b = 0.003432 - 1.269670I$	$0.58269 + 4.34240I$	0
$u = 1.254860 - 0.509749I$ $a = 1.33186 + 0.51982I$ $b = 0.003432 + 1.269670I$	$0.58269 - 4.34240I$	0
$u = -1.243750 + 0.561674I$ $a = -0.798785 - 0.866669I$ $b = 0.443782 - 1.236210I$	$0.34900 - 6.05121I$	0
$u = -1.243750 - 0.561674I$ $a = -0.798785 + 0.866669I$ $b = 0.443782 + 1.236210I$	$0.34900 + 6.05121I$	0
$u = 0.436977 + 1.307650I$ $a = 0.15945 - 1.70010I$ $b = -0.011076 - 1.259460I$	$-4.59741 + 2.49863I$	0
$u = 0.436977 - 1.307650I$ $a = 0.15945 + 1.70010I$ $b = -0.011076 + 1.259460I$	$-4.59741 - 2.49863I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.238700 + 0.660923I$ $a = -1.30083 + 1.50011I$ $b = 0.38454 + 1.53010I$	$-0.5204 + 17.4421I$	0
$u = 1.238700 - 0.660923I$ $a = -1.30083 - 1.50011I$ $b = 0.38454 - 1.53010I$	$-0.5204 - 17.4421I$	0
$u = -1.23429 + 0.70685I$ $a = 1.22406 + 1.55908I$ $b = -0.28898 + 1.51240I$	$-6.39420 - 12.58890I$	0
$u = -1.23429 - 0.70685I$ $a = 1.22406 - 1.55908I$ $b = -0.28898 - 1.51240I$	$-6.39420 + 12.58890I$	0
$u = 1.19259 + 0.78163I$ $a = -1.11483 + 1.71185I$ $b = 0.18816 + 1.45245I$	$-4.74296 + 6.63857I$	0
$u = 1.19259 - 0.78163I$ $a = -1.11483 - 1.71185I$ $b = 0.18816 - 1.45245I$	$-4.74296 - 6.63857I$	0
$u = -1.44608 + 0.04719I$ $a = -0.040649 + 0.579125I$ $b = 0.310468 + 1.259740I$	$3.55451 + 7.02330I$	0
$u = -1.44608 - 0.04719I$ $a = -0.040649 - 0.579125I$ $b = 0.310468 - 1.259740I$	$3.55451 - 7.02330I$	0
$u = 0.544648$ $a = 3.13511$ $b = 0.0839524$	-2.34897	-12.1390
$u = -0.522628 + 0.036645I$ $a = -3.48709 + 1.23436I$ $b = -0.274730 + 0.389014I$	$1.82569 + 2.13131I$	$-3.73393 - 2.73945I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.522628-0.036645I$ $a=-3.48709-1.23436I$ $b=-0.274730-0.389014I$	$1.82569-2.13131I$	$-3.73393+2.73945I$
$u=\ \ 0.458561+0.199663I$ $a=\ \ 1.89029-0.91206I$ $b=-0.887085+0.269303I$	$1.66369+2.35488I$	$-1.50437-3.62088I$
$u=\ \ 0.458561-0.199663I$ $a=\ \ 1.89029+0.91206I$ $b=-0.887085-0.269303I$	$1.66369-2.35488I$	$-1.50437+3.62088I$
$u=-0.380749$ $a=-3.02874$ $b=\ \ 0.700945$	-2.45714	-8.71150
$u=-0.052076+0.343747I$ $a=\ \ 0.496752-0.041911I$ $b=-0.222626+0.347090I$	$0.037435-0.848313I$	$0.96305+8.00099I$
$u=-0.052076-0.343747I$ $a=\ \ 0.496752+0.041911I$ $b=-0.222626-0.347090I$	$0.037435+0.848313I$	$0.96305-8.00099I$
$u=\ \ 0.008819+0.291878I$ $a=\ \ 0.60611-4.57498I$ $b=-0.632156-0.577055I$	$1.77699-2.25358I$	$-1.51427+1.55993I$
$u=\ \ 0.008819-0.291878I$ $a=\ \ 0.60611+4.57498I$ $b=-0.632156+0.577055I$	$1.77699+2.25358I$	$-1.51427-1.55993I$
$u=-0.0979899$ $a=-11.6726$ $b=\ \ 0.516660$	-2.46988	-6.41050

II.

$\boldsymbol{I_2^u = \langle -6.19\times 10^{7}u^{26}-3.75\times 10^{7}u^{25}+\cdots+2.43\times 10^{5}b-1.02\times 10^{8},\ -1.22\times 10^{8}u^{26}-7.52\times 10^{7}u^{25}+\cdots+2.43\times 10^{5}a-1.93\times 10^{8},\ u^{27}-6u^{25}+\cdots+9u^{2}-1\rangle}$

(i) Arc colorings

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

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 502.871u^{26}+310.193u^{25}+\cdots+1282.56u+796.873 \\ 255.257u^{26}+154.710u^{25}+\cdots+687.396u+421.980 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 247.614u^{26}+155.483u^{25}+\cdots+595.162u+374.893 \\ 255.257u^{26}+154.710u^{25}+\cdots+687.396u+421.980 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 842.482u^{26}+517.869u^{25}+\cdots+2273.29u+1384.54 \\ 66.0914u^{26}+34.3579u^{25}+\cdots+203.570u+110.942 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 281.972u^{26}+174.816u^{25}+\cdots+705.104u+439.984 \\ 279.476u^{26}+168.986u^{25}+\cdots+762.980u+467.738 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -405.984u^{26}-244.608u^{25}+\cdots-1085.38u-666.588 \\ -255.257u^{26}-155.710u^{25}+\cdots-688.396u-422.980 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -406.984u^{26}-251.608u^{25}+\cdots-1095.38u-674.588 \\ 210.506u^{26}+134.453u^{25}+\cdots+542.843u+340.752 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -468.738u^{26}-279.476u^{25}+\cdots-1279.42u-763.980 \\ 174.816u^{26}+112.438u^{25}+\cdots+439.984u+280.972 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -527.422u^{26}-334.894u^{25}+\cdots-1367.67u-862.920 \\ -464.333u^{26}-281.414u^{25}+\cdots-1249.38u-757.932 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{103270119}{242539}u^{26}-\frac{56211541}{242539}u^{25}+\cdots-\frac{293238618}{242539}u-\frac{163845610}{242539}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{27}+5u^{26}+\cdots-5u-1$
c_2	$u^{27}-6u^{24}+\cdots-3u-1$
c_3, c_4	$u^{27}+16u^{25}+\cdots-15u^2-1$
c_5	$u^{27}-5u^{26}+\cdots-5u+1$
c_6	$u^{27}-6u^{25}+\cdots-9u^2+1$
c_7, c_8	$u^{27}+u^{26}+\cdots-6u^2-1$
c_9	$u^{27}+16u^{25}+\cdots+15u^2+1$
c_{10}	$u^{27}-6u^{25}+\cdots+9u^2-1$
c_{11}	$u^{27}-6u^{24}+\cdots-6u-1$
c_{12}	$u^{27}-u^{26}+\cdots+6u^2+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{27} - 27y^{26} + \cdots + 21y - 1$
c_2	$y^{27} - 14y^{25} + \cdots + 9y - 1$
c_3, c_4, c_9	$y^{27} + 32y^{26} + \cdots - 30y - 1$
c_6, c_{10}	$y^{27} - 12y^{26} + \cdots + 18y - 1$
c_7, c_8, c_{12}	$y^{27} + 31y^{26} + \cdots - 12y - 1$
c_{11}	$y^{27} - 4y^{25} + \cdots - 36y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.942324+0.463381I$ $a=\ \ 0.365787+0.451255I$ $b=-0.183259-0.689497I$	$8.02900-1.92739I$	$-3.77286+4.58368I$
$u=-0.942324-0.463381I$ $a=\ \ 0.365787-0.451255I$ $b=-0.183259+0.689497I$	$8.02900+1.92739I$	$-3.77286-4.58368I$
$u=\ \ 0.483141+0.943254I$ $a=\ \ 0.376266-0.450412I$ $b=\ \ 0.009550-0.292659I$	$-1.47227+2.03572I$	$-6.10233-10.39234I$
$u=\ \ 0.483141-0.943254I$ $a=\ \ 0.376266+0.450412I$ $b=\ \ 0.009550+0.292659I$	$-1.47227-2.03572I$	$-6.10233+10.39234I$
$u=\ \ 0.898205+0.275115I$ $a=-1.98861+1.65479I$ $b=\ \ 0.04853+1.71995I$	$-5.68655+1.20145I$	$6.29164+1.68837I$
$u=\ \ 0.898205-0.275115I$ $a=-1.98861-1.65479I$ $b=\ \ 0.04853-1.71995I$	$-5.68655-1.20145I$	$6.29164-1.68837I$
$u=-0.672337+0.556616I$ $a=\ \ 1.29098+2.20712I$ $b=-0.02269+1.57539I$	$-8.12915-2.15451I$	$-6.76559+3.24060I$
$u=-0.672337-0.556616I$ $a=\ \ 1.29098-2.20712I$ $b=-0.02269-1.57539I$	$-8.12915+2.15451I$	$-6.76559-3.24060I$
$u=-1.112550+0.271059I$ $a=-0.109709-0.713334I$ $b=-0.620837-0.565124I$	$4.03441-3.52253I$	$4.01236+2.14707I$
$u=-1.112550-0.271059I$ $a=-0.109709+0.713334I$ $b=-0.620837+0.565124I$	$4.03441+3.52253I$	$4.01236-2.14707I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.085270 + 0.406721I$ $a = -0.111058 - 0.295568I$ $b = 0.399468 - 0.566662I$	$0.80288 + 2.52939I$	$2.33628 - 1.94804I$
$u = 1.085270 - 0.406721I$ $a = -0.111058 + 0.295568I$ $b = 0.399468 + 0.566662I$	$0.80288 - 2.52939I$	$2.33628 + 1.94804I$
$u = -0.778831 + 0.117790I$ $a = -2.30422 + 0.30022I$ $b = 0.673811 - 0.291893I$	$2.51885 + 1.83267I$	$7.19651 + 1.63578I$
$u = -0.778831 - 0.117790I$ $a = -2.30422 - 0.30022I$ $b = 0.673811 + 0.291893I$	$2.51885 - 1.83267I$	$7.19651 - 1.63578I$
$u = 0.996298 + 0.754662I$ $a = 1.01816 - 2.00934I$ $b = -0.098699 - 1.182820I$	$6.15838 + 2.98788I$	$4.89288 - 2.63147I$
$u = 0.996298 - 0.754662I$ $a = 1.01816 + 2.00934I$ $b = -0.098699 + 1.182820I$	$6.15838 - 2.98788I$	$4.89288 + 2.63147I$
$u = 0.676875$ $a = 2.33452$ $b = -0.544077$	-1.92500	9.44010
$u = 1.292180 + 0.387849I$ $a = 0.762601 - 0.366330I$ $b = -0.306155 - 1.266240I$	$1.40790 + 6.90774I$	$1.74233 - 7.65334I$
$u = 1.292180 - 0.387849I$ $a = 0.762601 + 0.366330I$ $b = -0.306155 + 1.266240I$	$1.40790 - 6.90774I$	$1.74233 + 7.65334I$
$u = -0.507947 + 0.373441I$ $a = 1.68384 + 2.65266I$ $b = -0.06472 + 1.54270I$	$-8.13679 - 2.20134I$	$-5.48394 + 1.97403I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.507947-0.373441I$ $a=\ \ 1.68384-2.65266I$ $b=-0.06472-1.54270I$	$-8.13679+2.20134I$	$-5.48394-1.97403I$
$u=-0.422372+1.311780I$ $a=-0.01586-1.63655I$ $b=\ \ 0.017423-1.269410I$	$-4.78882-2.16961I$	$-9.61126-4.65741I$
$u=-0.422372-1.311780I$ $a=-0.01586+1.63655I$ $b=\ \ 0.017423+1.269410I$	$-4.78882+2.16961I$	$-9.61126+4.65741I$
$u=\ \ 0.613246+0.007226I$ $a=-2.22691-2.13036I$ $b=\ \ 0.22560-1.46124I$	$-1.97305-5.13924I$	$1.04904+3.19072I$
$u=\ \ 0.613246-0.007226I$ $a=-2.22691+2.13036I$ $b=\ \ 0.22560+1.46124I$	$-1.97305+5.13924I$	$1.04904-3.19072I$
$u=-1.27042+0.63032I$ $a=-0.908529-1.032590I$ $b=\ \ 0.194013-1.234630I$	$-1.67190-4.71459I$	$-3.50510+6.77029I$
$u=-1.27042-0.63032I$ $a=-0.908529+1.032590I$ $b=\ \ 0.194013+1.234630I$	$-1.67190+4.71459I$	$-3.50510-6.77029I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{27}+5u^{26}+\cdots-5u-1)(u^{109}-37u^{107}+\cdots+59522u+7979)$
c_2	$(u^{27}-6u^{24}+\cdots-3u-1)(u^{109}-u^{108}+\cdots+8276u+1297)$
c_3, c_4	$(u^{27}+16u^{25}+\cdots-15u^2-1)(u^{109}+u^{108}+\cdots+256u+32)$
c_5	$(u^{27}-5u^{26}+\cdots-5u+1)(u^{109}-37u^{107}+\cdots+59522u+7979)$
c_6	$(u^{27}-6u^{25}+\cdots-9u^2+1)(u^{109}+u^{108}+\cdots-11u+1)$
c_7, c_8	$(u^{27}+u^{26}+\cdots-6u^2-1)(u^{109}+2u^{108}+\cdots-1969u-419)$
c_9	$(u^{27}+16u^{25}+\cdots+15u^2+1)(u^{109}+u^{108}+\cdots+256u+32)$
c_{10}	$(u^{27}-6u^{25}+\cdots+9u^2-1)(u^{109}+u^{108}+\cdots-11u+1)$
c_{11}	$(u^{27}-6u^{24}+\cdots-6u-1)(u^{109}-7u^{108}+\cdots+35263u+3563)$
c_{12}	$(u^{27}-u^{26}+\cdots+6u^2+1)(u^{109}+2u^{108}+\cdots-1969u-419)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{27} - 27y^{26} + \cdots + 21y - 1)$ $\cdot (y^{109} - 74y^{108} + \cdots + 1156541080y - 63664441)$
c_2	$(y^{27} - 14y^{25} + \cdots + 9y - 1)$ $\cdot (y^{109} + 13y^{108} + \cdots - 254211800y - 1682209)$
c_3, c_4, c_9	$(y^{27} + 32y^{26} + \cdots - 30y - 1)(y^{109} + 109y^{108} + \cdots + 137216y - 1024)$
c_6, c_{10}	$(y^{27} - 12y^{26} + \cdots + 18y - 1)(y^{109} - 55y^{108} + \cdots + 109y - 1)$
c_7, c_8, c_{12}	$(y^{27} + 31y^{26} + \cdots - 12y - 1)$ $\cdot (y^{109} + 104y^{108} + \cdots + 3301255y - 175561)$
c_{11}	$(y^{27} - 4y^{25} + \cdots - 36y - 1)$ $\cdot (y^{109} - 7y^{108} + \cdots + 969448839y - 12694969)$