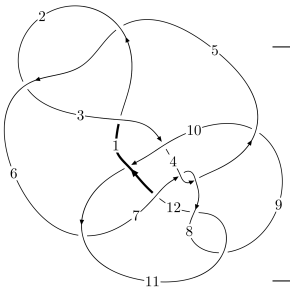
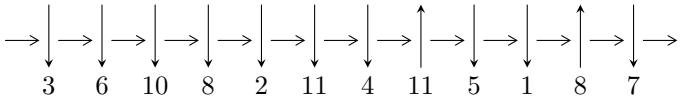
$12n_{0513}$ $(K12n_{0513})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -4.11455 \times 10^{216} u^{83} - 1.22374 \times 10^{217} u^{82} + \cdots + 1.43757 \times 10^{217} b - 1.08508 \times 10^{217}, \\ & - 1.59930 \times 10^{217} u^{83} - 4.98714 \times 10^{217} u^{82} + \cdots + 1.43757 \times 10^{217} a - 1.15733 \times 10^{218}, \\ & u^{84} + 3u^{83} + \cdots + 6u - 1 \rangle \\ I_2^u = \langle & -2270u^{21} - 3510u^{20} + \cdots + 61b - 3235,\ -7325u^{21} - 11232u^{20} + \cdots + 61a - 11023, \\ & u^{22} + 2u^{21} + \cdots + 3u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 106 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. $\boldsymbol{I_1^u = \langle -4.11 \times 10^{216} u^{83} - 1.22 \times 10^{217} u^{82} + \cdots + 1.44 \times 10^{217} b - 1.09 \times 10^{217},\ -1.60 \times 10^{217} u^{83} - 4.99 \times 10^{217} u^{82} + \cdots + 1.44 \times 10^{217} a - 1.16 \times 10^{218},\ u^{84} + 3u^{83} + \cdots + 6u - 1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.11250u^{83} + 3.46914u^{82} + \cdots - 73.5902u + 8.05058 \\ 0.286216u^{83} + 0.851258u^{82} + \cdots - 7.95580u + 0.754799 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 2.00350u^{83} + 6.21549u^{82} + \cdots - 103.174u + 8.32630 \\ 0.383700u^{83} + 1.12001u^{82} + \cdots - 7.13407u + 0.363188 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1.72740u^{83} + 5.47297u^{82} + \cdots - 95.2664u + 8.16810 \\ 0.342545u^{83} + 1.03274u^{82} + \cdots - 7.92489u + 0.448974 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1.11250u^{83} + 3.46914u^{82} + \cdots - 73.5902u + 8.05058 \\ 0.252151u^{83} + 0.812685u^{82} + \cdots - 8.27842u + 0.623153 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.118293u^{83} + 0.140322u^{82} + \cdots + 28.7740u + 14.3613 \\ 0.136975u^{83} + 0.450890u^{82} + \cdots + 0.649097u + 1.21041 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} 1.06394u^{83} + 3.26827u^{82} + \cdots - 73.1824u + 8.12599 \\ 0.203595u^{83} + 0.611813u^{82} + \cdots - 7.87055u + 0.698566 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.61980u^{83} + 5.09548u^{82} + \cdots - 94.0400u + 7.96311 \\ 0.0171652u^{83} + 0.125743u^{82} + \cdots - 8.77587u + 0.619271 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.37298u^{83} - 4.14238u^{82} + \cdots + 83.9230u + 0.293934 \\ -0.122114u^{83} - 0.296643u^{82} + \cdots + 4.05853u + 0.483833 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.46226u^{83} - 4.71452u^{82} + \cdots + 33.6541u - 9.62565$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{84}+35u^{83}+\cdots+55u+1$
c_2, c_5	$u^{84}+u^{83}+\cdots+9u-1$
c_3	$u^{84}+2u^{83}+\cdots-3150u-863$
c_4, c_7	$u^{84}+3u^{83}+\cdots+6u-1$
c_6	$u^{84}+u^{83}+\cdots-4996204u-2395607$
c_8, c_{11}	$u^{84}-10u^{83}+\cdots+8180u+3952$
c_9	$u^{84}+34u^{82}+\cdots+1301846276u+241946651$
c_{10}	$u^{84}-10u^{83}+\cdots-248u+1$
c_{12}	$u^{84}-4u^{83}+\cdots-28586236u+7588717$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{84}+37y^{83}+\cdots+1781y+1$
c_2, c_5	$y^{84}-35y^{83}+\cdots-55y+1$
c_3	$y^{84}+12y^{83}+\cdots+9189498y+744769$
c_4, c_7	$y^{84}-21y^{83}+\cdots+48y+1$
c_6	$y^{84}+53y^{83}+\cdots-69359144214586y+5738932898449$
c_8, c_{11}	$y^{84}-84y^{83}+\cdots-1119037552y+15618304$
c_9	$y^{84}+68y^{83}+\cdots+1815122488070227036y+58538181930115801$
c_{10}	$y^{84}+12y^{83}+\cdots-58496y+1$
c_{12}	$y^{84}+64y^{83}+\cdots-298596197402654y+57588625706089$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.900153 + 0.297981I$ $a = 0.152850 - 0.484510I$ $b = 1.277690 - 0.223754I$	$-0.21302 - 4.33780I$	0
$u = 0.900153 - 0.297981I$ $a = 0.152850 + 0.484510I$ $b = 1.277690 + 0.223754I$	$-0.21302 + 4.33780I$	0
$u = -0.721646 + 0.828109I$ $a = -0.479477 - 1.213880I$ $b = -0.562940 - 0.435217I$	$2.62706 + 3.30026I$	0
$u = -0.721646 - 0.828109I$ $a = -0.479477 + 1.213880I$ $b = -0.562940 + 0.435217I$	$2.62706 - 3.30026I$	0
$u = 0.898980 + 0.044549I$ $a = 0.520925 - 1.086290I$ $b = 1.39226 - 1.50003I$	$-0.92412 - 1.22946I$	$-12.54684 + 0.I$
$u = 0.898980 - 0.044549I$ $a = 0.520925 + 1.086290I$ $b = 1.39226 + 1.50003I$	$-0.92412 + 1.22946I$	$-12.54684 + 0.I$
$u = -0.881658 + 0.085784I$ $a = -0.628035 + 1.224740I$ $b = -1.12816 + 2.00117I$	$-1.65718 - 5.58665I$	$-13.05862 + 4.36644I$
$u = -0.881658 - 0.085784I$ $a = -0.628035 - 1.224740I$ $b = -1.12816 - 2.00117I$	$-1.65718 + 5.58665I$	$-13.05862 - 4.36644I$
$u = -0.780154 + 0.371808I$ $a = 0.156738 - 0.240422I$ $b = -0.771810 + 0.080467I$	$-0.0845697 - 0.1001390I$	$-9.69562 + 0.I$
$u = -0.780154 - 0.371808I$ $a = 0.156738 + 0.240422I$ $b = -0.771810 - 0.080467I$	$-0.0845697 + 0.1001390I$	$-9.69562 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.826574+0.108876I$ $a=\ \ 0.648654+0.935247I$ $b=-0.312333+0.007656I$	$0.214695-0.733341I$	$-9.75722-1.67126I$
$u=-0.826574-0.108876I$ $a=\ \ 0.648654-0.935247I$ $b=-0.312333-0.007656I$	$0.214695+0.733341I$	$-9.75722+1.67126I$
$u=-0.870921+0.787220I$ $a=-0.60547-1.61811I$ $b=-1.43008-1.28544I$	$5.63391+7.36950I$	0
$u=-0.870921-0.787220I$ $a=-0.60547+1.61811I$ $b=-1.43008+1.28544I$	$5.63391-7.36950I$	0
$u=-0.917337+0.733359I$ $a=-1.35773-0.70979I$ $b=-1.61122-0.13239I$	$5.47056-1.58629I$	0
$u=-0.917337-0.733359I$ $a=-1.35773+0.70979I$ $b=-1.61122+0.13239I$	$5.47056+1.58629I$	0
$u=-0.698347+0.435308I$ $a=\ \ 1.19604-1.25661I$ $b=-0.330618-1.054550I$	$-3.52883+2.77312I$	$-15.4506-6.7979I$
$u=-0.698347-0.435308I$ $a=\ \ 1.19604+1.25661I$ $b=-0.330618+1.054550I$	$-3.52883-2.77312I$	$-15.4506+6.7979I$
$u=-0.071228+0.808709I$ $a=\ \ 0.684407-0.392922I$ $b=-0.667491+0.370099I$	$2.08277+3.57421I$	$-4.77531-3.69472I$
$u=-0.071228-0.808709I$ $a=\ \ 0.684407+0.392922I$ $b=-0.667491-0.370099I$	$2.08277-3.57421I$	$-4.77531+3.69472I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.882596 + 0.809217I$ $a = 0.76923 - 1.57559I$ $b = 1.68260 - 1.03445I$	$6.12462 - 2.40868I$	0
$u = 0.882596 - 0.809217I$ $a = 0.76923 + 1.57559I$ $b = 1.68260 + 1.03445I$	$6.12462 + 2.40868I$	0
$u = 0.919192 + 0.775802I$ $a = 1.27737 - 0.97215I$ $b = 1.77985 - 0.24242I$	$6.00052 - 3.56886I$	0
$u = 0.919192 - 0.775802I$ $a = 1.27737 + 0.97215I$ $b = 1.77985 + 0.24242I$	$6.00052 + 3.56886I$	0
$u = -0.131087 + 0.779739I$ $a = -0.618512 - 0.563874I$ $b = 0.623447 + 0.478283I$	$2.93571 + 1.52852I$	$-2.60851 - 2.55303I$
$u = -0.131087 - 0.779739I$ $a = -0.618512 + 0.563874I$ $b = 0.623447 - 0.478283I$	$2.93571 - 1.52852I$	$-2.60851 + 2.55303I$
$u = -0.532846 + 0.536929I$ $a = -0.110446 - 0.772642I$ $b = 1.039160 - 0.278861I$	$1.53936 + 3.45140I$	$-4.45971 - 6.29986I$
$u = -0.532846 - 0.536929I$ $a = -0.110446 + 0.772642I$ $b = 1.039160 + 0.278861I$	$1.53936 - 3.45140I$	$-4.45971 + 6.29986I$
$u = 0.743015 + 0.118915I$ $a = -1.08667 + 1.31261I$ $b = 0.311075 + 0.036329I$	$-1.00616 + 6.17268I$	$-13.15706 - 1.64571I$
$u = 0.743015 - 0.118915I$ $a = -1.08667 - 1.31261I$ $b = 0.311075 - 0.036329I$	$-1.00616 - 6.17268I$	$-13.15706 + 1.64571I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.608571 + 0.441527I$ $a = -0.116760 - 0.757237I$ $b = -1.50360 - 0.59788I$	$-0.30762 - 8.50634I$	$-8.7735 + 11.8688I$
$u = 0.608571 - 0.441527I$ $a = -0.116760 + 0.757237I$ $b = -1.50360 + 0.59788I$	$-0.30762 + 8.50634I$	$-8.7735 - 11.8688I$
$u = -0.763077 + 1.009160I$ $a = 0.290491 + 1.008800I$ $b = 1.26873 + 0.94425I$	$5.88830 + 7.20760I$	0
$u = -0.763077 - 1.009160I$ $a = 0.290491 - 1.008800I$ $b = 1.26873 - 0.94425I$	$5.88830 - 7.20760I$	0
$u = 0.718688$ $a = -1.57675$ $b = 0.296620$	-5.24836	-19.9760
$u = 0.935696 + 0.904486I$ $a = 0.732618 - 1.149590I$ $b = 1.70260 - 0.35455I$	$4.37832 - 3.33219I$	0
$u = 0.935696 - 0.904486I$ $a = 0.732618 + 1.149590I$ $b = 1.70260 + 0.35455I$	$4.37832 + 3.33219I$	0
$u = 0.795821 + 1.049650I$ $a = -0.428636 + 0.975134I$ $b = -1.31864 + 0.60090I$	$8.06712 - 0.99861I$	0
$u = 0.795821 - 1.049650I$ $a = -0.428636 - 0.975134I$ $b = -1.31864 - 0.60090I$	$8.06712 + 0.99861I$	0
$u = -0.483252 + 0.480273I$ $a = 1.88640 - 2.27246I$ $b = -0.558902 - 1.166930I$	$0.09901 + 7.96107I$	$-7.32121 - 11.83227I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.483252-0.480273I$ $a=\ \ 1.88640+2.27246I$ $b=-0.558902+1.166930I$	$0.09901-7.96107I$	$-7.32121+11.83227I$
$u=-0.616946+0.250802I$ $a=-0.74826+1.21205I$ $b=-0.19427+1.83238I$	$-3.45151+0.05717I$	$-15.3703-3.3052I$
$u=-0.616946-0.250802I$ $a=-0.74826-1.21205I$ $b=-0.19427-1.83238I$	$-3.45151-0.05717I$	$-15.3703+3.3052I$
$u=-0.799101+1.075390I$ $a=\ \ 0.589749+0.783838I$ $b=\ \ 0.951424+0.130937I$	$1.72718-2.24494I$	0
$u=-0.799101-1.075390I$ $a=\ \ 0.589749-0.783838I$ $b=\ \ 0.951424-0.130937I$	$1.72718+2.24494I$	0
$u=-0.709874+1.145940I$ $a=-0.707557-1.188160I$ $b=-1.16025+0.97520I$	$5.83263-0.09887I$	0
$u=-0.709874-1.145940I$ $a=-0.707557+1.188160I$ $b=-1.16025-0.97520I$	$5.83263+0.09887I$	0
$u=-1.113350+0.768279I$ $a=-0.620139-0.681105I$ $b=-1.55359-0.74336I$	$1.39386+2.74337I$	0
$u=-1.113350-0.768279I$ $a=-0.620139+0.681105I$ $b=-1.55359+0.74336I$	$1.39386-2.74337I$	0
$u=-1.344250+0.217412I$ $a=\ \ 0.191483+0.020332I$ $b=\ \ 0.162753-0.595444I$	$-1.31503+2.43238I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.344250-0.217412I$ $a=\ 0.191483-0.020332I$ $b=\ 0.162753+0.595444I$	$-1.31503-2.43238I$	0
$u=\ 0.816860+1.100600I$ $a=-0.723679+0.953539I$ $b=-1.42267-0.16761I$	$8.92473+4.08371I$	0
$u=\ 0.816860-1.100600I$ $a=-0.723679-0.953539I$ $b=-1.42267+0.16761I$	$8.92473-4.08371I$	0
$u=-0.810679+1.116350I$ $a=\ 0.795718+0.932947I$ $b=\ 1.38186-0.37607I$	$7.28558-10.07310I$	0
$u=-0.810679-1.116350I$ $a=\ 0.795718-0.932947I$ $b=\ 1.38186+0.37607I$	$7.28558+10.07310I$	0
$u=\ 0.452766+0.404638I$ $a=-1.47433-2.68024I$ $b=\ 0.535538-1.093260I$	$1.00688-2.77629I$	$-4.92596+6.43001I$
$u=\ 0.452766-0.404638I$ $a=-1.47433+2.68024I$ $b=\ 0.535538+1.093260I$	$1.00688+2.77629I$	$-4.92596-6.43001I$
$u=\ 0.805308+1.153490I$ $a=\ 0.670849-1.225990I$ $b=\ 1.62167+0.83385I$	$6.06561-4.85072I$	0
$u=\ 0.805308-1.153490I$ $a=\ 0.670849+1.225990I$ $b=\ 1.62167-0.83385I$	$6.06561+4.85072I$	0
$u=\ 0.572850+0.113813I$ $a=\ 0.31165-1.93224I$ $b=\ 0.522800-1.239640I$	$-0.74994-2.26614I$	$-2.36898+2.26109I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.572850 - 0.113813I$ $a = 0.31165 + 1.93224I$ $b = 0.522800 + 1.239640I$	$-0.74994 + 2.26614I$	$-2.36898 - 2.26109I$
$u = -1.10949 + 0.90861I$ $a = 0.575846 + 0.933832I$ $b = 1.43129 + 0.81182I$	$0.73551 + 9.43744I$	0
$u = -1.10949 - 0.90861I$ $a = 0.575846 - 0.933832I$ $b = 1.43129 - 0.81182I$	$0.73551 - 9.43744I$	0
$u = 1.12332 + 0.90477I$ $a = -0.794206 + 0.775788I$ $b = -1.384030 + 0.239354I$	$7.03396 - 6.13444I$	0
$u = 1.12332 - 0.90477I$ $a = -0.794206 - 0.775788I$ $b = -1.384030 - 0.239354I$	$7.03396 + 6.13444I$	0
$u = 1.11834 + 0.91483I$ $a = -0.698998 + 1.111010I$ $b = -1.93787 + 0.75793I$	$7.93180 - 11.37730I$	0
$u = 1.11834 - 0.91483I$ $a = -0.698998 - 1.111010I$ $b = -1.93787 - 0.75793I$	$7.93180 + 11.37730I$	0
$u = 1.44736$ $a = -0.363781$ $b = -0.569357$	-7.28072	0
$u = -1.12433 + 0.91467I$ $a = 0.648636 + 1.173700I$ $b = 2.02318 + 0.93554I$	$6.2467 + 17.4034I$	0
$u = -1.12433 - 0.91467I$ $a = 0.648636 - 1.173700I$ $b = 2.02318 - 0.93554I$	$6.2467 - 17.4034I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.16723+0.87243I$ $a=\ \ 0.832601+0.550806I$ $b=\ \ 1.073570-0.015326I$	$4.64251-0.27243I$	0
$u=-1.16723-0.87243I$ $a=\ \ 0.832601-0.550806I$ $b=\ \ 1.073570+0.015326I$	$4.64251+0.27243I$	0
$u=\ \ 1.46004+0.25246I$ $a=-0.241739-0.095073I$ $b=-0.433386-0.864185I$	$-3.27457-7.84836I$	0
$u=\ \ 1.46004-0.25246I$ $a=-0.241739+0.095073I$ $b=-0.433386+0.864185I$	$-3.27457+7.84836I$	0
$u=\ \ 0.360098+0.364687I$ $a=\ \ 0.126184-0.361675I$ $b=-1.58298+0.61850I$	$-3.32779-1.11831I$	$-1.97095+8.18187I$
$u=\ \ 0.360098-0.364687I$ $a=\ \ 0.126184+0.361675I$ $b=-1.58298-0.61850I$	$-3.32779+1.11831I$	$-1.97095-8.18187I$
$u=\ \ 1.09967+1.02790I$ $a=\ \ 0.499291-1.100540I$ $b=\ \ 2.35471-0.43931I$	$5.16143-2.94606I$	0
$u=\ \ 1.09967-1.02790I$ $a=\ \ 0.499291+1.100540I$ $b=\ \ 2.35471+0.43931I$	$5.16143+2.94606I$	0
$u=-0.483190$ $a=\ \ 0.389799$ $b=-0.350552$	-0.728767	-13.5780
$u=\ \ 1.54161$ $a=-0.494347$ $b=-0.315152$	-7.66030	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.18837+0.98534I$ $a=-0.407590-1.019860I$ $b=-2.35923-0.86528I$	$4.38461+7.76770I$	0
$u=-1.18837-0.98534I$ $a=-0.407590+1.019860I$ $b=-2.35923+0.86528I$	$4.38461-7.76770I$	0
$u=\ 0.0562391+0.1093170I$ $a=\ 3.31304-10.80210I$ $b=\ 0.057086-0.925377I$	$2.98085-2.73185I$	$-6.71068+3.58075I$
$u=\ 0.0562391-0.1093170I$ $a=\ 3.31304+10.80210I$ $b=\ 0.057086+0.925377I$	$2.98085+2.73185I$	$-6.71068-3.58075I$

II. $I_2^u = \langle -2270u^{21} - 3510u^{20} + \cdots + 61b - 3235,\ -7325u^{21} - 11232u^{20} + \cdots + 61a - 11023,\ u^{22} + 2u^{21} + \cdots + 3u + 1 \rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 120.082u^{21} + 184.131u^{20} + \cdots + 171.852u + 180.705 \\ 37.2131u^{21} + 57.5410u^{20} + \cdots + 54.0164u + 53.0328 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -46.2295u^{21} - 62.9672u^{20} + \cdots - 125.787u - 80.5738 \\ 64.6721u^{21} + 100.475u^{20} + \cdots + 82.5902u + 95.1803 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -128.098u^{21} - 187.557u^{20} + \cdots - 250.623u - 205.246 \\ 38.2131u^{21} + 59.5410u^{20} + \cdots + 47.0164u + 56.0328 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 120.082u^{21} + 184.131u^{20} + \cdots + 171.852u + 180.705 \\ -u^{21} - 2u^{20} + \cdots + 6u - 3 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -21.8361u^{21} - 22.7377u^{20} + \cdots - 148.295u - 87.5902 \\ -44.0492u^{21} - 58.2787u^{20} + \cdots - 139.311u - 93.6230 \end{pmatrix}$$

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

$$a_1 = \begin{pmatrix} 158.295u^{21} + 243.672u^{20} + \cdots + 218.869u + 236.738 \\ 37.2131u^{21} + 57.5410u^{20} + \cdots + 53.0164u + 53.0328 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -110.902u^{21} - 163.443u^{20} + \cdots - 206.377u - 175.754 \\ 19.0656u^{21} + 29.7049u^{20} + \cdots + 20.0820u + 30.1639 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -85.3279u^{21} - 120.525u^{20} + \cdots - 226.410u - 175.820 \\ 13.3607u^{21} + 25.3770u^{20} + \cdots - 12.0492u + 11.9016 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{24462}{61}u^{21} + \frac{34979}{61}u^{20} + \cdots + \frac{60315}{61}u + \frac{46454}{61}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{22} - 12u^{21} + \cdots - 14u + 1$
c_2	$u^{22} - 6u^{20} + \cdots - 4u + 1$
c_3	$u^{22} - u^{21} + \cdots - 5u + 1$
c_4	$u^{22} + 2u^{21} + \cdots + 3u + 1$
c_5	$u^{22} - 6u^{20} + \cdots + 4u + 1$
c_6	$u^{22} - 4u^{21} + \cdots - u + 1$
c_7	$u^{22} - 2u^{21} + \cdots - 3u + 1$
c_8	$u^{22} + 15u^{21} + \cdots + 71u + 7$
c_9	$u^{22} + u^{21} + \cdots + 85u + 25$
c_{10}	$u^{22} - 7u^{21} + \cdots - 3u + 1$
c_{11}	$u^{22} - 15u^{21} + \cdots - 71u + 7$
c_{12}	$u^{22} - 7u^{21} + \cdots - 145u + 25$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{22} + 4y^{21} + \cdots - 34y + 1$
c_2, c_5	$y^{22} - 12y^{21} + \cdots - 14y + 1$
c_3	$y^{22} - 5y^{21} + \cdots - 5y + 1$
c_4, c_7	$y^{22} - 14y^{21} + \cdots - 23y + 1$
c_6	$y^{22} + 16y^{21} + \cdots - 5y + 1$
c_8, c_{11}	$y^{22} - 9y^{21} + \cdots + 139y + 49$
c_9	$y^{22} + 15y^{21} + \cdots - 1675y + 625$
c_{10}	$y^{22} - y^{21} + \cdots - 19y + 1$
c_{12}	$y^{22} + 7y^{21} + \cdots + 3175y + 625$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.856866 + 0.225545I$ $a = 0.116220 - 1.077310I$ $b = 0.730381 - 1.204090I$	$-1.39247 - 2.50433I$	$-14.5995 + 5.8291I$
$u = 0.856866 - 0.225545I$ $a = 0.116220 + 1.077310I$ $b = 0.730381 + 1.204090I$	$-1.39247 + 2.50433I$	$-14.5995 - 5.8291I$
$u = 1.199800 + 0.111608I$ $a = 0.182768 - 0.604891I$ $b = 0.049347 - 1.002740I$	$-2.03186 - 2.81294I$	$-12.81418 + 4.24921I$
$u = 1.199800 - 0.111608I$ $a = 0.182768 + 0.604891I$ $b = 0.049347 + 1.002740I$	$-2.03186 + 2.81294I$	$-12.81418 - 4.24921I$
$u = -0.875034 + 0.884635I$ $a = -0.94631 - 1.18135I$ $b = -1.50308 + 0.02900I$	$4.98177 + 4.55914I$	$-7.33008 - 6.48846I$
$u = -0.875034 - 0.884635I$ $a = -0.94631 + 1.18135I$ $b = -1.50308 - 0.02900I$	$4.98177 - 4.55914I$	$-7.33008 + 6.48846I$
$u = 0.981816 + 0.815014I$ $a = 0.984311 - 0.726208I$ $b = 1.078410 + 0.042052I$	$3.84789 + 0.29212I$	$-9.38873 + 0.21800I$
$u = 0.981816 - 0.815014I$ $a = 0.984311 + 0.726208I$ $b = 1.078410 - 0.042052I$	$3.84789 - 0.29212I$	$-9.38873 - 0.21800I$
$u = 0.913832 + 0.921577I$ $a = 0.358907 - 1.181190I$ $b = 1.61312 - 0.84739I$	$3.96542 - 6.69979I$	$-8.00000 + 5.21042I$
$u = 0.913832 - 0.921577I$ $a = 0.358907 + 1.181190I$ $b = 1.61312 + 0.84739I$	$3.96542 + 6.69979I$	$-8.00000 - 5.21042I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.903138+0.946974I$ $a=-0.53621-1.31657I$ $b=-1.83276-0.47601I$	$4.87145+2.17227I$	$-6.96260+2.10282I$
$u=-0.903138-0.946974I$ $a=-0.53621+1.31657I$ $b=-1.83276+0.47601I$	$4.87145-2.17227I$	$-6.96260-2.10282I$
$u=-1.317320+0.174304I$ $a=\ \ 0.028989-0.518429I$ $b=\ \ 0.382618-1.170230I$	$-4.00357+8.00834I$	$-15.9429-7.4079I$
$u=-1.317320-0.174304I$ $a=\ \ 0.028989+0.518429I$ $b=\ \ 0.382618+1.170230I$	$-4.00357-8.00834I$	$-15.9429+7.4079I$
$u=\ \ 0.629269+0.030820I$ $a=\ \ 0.21465+2.17300I$ $b=\ \ 0.956578+0.758261I$	$0.31361+1.97050I$	$-9.18967-2.78008I$
$u=\ \ 0.629269-0.030820I$ $a=\ \ 0.21465-2.17300I$ $b=\ \ 0.956578-0.758261I$	$0.31361-1.97050I$	$-9.18967+2.78008I$
$u=-1.38946$ $a=-0.256953$ $b=\ \ 0.173681$	-7.68275	-26.5880
$u=-0.555921+0.018578I$ $a=\ \ 0.41900+2.48592I$ $b=-1.060200+0.680133I$	$-0.74395-7.07177I$	$-11.14495+8.67430I$
$u=-0.555921-0.018578I$ $a=\ \ 0.41900-2.48592I$ $b=-1.060200-0.680133I$	$-0.74395+7.07177I$	$-11.14495-8.67430I$
$u=-0.486314+0.175391I$ $a=\ \ 0.530851-1.103340I$ $b=-1.41229-1.14920I$	$-3.73858+0.98517I$	$-20.7815-2.2138I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.486314-0.175391I$ $a=\ \ 0.530851+1.103340I$ $b=-1.41229+1.14920I$	$-3.73858-0.98517I$	$-20.7815+2.2138I$
$u=-1.49824$ $a=-0.449376$ $b=-0.177933$	-7.74653	-52.1880

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{22}-12u^{21}+\cdots-14u+1)(u^{84}+35u^{83}+\cdots+55u+1)$
c_2	$(u^{22}-6u^{20}+\cdots-4u+1)(u^{84}+u^{83}+\cdots+9u-1)$
c_3	$(u^{22}-u^{21}+\cdots-5u+1)(u^{84}+2u^{83}+\cdots-3150u-863)$
c_4	$(u^{22}+2u^{21}+\cdots+3u+1)(u^{84}+3u^{83}+\cdots+6u-1)$
c_5	$(u^{22}-6u^{20}+\cdots+4u+1)(u^{84}+u^{83}+\cdots+9u-1)$
c_6	$(u^{22}-4u^{21}+\cdots-u+1)(u^{84}+u^{83}+\cdots-4996204u-2395607)$
c_7	$(u^{22}-2u^{21}+\cdots-3u+1)(u^{84}+3u^{83}+\cdots+6u-1)$
c_8	$(u^{22}+15u^{21}+\cdots+71u+7)(u^{84}-10u^{83}+\cdots+8180u+3952)$
c_9	$(u^{22}+u^{21}+\cdots+85u+25)$ $\cdot(u^{84}+34u^{82}+\cdots+1301846276u+241946651)$
c_{10}	$(u^{22}-7u^{21}+\cdots-3u+1)(u^{84}-10u^{83}+\cdots-248u+1)$
c_{11}	$(u^{22}-15u^{21}+\cdots-71u+7)(u^{84}-10u^{83}+\cdots+8180u+3952)$
c_{12}	$(u^{22}-7u^{21}+\cdots-145u+25)$ $\cdot(u^{84}-4u^{83}+\cdots-28586236u+7588717)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{22}+4y^{21}+\cdots-34y+1)(y^{84}+37y^{83}+\cdots+1781y+1)$
c_2, c_5	$(y^{22}-12y^{21}+\cdots-14y+1)(y^{84}-35y^{83}+\cdots-55y+1)$
c_3	$(y^{22}-5y^{21}+\cdots-5y+1)(y^{84}+12y^{83}+\cdots+9189498y+744769)$
c_4, c_7	$(y^{22}-14y^{21}+\cdots-23y+1)(y^{84}-21y^{83}+\cdots+48y+1)$
c_6	$(y^{22}+16y^{21}+\cdots-5y+1)$ $\cdot(y^{84}+53y^{83}+\cdots-69359144214586y+5738932898449)$
c_8, c_{11}	$(y^{22}-9y^{21}+\cdots+139y+49)$ $\cdot(y^{84}-84y^{83}+\cdots-1119037552y+15618304)$
c_9	$(y^{22}+15y^{21}+\cdots-1675y+625)$ $\cdot(y^{84}+68y^{83}+\cdots+1815122488070227036y+58538181930115801)$
c_{10}	$(y^{22}-y^{21}+\cdots-19y+1)(y^{84}+12y^{83}+\cdots-58496y+1)$
c_{12}	$(y^{22}+7y^{21}+\cdots+3175y+625)$ $\cdot(y^{84}+64y^{83}+\cdots-298596197402654y+57588625706089)$