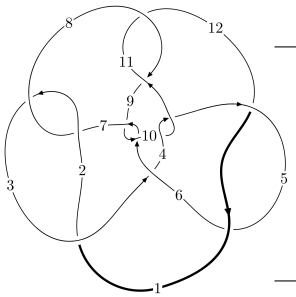
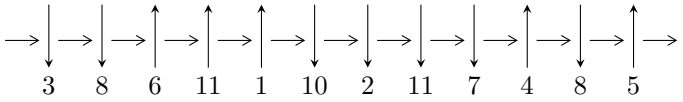
$12n_{0627}$ $(K12n_{0627})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -1.15596 \times 10^{158} u^{88} + 1.94754 \times 10^{158} u^{87} + \cdots + 1.32736 \times 10^{158} b + 3.28316 \times 10^{159}, \\ & - 1.68579 \times 10^{158} u^{88} - 4.29784 \times 10^{158} u^{87} + \cdots + 6.63682 \times 10^{158} a - 1.27829 \times 10^{160}, \\ & u^{89} - u^{88} + \cdots + 14u - 10 \rangle \\ I_2^u = \langle & -348239602 u^{30} + 191579437 u^{29} + \cdots + 56778667 b + 357913195, \\ & 24113204363 u^{30} - 13246278164 u^{29} + \cdots + 1249130674 a - 59799820088, \\ & u^{31} - 10 u^{29} + \cdots + 19 u^2 - 2 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 120 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. $\boldsymbol{I_1^u = \langle -1.16 \times 10^{158} u^{88} + 1.95 \times 10^{158} u^{87} + \cdots + 1.33 \times 10^{158} b + 3.28 \times 10^{159},\ -1.69 \times 10^{158} u^{88} - 4.30 \times 10^{158} u^{87} + \cdots + 6.64 \times 10^{158} a - 1.28 \times 10^{160},\ u^{89} - u^{88} + \cdots + 14u - 10 \rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 0.254006u^{88} + 0.647575u^{87} + \cdots + 7.38084u + 19.2605 \\ 0.870871u^{88} - 1.46722u^{87} + \cdots + 42.4211u - 24.7345 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.390082u^{88} + 0.0955497u^{87} + \cdots + 14.2030u + 11.8426 \\ 0.488241u^{88} - 1.26681u^{87} + \cdots + 33.9619u - 22.3972 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.657824u^{88} + 0.241125u^{87} + \cdots + 10.9756u + 16.1052 \\ -1.86162u^{88} + 2.32381u^{87} + \cdots - 85.2070u + 17.8243 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -0.601779u^{88} + 1.28338u^{87} + \cdots - 25.4051u + 11.2090 \\ 2.36178u^{88} - 2.87861u^{87} + \cdots + 87.7562u - 25.7398 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.601779u^{88} + 1.28338u^{87} + \cdots - 25.4051u + 11.2090 \\ 2.40515u^{88} - 3.22281u^{87} + \cdots + 103.316u - 32.5558 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.667097u^{88} + 0.529294u^{87} + \cdots + 4.21757u + 13.2911 \\ 0.694535u^{88} - 0.923902u^{87} + \cdots - 9.67099u - 6.07093 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0615361u^{88} + 1.49254u^{87} + \cdots - 11.2489u + 21.9763 \\ 0.289929u^{88} - 0.306028u^{87} + \cdots - 14.0743u - 0.962515 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 3.83185u^{88} - 9.58904u^{87} + \cdots + 2.19711u - 73.4222$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{89}+47u^{88}+\cdots+2796u+100$
c_2, c_7	$u^{89}-u^{88}+\cdots+14u-10$
c_3	$u^{89}-2u^{88}+\cdots+459338u+255793$
c_4, c_{10}	$u^{89}+u^{88}+\cdots+119758u+26770$
c_5, c_{12}	$u^{89}-2u^{88}+\cdots+897u-487$
c_6, c_9	$u^{89}-2u^{88}+\cdots+39310u-17077$
c_8, c_{11}	$u^{89}-6u^{88}+\cdots-24u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{89} + 9y^{88} + \cdots + 125616y - 10000$
c_2, c_7	$y^{89} - 47y^{88} + \cdots + 2796y - 100$
c_3	$y^{89} - 66y^{88} + \cdots + 699981667796y - 65430058849$
c_4, c_{10}	$y^{89} - 47y^{88} + \cdots + 24496053724y - 716632900$
c_5, c_{12}	$y^{89} - 42y^{88} + \cdots + 7221321y - 237169$
c_6, c_9	$y^{89} + 46y^{88} + \cdots - 11363262354y - 291623929$
c_8, c_{11}	$y^{89} - 58y^{88} + \cdots + 1046y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.244565+0.962025I$ $a=\ 1.53167-0.13930I$ $b=\ 0.176114+0.504007I$	$1.89844-3.40493I$	0
$u=-0.244565-0.962025I$ $a=\ 1.53167+0.13930I$ $b=\ 0.176114-0.504007I$	$1.89844+3.40493I$	0
$u=\ 0.933890+0.327481I$ $a=\ 0.62035+1.46865I$ $b=\ 0.351461+1.150610I$	$-4.92041-1.30903I$	0
$u=\ 0.933890-0.327481I$ $a=\ 0.62035-1.46865I$ $b=\ 0.351461-1.150610I$	$-4.92041+1.30903I$	0
$u=\ 0.961254+0.394274I$ $a=-0.771016-0.926200I$ $b=-1.13991+0.95033I$	$4.21665-2.92405I$	0
$u=\ 0.961254-0.394274I$ $a=-0.771016+0.926200I$ $b=-1.13991-0.95033I$	$4.21665+2.92405I$	0
$u=\ 0.984368+0.348236I$ $a=-0.171491-0.166467I$ $b=\ 0.615879+0.898837I$	$-0.92696-3.77876I$	0
$u=\ 0.984368-0.348236I$ $a=-0.171491+0.166467I$ $b=\ 0.615879-0.898837I$	$-0.92696+3.77876I$	0
$u=-0.930123+0.518617I$ $a=-0.526672+0.968906I$ $b=-0.159656-0.114899I$	$5.18137+2.01747I$	0
$u=-0.930123-0.518617I$ $a=-0.526672-0.968906I$ $b=-0.159656+0.114899I$	$5.18137-2.01747I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.006170+0.430405I$ $a=-0.438623+0.856778I$ $b=-2.20252+1.49810I$	$-2.68981+4.03468I$	0
$u=-1.006170-0.430405I$ $a=-0.438623-0.856778I$ $b=-2.20252-1.49810I$	$-2.68981-4.03468I$	0
$u=1.039120+0.367975I$ $a=-0.563115-0.858898I$ $b=-2.46344-1.22813I$	$-1.38793+2.34054I$	0
$u=1.039120-0.367975I$ $a=-0.563115+0.858898I$ $b=-2.46344+1.22813I$	$-1.38793-2.34054I$	0
$u=-0.725494+0.521426I$ $a=-0.89511+1.20991I$ $b=-1.47632+0.97253I$	$5.84354+2.20534I$	0
$u=-0.725494-0.521426I$ $a=-0.89511-1.20991I$ $b=-1.47632-0.97253I$	$5.84354-2.20534I$	0
$u=1.007390+0.511262I$ $a=-0.398190-1.199040I$ $b=-0.46816-1.60706I$	$-2.16350-1.93019I$	0
$u=1.007390-0.511262I$ $a=-0.398190+1.199040I$ $b=-0.46816+1.60706I$	$-2.16350+1.93019I$	0
$u=0.385380+1.077170I$ $a=-1.57779+0.35617I$ $b=-0.413188+0.978791I$	$4.95394+10.81390I$	0
$u=0.385380-1.077170I$ $a=-1.57779-0.35617I$ $b=-0.413188-0.978791I$	$4.95394-10.81390I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.550489+1.004510I$ $a=-1.115950-0.400395I$ $b=-0.275463-1.059970I$	$1.00206-3.24358I$	0
$u=-0.550489-1.004510I$ $a=-1.115950+0.400395I$ $b=-0.275463+1.059970I$	$1.00206+3.24358I$	0
$u=0.193852+0.828020I$ $a=1.149260-0.120601I$ $b=0.025384-0.661444I$	$0.840044+0.487278I$	$3.75141+1.24704I$
$u=0.193852-0.828020I$ $a=1.149260+0.120601I$ $b=0.025384+0.661444I$	$0.840044-0.487278I$	$3.75141-1.24704I$
$u=0.755613+0.358139I$ $a=-0.30612-1.66985I$ $b=-2.39351-0.85784I$	$4.96330-0.31485I$	$3.79476-1.00054I$
$u=0.755613-0.358139I$ $a=-0.30612+1.66985I$ $b=-2.39351+0.85784I$	$4.96330+0.31485I$	$3.79476+1.00054I$
$u=0.670677+0.495093I$ $a=-1.56847-0.88463I$ $b=0.036229+0.286376I$	$-1.01560-2.22245I$	$1.10851+6.52104I$
$u=0.670677-0.495093I$ $a=-1.56847+0.88463I$ $b=0.036229-0.286376I$	$-1.01560+2.22245I$	$1.10851-6.52104I$
$u=-1.047730+0.520787I$ $a=-0.428255+1.175960I$ $b=-0.149308+1.361530I$	$-0.36097+8.88020I$	0
$u=-1.047730-0.520787I$ $a=-0.428255-1.175960I$ $b=-0.149308-1.361530I$	$-0.36097-8.88020I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.135466 + 0.812923I$ $a = 0.0767182 - 0.0995383I$ $b = 0.694405 + 0.225698I$	$7.98738 + 2.98075I$	$6.24007 - 3.70589I$
$u = 0.135466 - 0.812923I$ $a = 0.0767182 + 0.0995383I$ $b = 0.694405 - 0.225698I$	$7.98738 - 2.98075I$	$6.24007 + 3.70589I$
$u = -1.093460 + 0.434573I$ $a = 0.091617 + 0.515957I$ $b = -0.56916 + 2.20034I$	$6.64364 + 5.23146I$	0
$u = -1.093460 - 0.434573I$ $a = 0.091617 - 0.515957I$ $b = -0.56916 - 2.20034I$	$6.64364 - 5.23146I$	0
$u = 1.184860 + 0.009536I$ $a = -0.068200 + 1.014210I$ $b = 0.194397 + 0.996138I$	$-6.31122 - 1.42992I$	0
$u = 1.184860 - 0.009536I$ $a = -0.068200 - 1.014210I$ $b = 0.194397 - 0.996138I$	$-6.31122 + 1.42992I$	0
$u = -1.037570 + 0.577206I$ $a = 0.264692 - 1.356690I$ $b = 1.86795 - 1.60205I$	$-2.93078 + 4.54020I$	0
$u = -1.037570 - 0.577206I$ $a = 0.264692 + 1.356690I$ $b = 1.86795 + 1.60205I$	$-2.93078 - 4.54020I$	0
$u = 1.069300 + 0.535238I$ $a = -0.212727 - 0.410896I$ $b = -1.03867 - 1.58194I$	$7.46229 - 1.93692I$	0
$u = 1.069300 - 0.535238I$ $a = -0.212727 + 0.410896I$ $b = -1.03867 + 1.58194I$	$7.46229 + 1.93692I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.515011+0.603128I$ $a=\ 1.64276-0.39430I$ $b=\ 0.492067+0.826898I$	$-1.41949+0.21530I$	$-1.33212-0.94894I$
$u=-0.515011-0.603128I$ $a=\ 1.64276+0.39430I$ $b=\ 0.492067-0.826898I$	$-1.41949-0.21530I$	$-1.33212+0.94894I$
$u=-0.864934+0.865784I$ $a=\ 0.37365+1.86763I$ $b=-0.69775+1.96712I$	$7.10528-0.44632I$	0
$u=-0.864934-0.865784I$ $a=\ 0.37365-1.86763I$ $b=-0.69775-1.96712I$	$7.10528+0.44632I$	0
$u=-1.178880+0.353943I$ $a=\ 0.754751-1.024090I$ $b=\ 0.733978-1.009140I$	$-3.35558-1.16932I$	0
$u=-1.178880-0.353943I$ $a=\ 0.754751+1.024090I$ $b=\ 0.733978+1.009140I$	$-3.35558+1.16932I$	0
$u=\ 1.125660+0.509560I$ $a=\ 0.137200+1.400810I$ $b=\ 1.92996+2.24231I$	$-2.31939-9.19141I$	0
$u=\ 1.125660-0.509560I$ $a=\ 0.137200-1.400810I$ $b=\ 1.92996-2.24231I$	$-2.31939+9.19141I$	0
$u=-0.939369+0.825652I$ $a=-1.75974-1.01547I$ $b=-0.34731-1.89934I$	$6.86423+6.71990I$	0
$u=-0.939369-0.825652I$ $a=-1.75974+1.01547I$ $b=-0.34731+1.89934I$	$6.86423-6.71990I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.704939+0.128997I$ $a=0.678583-0.630657I$ $b=0.201233+0.306478I$	$-1.278980+0.553347I$	$-4.94268-0.11935I$
$u=-0.704939-0.128997I$ $a=0.678583+0.630657I$ $b=0.201233-0.306478I$	$-1.278980-0.553347I$	$-4.94268+0.11935I$
$u=-0.502799+0.482734I$ $a=-1.90347+1.26712I$ $b=-0.306144+0.452430I$	$1.30667-4.62534I$	$2.58741+1.79100I$
$u=-0.502799-0.482734I$ $a=-1.90347-1.26712I$ $b=-0.306144-0.452430I$	$1.30667+4.62534I$	$2.58741-1.79100I$
$u=1.185270+0.561749I$ $a=0.106817+0.932579I$ $b=1.35872+1.78506I$	$-2.03233-5.61518I$	0
$u=1.185270-0.561749I$ $a=0.106817-0.932579I$ $b=1.35872-1.78506I$	$-2.03233+5.61518I$	0
$u=0.462387+0.498609I$ $a=-0.355623-0.428534I$ $b=1.184450+0.682440I$	$9.29816-2.41390I$	$1.98968+2.16516I$
$u=0.462387-0.498609I$ $a=-0.355623+0.428534I$ $b=1.184450-0.682440I$	$9.29816+2.41390I$	$1.98968-2.16516I$
$u=1.187720+0.576982I$ $a=-0.0159480-0.0353645I$ $b=-0.578942-0.722269I$	$5.01786-8.11410I$	0
$u=1.187720-0.576982I$ $a=-0.0159480+0.0353645I$ $b=-0.578942+0.722269I$	$5.01786+8.11410I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.809665 + 1.047990I$ $a = -0.578466 + 1.211320I$ $b = 0.20865 + 1.46420I$	$7.99506 - 3.76404I$	0
$u = 0.809665 - 1.047990I$ $a = -0.578466 - 1.211320I$ $b = 0.20865 - 1.46420I$	$7.99506 + 3.76404I$	0
$u = -1.297580 + 0.343196I$ $a = 0.265023 - 0.728750I$ $b = -0.019555 - 0.999504I$	$-3.72640 + 3.60063I$	0
$u = -1.297580 - 0.343196I$ $a = 0.265023 + 0.728750I$ $b = -0.019555 + 0.999504I$	$-3.72640 - 3.60063I$	0
$u = -1.210270 + 0.608884I$ $a = 0.366434 - 1.056420I$ $b = 1.51925 - 1.86407I$	$-1.01252 + 9.05504I$	0
$u = -1.210270 - 0.608884I$ $a = 0.366434 + 1.056420I$ $b = 1.51925 + 1.86407I$	$-1.01252 - 9.05504I$	0
$u = -1.145810 + 0.725166I$ $a = 0.081475 + 1.179080I$ $b = -1.23733 + 1.76256I$	$-0.87540 + 9.52648I$	0
$u = -1.145810 - 0.725166I$ $a = 0.081475 - 1.179080I$ $b = -1.23733 - 1.76256I$	$-0.87540 - 9.52648I$	0
$u = 0.119389 + 0.627414I$ $a = 2.62220 - 0.47010I$ $b = 0.273086 - 0.906877I$	$0.32407 + 4.80711I$	$2.84174 - 5.69896I$
$u = 0.119389 - 0.627414I$ $a = 2.62220 + 0.47010I$ $b = 0.273086 + 0.906877I$	$0.32407 - 4.80711I$	$2.84174 + 5.69896I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.019810 + 0.909269I$ $a = 0.814306 - 1.101550I$ $b = -0.26325 - 1.57950I$	$7.32281 - 3.25014I$	0
$u = 1.019810 - 0.909269I$ $a = 0.814306 + 1.101550I$ $b = -0.26325 + 1.57950I$	$7.32281 + 3.25014I$	0
$u = -1.267540 + 0.515469I$ $a = 0.124014 + 0.094273I$ $b = 0.062531 + 0.820397I$	$4.05888 + 1.69142I$	0
$u = -1.267540 - 0.515469I$ $a = 0.124014 - 0.094273I$ $b = 0.062531 - 0.820397I$	$4.05888 - 1.69142I$	0
$u = -0.571300 + 0.255504I$ $a = -0.152207 + 1.389420I$ $b = 0.055604 - 0.780948I$	$-1.30408 - 0.70841I$	$-3.23715 - 2.79209I$
$u = -0.571300 - 0.255504I$ $a = -0.152207 - 1.389420I$ $b = 0.055604 + 0.780948I$	$-1.30408 + 0.70841I$	$-3.23715 + 2.79209I$
$u = 1.225220 + 0.689448I$ $a = -0.069523 - 1.329850I$ $b = -1.36230 - 2.11676I$	$2.3330 - 17.1358I$	0
$u = 1.225220 - 0.689448I$ $a = -0.069523 + 1.329850I$ $b = -1.36230 + 2.11676I$	$2.3330 + 17.1358I$	0
$u = -0.535112 + 0.234522I$ $a = -0.662387 + 0.280870I$ $b = 1.93398 - 0.90821I$	$8.70160 - 1.90871I$	$7.78540 + 9.95719I$
$u = -0.535112 - 0.234522I$ $a = -0.662387 - 0.280870I$ $b = 1.93398 + 0.90821I$	$8.70160 + 1.90871I$	$7.78540 - 9.95719I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.258887 + 0.501698I$ $a = 0.645831 - 0.321842I$ $b = -0.399572 - 0.528257I$	$1.169890 + 0.562593I$	$6.08302 - 1.22520I$
$u = 0.258887 - 0.501698I$ $a = 0.645831 + 0.321842I$ $b = -0.399572 + 0.528257I$	$1.169890 - 0.562593I$	$6.08302 + 1.22520I$
$u = 1.40041 + 0.31914I$ $a = 0.425074 + 0.891756I$ $b = 0.47358 + 1.45542I$	$-3.47015 - 1.06999I$	0
$u = 1.40041 - 0.31914I$ $a = 0.425074 - 0.891756I$ $b = 0.47358 - 1.45542I$	$-3.47015 + 1.06999I$	0
$u = -1.50427 + 0.13904I$ $a = -0.652895 + 0.680071I$ $b = -0.576514 + 0.878599I$	$-1.87227 - 6.46093I$	0
$u = -1.50427 - 0.13904I$ $a = -0.652895 - 0.680071I$ $b = -0.576514 - 0.878599I$	$-1.87227 + 6.46093I$	0
$u = 0.444561 + 0.091212I$ $a = 0.83158 - 3.45351I$ $b = -0.793166 + 1.093540I$	$0.70679 - 4.99686I$	$6.49732 + 8.11595I$
$u = 0.444561 - 0.091212I$ $a = 0.83158 + 3.45351I$ $b = -0.793166 - 1.093540I$	$0.70679 + 4.99686I$	$6.49732 - 8.11595I$
$u = 1.62650$ $a = -0.224051$ $b = -0.115481$	-7.34147	0

II. $I_2^u =$
$\langle -3.48\times10^{8}u^{30}+1.92\times10^{8}u^{29}+\cdots+5.68\times10^{7}b+3.58\times10^{8},\ 2.41\times10^{10}u^{30}-1.32\times10^{10}u^{29}+\cdots+1.25\times10^{9}a-5.98\times10^{10},\ u^{31}-10u^{29}+\cdots+19u^{2}-2\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_8 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-u^2+1\\-u^2\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-19.3040u^{30}+10.6044u^{29}+\cdots-92.5487u+47.8731\\6.13328u^{30}-3.37414u^{29}+\cdots+28.2670u-6.30366\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-21.3460u^{30}+13.6987u^{29}+\cdots-107.471u+61.2222\\7.93390u^{30}-4.43203u^{29}+\cdots+35.9523u-14.6081\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-19.3040u^{30}+11.6044u^{29}+\cdots-92.5487u+48.8731\\8.67259u^{30}-7.31759u^{29}+\cdots+25.8679u-29.1657\end{pmatrix}$$
$$a_7 = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}-5.44279u^{30}+5.08584u^{29}+\cdots-14.5913u+19.3089\\3.13409u^{30}-2.82571u^{29}+\cdots+30.3713u-6.39981\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-5.44279u^{30}+5.08584u^{29}+\cdots-14.5913u+19.3089\\7.08069u^{30}-4.71151u^{29}+\cdots+41.2569u-16.5715\end{pmatrix}$$
$$a_9 = \begin{pmatrix}8.31564u^{30}-6.17835u^{29}+\cdots+30.5855u-19.7424\\-9.59968u^{30}+7.28331u^{29}+\cdots-40.1587u+25.6795\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}14.7121u^{30}-10.9749u^{29}+\cdots+58.2461u-38.1995\\-6.19108u^{30}+4.57744u^{29}+\cdots-25.2909u+16.8155\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{24124619479}{624565337}u^{30}-\frac{17404745881}{624565337}u^{29}+\cdots+\frac{139983567026}{624565337}u-\frac{83899224330}{624565337}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{31} - 20u^{30} + \cdots + 76u - 4$
c_2	$u^{31} - 10u^{29} + \cdots + 19u^2 - 2$
c_3	$u^{31} + 7u^{30} + \cdots - u + 1$
c_4	$u^{31} - 10u^{29} + \cdots - 5u^2 + 2$
c_5	$u^{31} + u^{30} + \cdots + 4u + 1$
c_6	$u^{31} - 3u^{30} + \cdots + u + 1$
c_7	$u^{31} - 10u^{29} + \cdots - 19u^2 + 2$
c_8	$u^{31} - 7u^{30} + \cdots - u - 1$
c_9	$u^{31} + 3u^{30} + \cdots + u - 1$
c_{10}	$u^{31} - 10u^{29} + \cdots + 5u^2 - 2$
c_{11}	$u^{31} + 7u^{30} + \cdots - u + 1$
c_{12}	$u^{31} - u^{30} + \cdots + 4u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{31} - 20y^{29} + \cdots + 8y - 16$
c_2, c_7	$y^{31} - 20y^{30} + \cdots + 76y - 4$
c_3	$y^{31} - 31y^{30} + \cdots + 13y - 1$
c_4, c_{10}	$y^{31} - 20y^{30} + \cdots + 20y - 4$
c_5, c_{12}	$y^{31} - 19y^{30} + \cdots + 14y - 1$
c_6, c_9	$y^{31} + 17y^{30} + \cdots - 13y - 1$
c_8, c_{11}	$y^{31} - 15y^{30} + \cdots - 13y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.982568 + 0.207175I$ $a = 0.35982 + 1.42586I$ $b = 0.483461 + 1.108490I$	$-5.23586 - 0.81132I$	$-4.38603 - 2.94703I$
$u = 0.982568 - 0.207175I$ $a = 0.35982 - 1.42586I$ $b = 0.483461 - 1.108490I$	$-5.23586 + 0.81132I$	$-4.38603 + 2.94703I$
$u = -0.696507 + 0.756440I$ $a = -0.388503 - 0.996344I$ $b = 0.86594 - 1.51309I$	$10.41040 + 3.06803I$	$7.43606 - 4.02587I$
$u = -0.696507 - 0.756440I$ $a = -0.388503 + 0.996344I$ $b = 0.86594 + 1.51309I$	$10.41040 - 3.06803I$	$7.43606 + 4.02587I$
$u = -0.410503 + 0.794774I$ $a = 1.246480 - 0.021501I$ $b = 0.101573 + 0.831224I$	$-0.05983 - 1.72000I$	$1.00900 + 1.90497I$
$u = -0.410503 - 0.794774I$ $a = 1.246480 + 0.021501I$ $b = 0.101573 - 0.831224I$	$-0.05983 + 1.72000I$	$1.00900 - 1.90497I$
$u = 0.775233 + 0.836328I$ $a = -0.07343 - 1.83726I$ $b = -1.06617 - 1.58292I$	$7.51530 - 0.06475I$	$9.22266 + 2.76574I$
$u = 0.775233 - 0.836328I$ $a = -0.07343 + 1.83726I$ $b = -1.06617 + 1.58292I$	$7.51530 + 0.06475I$	$9.22266 - 2.76574I$
$u = 1.094090 + 0.399098I$ $a = -0.086828 - 0.135133I$ $b = -0.46570 - 1.71167I$	$6.85605 - 4.63054I$	$4.49675 + 0.27840I$
$u = 1.094090 - 0.399098I$ $a = -0.086828 + 0.135133I$ $b = -0.46570 + 1.71167I$	$6.85605 + 4.63054I$	$4.49675 - 0.27840I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.110110+0.434879I$ $a=-0.297972+0.640110I$ $b=-0.571480-0.219426I$	$3.15670+1.49764I$	$-2.81572-0.33383I$
$u=-1.110110-0.434879I$ $a=-0.297972-0.640110I$ $b=-0.571480+0.219426I$	$3.15670-1.49764I$	$-2.81572+0.33383I$
$u=-0.705459+0.273226I$ $a=-0.66198+1.69572I$ $b=-2.17848+0.30056I$	$4.79170+1.50898I$	$1.21271-2.64841I$
$u=-0.705459-0.273226I$ $a=-0.66198-1.69572I$ $b=-2.17848-0.30056I$	$4.79170-1.50898I$	$1.21271+2.64841I$
$u=-1.272730+0.053951I$ $a=-0.355601-0.878152I$ $b=-0.75493-1.52255I$	$-2.31923+4.99144I$	$-0.79371-3.48912I$
$u=-1.272730-0.053951I$ $a=-0.355601+0.878152I$ $b=-0.75493+1.52255I$	$-2.31923-4.99144I$	$-0.79371+3.48912I$
$u=-1.135470+0.587695I$ $a=0.154244-1.110710I$ $b=1.54935-1.84109I$	$-2.29051+6.94631I$	$-0.79999-6.24825I$
$u=-1.135470-0.587695I$ $a=0.154244+1.110710I$ $b=1.54935+1.84109I$	$-2.29051-6.94631I$	$-0.79999+6.24825I$
$u=0.652835+0.301948I$ $a=0.081700+0.433186I$ $b=2.11052+1.10836I$	$8.54946+1.55362I$	$-0.60356+8.66470I$
$u=0.652835-0.301948I$ $a=0.081700-0.433186I$ $b=2.11052-1.10836I$	$8.54946-1.55362I$	$-0.60356-8.66470I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.242900 + 0.328168I$ $a = 0.376668 + 1.016840I$ $b = 0.51312 + 1.44718I$	$-4.48639 - 1.20604I$	$-5.60895 + 0.94515I$
$u = 1.242900 - 0.328168I$ $a = 0.376668 - 1.016840I$ $b = 0.51312 - 1.44718I$	$-4.48639 + 1.20604I$	$-5.60895 - 0.94515I$
$u = -1.073660 + 0.718909I$ $a = 0.608450 + 0.753784I$ $b = -0.31799 + 1.77272I$	$9.24150 + 2.59852I$	$6.52430 - 2.25864I$
$u = -1.073660 - 0.718909I$ $a = 0.608450 - 0.753784I$ $b = -0.31799 - 1.77272I$	$9.24150 - 2.59852I$	$6.52430 + 2.25864I$
$u = 1.008110 + 0.824251I$ $a = -1.39431 + 0.69851I$ $b = -0.38935 + 1.51889I$	$6.81366 - 6.13871I$	$3.40544 + 0.77515I$
$u = 1.008110 - 0.824251I$ $a = -1.39431 - 0.69851I$ $b = -0.38935 - 1.51889I$	$6.81366 + 6.13871I$	$3.40544 - 0.77515I$
$u = -0.672314 + 0.039094I$ $a = 0.58739 + 2.51103I$ $b = -0.672858 - 0.565949I$	$0.17885 + 4.88804I$	$-8.54177 - 5.66057I$
$u = -0.672314 - 0.039094I$ $a = 0.58739 - 2.51103I$ $b = -0.672858 + 0.565949I$	$0.17885 - 4.88804I$	$-8.54177 + 5.66057I$
$u = 0.525158 + 0.276936I$ $a = 1.86486 + 1.42047I$ $b = -0.588234 - 0.322507I$	$-1.56820 - 1.69000I$	$-6.18264 + 1.41203I$
$u = 0.525158 - 0.276936I$ $a = 1.86486 - 1.42047I$ $b = -0.588234 + 0.322507I$	$-1.56820 + 1.69000I$	$-6.18264 - 1.41203I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.59174$		
$a = -0.0419671$	-7.44021	-41.1490
$b = -0.237529$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{31}-20u^{30}+\cdots+76u-4)(u^{89}+47u^{88}+\cdots+2796u+100)$
c_2	$(u^{31}-10u^{29}+\cdots+19u^2-2)(u^{89}-u^{88}+\cdots+14u-10)$
c_3	$(u^{31}+7u^{30}+\cdots-u+1)(u^{89}-2u^{88}+\cdots+459338u+255793)$
c_4	$(u^{31}-10u^{29}+\cdots-5u^2+2)(u^{89}+u^{88}+\cdots+119758u+26770)$
c_5	$(u^{31}+u^{30}+\cdots+4u+1)(u^{89}-2u^{88}+\cdots+897u-487)$
c_6	$(u^{31}-3u^{30}+\cdots+u+1)(u^{89}-2u^{88}+\cdots+39310u-17077)$
c_7	$(u^{31}-10u^{29}+\cdots-19u^2+2)(u^{89}-u^{88}+\cdots+14u-10)$
c_8	$(u^{31}-7u^{30}+\cdots-u-1)(u^{89}-6u^{88}+\cdots-24u+1)$
c_9	$(u^{31}+3u^{30}+\cdots+u-1)(u^{89}-2u^{88}+\cdots+39310u-17077)$
c_{10}	$(u^{31}-10u^{29}+\cdots+5u^2-2)(u^{89}+u^{88}+\cdots+119758u+26770)$
c_{11}	$(u^{31}+7u^{30}+\cdots-u+1)(u^{89}-6u^{88}+\cdots-24u+1)$
c_{12}	$(u^{31}-u^{30}+\cdots+4u-1)(u^{89}-2u^{88}+\cdots+897u-487)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{31}-20y^{29}+\cdots+8y-16)(y^{89}+9y^{88}+\cdots+125616y-10000)$
c_2, c_7	$(y^{31}-20y^{30}+\cdots+76y-4)(y^{89}-47y^{88}+\cdots+2796y-100)$
c_3	$(y^{31}-31y^{30}+\cdots+13y-1)$ $\cdot(y^{89}-66y^{88}+\cdots+699981667796y-65430058849)$
c_4, c_{10}	$(y^{31}-20y^{30}+\cdots+20y-4)$ $\cdot(y^{89}-47y^{88}+\cdots+24496053724y-716632900)$
c_5, c_{12}	$(y^{31}-19y^{30}+\cdots+14y-1)$ $\cdot(y^{89}-42y^{88}+\cdots+7221321y-237169)$
c_6, c_9	$(y^{31}+17y^{30}+\cdots-13y-1)$ $\cdot(y^{89}+46y^{88}+\cdots-11363262354y-291623929)$
c_8, c_{11}	$(y^{31}-15y^{30}+\cdots-13y-1)(y^{89}-58y^{88}+\cdots+1046y-1)$