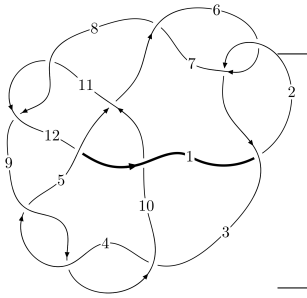
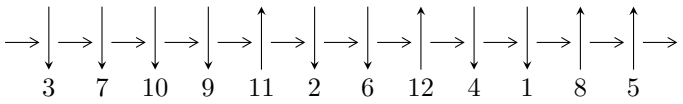
$12a_{0632}$ $(K12a_{0632})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 4.99554 \times 10^{194} u^{93} + 1.87631 \times 10^{195} u^{92} + \cdots + 1.61849 \times 10^{196} b - 2.06106 \times 10^{197}, \\ & 3.26120 \times 10^{197} u^{93} - 1.40330 \times 10^{198} u^{92} + \cdots + 3.28554 \times 10^{198} a + 8.49179 \times 10^{199}, \\ & u^{94} - u^{93} + \cdots - 167u - 29 \rangle \\ I_2^u = \langle & -u^{12} - 7u^{10} - 17u^8 - u^7 - 15u^6 - 4u^5 - u^4 - 4u^3 + u^2 + b - 1, \\ & u^{15} + 9u^{13} + 31u^{11} + 49u^9 + 32u^7 + 5u^5 + 3u^3 + a + 2u,\ u^{20} + 12u^{18} + \cdots + 2u - 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 114 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. $\boldsymbol{I_1^u = \langle 5.00 \times 10^{194} u^{93} + 1.88 \times 10^{195} u^{92} + \cdots + 1.62 \times 10^{196} b - 2.06 \times 10^{197},\ 3.26 \times 10^{197} u^{93} - 1.40 \times 10^{198} u^{92} + \cdots + 3.29 \times 10^{198} a + 8.49 \times 10^{199},\ u^{94} - u^{93} + \cdots - 167u - 29 \rangle}$

(i) Arc colorings

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

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

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

$$a_7 = \begin{pmatrix} -0.0992592u^{93} + 0.427114u^{92} + \cdots - 146.954u - 25.8459 \\ -0.0308654u^{93} - 0.115930u^{92} + \cdots + 68.0928u + 12.7344 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.538405u^{93} + 0.447589u^{92} + \cdots + 266.311u + 35.3348 \\ 0.293053u^{93} - 0.414594u^{92} + \cdots - 26.7401u + 0.924989 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.245351u^{93} + 0.0329949u^{92} + \cdots + 239.571u + 36.2598 \\ 0.293053u^{93} - 0.414594u^{92} + \cdots - 26.7401u + 0.924989 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.335863u^{93} + 0.0931342u^{92} + \cdots + 376.355u + 59.6146 \\ 0.173090u^{93} - 0.229501u^{92} + \cdots - 103.638u - 13.5395 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.973604u^{93} + 1.46961u^{92} + \cdots - 64.1810u - 31.6883 \\ -0.0839155u^{93} - 0.212165u^{92} + \cdots + 128.396u + 23.5613 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.300038u^{93} + 0.154180u^{92} + \cdots + 196.014u + 27.6672 \\ 0.296675u^{93} - 0.441920u^{92} + \cdots + 7.50288u + 7.58897 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.389629u^{93} - 0.0751627u^{92} + \cdots + 300.697u + 46.4877 \\ -0.0198539u^{93} + 0.200468u^{92} + \cdots - 84.1348u - 15.6577 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.16644u^{93} + 1.34986u^{92} + \cdots + 102.241u - 6.06992$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{94} + 27u^{93} + \cdots + 38u + 1$
c_2, c_6	$u^{94} - u^{93} + \cdots - 6u - 1$
c_3, c_4, c_9	$u^{94} + u^{93} + \cdots + 167u - 29$
c_5	$u^{94} + u^{93} + \cdots - 48236u - 34973$
c_8, c_{11}	$u^{94} + u^{93} + \cdots + 18u - 1$
c_{10}	$u^{94} - 15u^{93} + \cdots - 23727557u + 1575181$
c_{12}	$u^{94} - 4u^{93} + \cdots - 1684565u + 327443$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{94} + 89y^{93} + \cdots + 330y + 1$
c_2, c_6	$y^{94} - 27y^{93} + \cdots - 38y + 1$
c_3, c_4, c_9	$y^{94} + 105y^{93} + \cdots + 13233y + 841$
c_5	$y^{94} - 39y^{93} + \cdots - 42017779234y + 1223110729$
c_8, c_{11}	$y^{94} - 87y^{93} + \cdots - 396y + 1$
c_{10}	$y^{94} + 49y^{93} + \cdots - 1793204056987y + 2481195182761$
c_{12}	$y^{94} - 46y^{93} + \cdots - 4312336575555y + 107218918249$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.820738 + 0.587626I$ $a = 0.440823 - 0.310456I$ $b = 0.881355 - 0.271423I$	$0.96039 + 2.29358I$	0
$u = 0.820738 - 0.587626I$ $a = 0.440823 + 0.310456I$ $b = 0.881355 + 0.271423I$	$0.96039 - 2.29358I$	0
$u = 0.718782 + 0.561750I$ $a = -0.919278 + 0.814379I$ $b = -1.040590 - 0.339974I$	$1.04618 - 7.42407I$	0
$u = 0.718782 - 0.561750I$ $a = -0.919278 - 0.814379I$ $b = -1.040590 + 0.339974I$	$1.04618 + 7.42407I$	0
$u = 0.199350 + 0.836635I$ $a = 0.26123 + 1.52112I$ $b = -0.781807 - 0.449145I$	$1.25072 - 1.88705I$	0
$u = 0.199350 - 0.836635I$ $a = 0.26123 - 1.52112I$ $b = -0.781807 + 0.449145I$	$1.25072 + 1.88705I$	0
$u = -0.815773 + 0.799685I$ $a = -0.606742 - 0.612269I$ $b = 0.790217 + 0.879227I$	$9.05964 + 6.09171I$	0
$u = -0.815773 - 0.799685I$ $a = -0.606742 + 0.612269I$ $b = 0.790217 - 0.879227I$	$9.05964 - 6.09171I$	0
$u = -0.271517 + 0.804423I$ $a = 0.623640 + 1.187280I$ $b = 0.738176 + 0.114073I$	$-1.40142 - 0.50343I$	0
$u = -0.271517 - 0.804423I$ $a = 0.623640 - 1.187280I$ $b = 0.738176 - 0.114073I$	$-1.40142 + 0.50343I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.635589+0.559738I$ $a=\ \ 0.107171+0.363611I$ $b=-0.877502-0.782060I$	$3.53268-2.95131I$	0
$u=-0.635589-0.559738I$ $a=\ \ 0.107171-0.363611I$ $b=-0.877502+0.782060I$	$3.53268+2.95131I$	0
$u=\ \ 0.865061+0.767344I$ $a=\ \ 0.51007-1.61748I$ $b=\ \ 0.995348+0.801095I$	$8.4200-12.3261I$	0
$u=\ \ 0.865061-0.767344I$ $a=\ \ 0.51007+1.61748I$ $b=\ \ 0.995348-0.801095I$	$8.4200+12.3261I$	0
$u=-0.077414+1.155390I$ $a=\ \ 0.72139-2.10591I$ $b=-0.832174+0.633495I$	$1.26169+2.45313I$	0
$u=-0.077414-1.155390I$ $a=\ \ 0.72139+2.10591I$ $b=-0.832174-0.633495I$	$1.26169-2.45313I$	0
$u=\ \ 0.663089+0.467881I$ $a=-0.682449+1.189480I$ $b=-0.897129-0.774236I$	$3.46999-2.91507I$	0
$u=\ \ 0.663089-0.467881I$ $a=-0.682449-1.189480I$ $b=-0.897129+0.774236I$	$3.46999+2.91507I$	0
$u=-0.510396+0.617981I$ $a=-0.006012+0.574248I$ $b=-0.084323-0.749330I$	$4.13181+3.70371I$	0
$u=-0.510396-0.617981I$ $a=-0.006012-0.574248I$ $b=-0.084323+0.749330I$	$4.13181-3.70371I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.586789 + 0.543439I$ $a = -0.761137 - 0.077902I$ $b = 0.824788 - 0.804257I$	$3.76120 - 1.30617I$	0
$u = 0.586789 - 0.543439I$ $a = -0.761137 + 0.077902I$ $b = 0.824788 + 0.804257I$	$3.76120 + 1.30617I$	0
$u = -0.620759 + 0.498143I$ $a = 1.23807 + 1.75646I$ $b = 0.943160 - 0.775930I$	$3.39908 + 7.24288I$	0
$u = -0.620759 - 0.498143I$ $a = 1.23807 - 1.75646I$ $b = 0.943160 + 0.775930I$	$3.39908 - 7.24288I$	0
$u = -1.150250 + 0.461742I$ $a = -0.335761 - 1.188530I$ $b = -0.844510 + 0.830835I$	$7.74170 + 0.30120I$	0
$u = -1.150250 - 0.461742I$ $a = -0.335761 + 1.188530I$ $b = -0.844510 - 0.830835I$	$7.74170 - 0.30120I$	0
$u = 1.142230 + 0.528154I$ $a = 0.104805 - 0.704670I$ $b = -0.942928 + 0.799373I$	$7.43573 + 5.79082I$	0
$u = 1.142230 - 0.528154I$ $a = 0.104805 + 0.704670I$ $b = -0.942928 - 0.799373I$	$7.43573 - 5.79082I$	0
$u = -0.691704 + 0.069857I$ $a = 1.73090 + 0.13000I$ $b = 0.185748 - 0.106850I$	$2.85068 - 0.00394I$	$4.77299 + 0.I$
$u = -0.691704 - 0.069857I$ $a = 1.73090 - 0.13000I$ $b = 0.185748 + 0.106850I$	$2.85068 + 0.00394I$	$4.77299 + 0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.295863 + 0.613012I$ $a = 0.73322 + 1.80671I$ $b = -0.809513 - 0.268723I$	$1.13533 - 2.03881I$	$0. + 6.81649I$
$u = 0.295863 - 0.613012I$ $a = 0.73322 - 1.80671I$ $b = -0.809513 + 0.268723I$	$1.13533 + 2.03881I$	$0. - 6.81649I$
$u = -0.482695 + 0.333452I$ $a = -2.16015 - 0.87654I$ $b = -0.914998 + 0.229995I$	$-2.63624 + 3.34700I$	$-9.84874 - 7.94099I$
$u = -0.482695 - 0.333452I$ $a = -2.16015 + 0.87654I$ $b = -0.914998 - 0.229995I$	$-2.63624 - 3.34700I$	$-9.84874 + 7.94099I$
$u = -0.000183 + 0.585754I$ $a = 0.952288 - 0.418442I$ $b = -0.755983 + 0.900316I$	$7.97844 + 0.55523I$	$6.56904 - 0.52995I$
$u = -0.000183 - 0.585754I$ $a = 0.952288 + 0.418442I$ $b = -0.755983 - 0.900316I$	$7.97844 - 0.55523I$	$6.56904 + 0.52995I$
$u = 0.01950 + 1.42476I$ $a = -0.332704 + 0.558349I$ $b = -1.049140 - 0.266255I$	$3.04541 - 0.96461I$	0
$u = 0.01950 - 1.42476I$ $a = -0.332704 - 0.558349I$ $b = -1.049140 + 0.266255I$	$3.04541 + 0.96461I$	0
$u = -0.07864 + 1.45458I$ $a = 0.64180 - 1.99812I$ $b = 0.733749 + 0.278862I$	$8.05807 + 1.16577I$	0
$u = -0.07864 - 1.45458I$ $a = 0.64180 + 1.99812I$ $b = 0.733749 - 0.278862I$	$8.05807 - 1.16577I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.11659+1.46166I$ $a=\ 0.574879+1.242790I$ $b=\ 1.012810-0.292217I$	$3.23851+5.39050I$	0
$u=-0.11659-1.46166I$ $a=\ 0.574879-1.242790I$ $b=\ 1.012810+0.292217I$	$3.23851-5.39050I$	0
$u=\ 0.300332+0.436318I$ $a=\ 0.436112+0.068253I$ $b=\ 0.002092+0.379935I$	$-0.137046-1.130850I$	$-2.15439+5.92996I$
$u=\ 0.300332-0.436318I$ $a=\ 0.436112-0.068253I$ $b=\ 0.002092-0.379935I$	$-0.137046+1.130850I$	$-2.15439-5.92996I$
$u=-0.051296+0.521935I$ $a=-2.87878-1.09502I$ $b=\ 0.931068+0.788334I$	$7.18856-5.21612I$	$6.82948+5.47677I$
$u=-0.051296-0.521935I$ $a=-2.87878+1.09502I$ $b=\ 0.931068-0.788334I$	$7.18856+5.21612I$	$6.82948-5.47677I$
$u=-0.085886+0.513350I$ $a=-0.74177-2.07353I$ $b=-1.021080+0.802754I$	$7.16169+5.74033I$	$4.97732-6.13962I$
$u=-0.085886-0.513350I$ $a=-0.74177+2.07353I$ $b=-1.021080-0.802754I$	$7.16169-5.74033I$	$4.97732+6.13962I$
$u=\ 0.378489+0.334490I$ $a=\ 0.711457+0.594518I$ $b=\ 1.135660-0.192281I$	$0.066201-0.543447I$	$-1.68971+10.03219I$
$u=\ 0.378489-0.334490I$ $a=\ 0.711457-0.594518I$ $b=\ 1.135660+0.192281I$	$0.066201+0.543447I$	$-1.68971-10.03219I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.04902 + 1.50808I$ $a = -0.205130 + 0.843593I$ $b = 0.004830 - 0.661595I$	$6.35559 - 2.20338I$	0
$u = 0.04902 - 1.50808I$ $a = -0.205130 - 0.843593I$ $b = 0.004830 + 0.661595I$	$6.35559 + 2.20338I$	0
$u = 0.09006 + 1.50644I$ $a = 0.177929 - 0.400798I$ $b = -1.312220 + 0.208394I$	$6.32186 - 2.06708I$	0
$u = 0.09006 - 1.50644I$ $a = 0.177929 + 0.400798I$ $b = -1.312220 - 0.208394I$	$6.32186 + 2.06708I$	0
$u = -0.28507 + 1.50115I$ $a = -0.925190 - 0.903580I$ $b = -0.729288 + 0.331136I$	$8.32963 + 4.12866I$	0
$u = -0.28507 - 1.50115I$ $a = -0.925190 + 0.903580I$ $b = -0.729288 - 0.331136I$	$8.32963 - 4.12866I$	0
$u = -0.17857 + 1.52580I$ $a = -0.19993 - 2.38320I$ $b = -0.981214 + 0.788797I$	$10.0840 + 10.0843I$	0
$u = -0.17857 - 1.52580I$ $a = -0.19993 + 2.38320I$ $b = -0.981214 - 0.788797I$	$10.0840 - 10.0843I$	0
$u = 0.01876 + 1.53818I$ $a = 0.50168 + 2.75318I$ $b = -0.906877 - 0.816322I$	$14.2850 - 1.0715I$	0
$u = 0.01876 - 1.53818I$ $a = 0.50168 - 2.75318I$ $b = -0.906877 + 0.816322I$	$14.2850 + 1.0715I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.16297 + 1.53875I$ $a = 1.35628 - 0.85930I$ $b = -0.793481 + 0.850541I$	$10.66380 - 3.97201I$	0
$u = 0.16297 - 1.53875I$ $a = 1.35628 + 0.85930I$ $b = -0.793481 - 0.850541I$	$10.66380 + 3.97201I$	0
$u = 0.056940 + 0.447762I$ $a = 0.07733 - 4.59205I$ $b = 0.848197 + 0.813608I$	$7.44639 - 0.78804I$	$7.86918 - 0.12351I$
$u = 0.056940 - 0.447762I$ $a = 0.07733 + 4.59205I$ $b = 0.848197 - 0.813608I$	$7.44639 + 0.78804I$	$7.86918 + 0.12351I$
$u = -0.02446 + 1.55322I$ $a = -0.37266 + 1.86761I$ $b = 1.087400 - 0.843941I$	$14.2681 + 6.1381I$	0
$u = -0.02446 - 1.55322I$ $a = -0.37266 - 1.86761I$ $b = 1.087400 + 0.843941I$	$14.2681 - 6.1381I$	0
$u = 0.20649 + 1.53975I$ $a = -0.15588 - 1.89554I$ $b = 0.994097 + 0.801925I$	$10.13680 - 6.11038I$	0
$u = 0.20649 - 1.53975I$ $a = -0.15588 + 1.89554I$ $b = 0.994097 - 0.801925I$	$10.13680 + 6.11038I$	0
$u = -0.00658 + 1.55610I$ $a = 1.70159 + 1.60544I$ $b = -0.888262 - 0.822282I$	$14.3430 - 5.0485I$	0
$u = -0.00658 - 1.55610I$ $a = 1.70159 - 1.60544I$ $b = -0.888262 + 0.822282I$	$14.3430 + 5.0485I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.21724 + 1.54298I$ $a = 0.111391 - 1.183470I$ $b = 1.142230 + 0.409534I$	$7.96596 - 10.79960I$	0
$u = 0.21724 - 1.54298I$ $a = 0.111391 + 1.183470I$ $b = 1.142230 - 0.409534I$	$7.96596 + 10.79960I$	0
$u = 0.08889 + 1.55890I$ $a = -1.06467 - 1.11922I$ $b = 0.633541 + 0.264130I$	$8.41592 - 3.43999I$	0
$u = 0.08889 - 1.55890I$ $a = -1.06467 + 1.11922I$ $b = 0.633541 - 0.264130I$	$8.41592 + 3.43999I$	0
$u = 0.435116$ $a = 1.19176$ $b = 0.785407$	-1.15748	-8.95110
$u = -0.00748 + 1.56799I$ $a = -0.84679 + 1.38761I$ $b = 0.737098 - 1.016210I$	$15.3759 + 0.6273I$	0
$u = -0.00748 - 1.56799I$ $a = -0.84679 - 1.38761I$ $b = 0.737098 + 1.016210I$	$15.3759 - 0.6273I$	0
$u = -0.14946 + 1.56329I$ $a = -0.237754 - 1.199410I$ $b = 0.126842 + 0.945947I$	$11.42390 + 6.11641I$	0
$u = -0.14946 - 1.56329I$ $a = -0.237754 + 1.199410I$ $b = 0.126842 - 0.945947I$	$11.42390 - 6.11641I$	0
$u = -0.15739 + 1.56991I$ $a = -0.87556 - 1.20713I$ $b = 0.791167 + 0.873078I$	$10.76480 - 0.11126I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.15739-1.56991I$ $a=-0.87556+1.20713I$ $b=\ \ 0.791167-0.873078I$	$10.76480+0.11126I$	0
$u=\ \ 0.18660+1.62275I$ $a=\ \ 0.301803-0.266790I$ $b=-0.627194+0.322697I$	$8.67469-1.47071I$	0
$u=\ \ 0.18660-1.62275I$ $a=\ \ 0.301803+0.266790I$ $b=-0.627194-0.322697I$	$8.67469+1.47071I$	0
$u=-0.24840+1.63617I$ $a=\ \ 1.08887+1.12188I$ $b=-0.782845-0.940726I$	$17.1334+10.0750I$	0
$u=-0.24840-1.63617I$ $a=\ \ 1.08887-1.12188I$ $b=-0.782845+0.940726I$	$17.1334-10.0750I$	0
$u=\ \ 0.27031+1.63345I$ $a=\ \ 0.04427+2.10192I$ $b=-1.030210-0.824005I$	$16.3449-16.5646I$	0
$u=\ \ 0.27031-1.63345I$ $a=\ \ 0.04427-2.10192I$ $b=-1.030210+0.824005I$	$16.3449+16.5646I$	0
$u=-0.289565$ $a=\ \ 6.60678$ $b=-0.406278$	2.74746	8.96970
$u=-0.234229+0.135956I$ $a=\ \ 3.16603-0.77183I$ $b=\ \ 0.872341+0.394830I$	$-1.88761-1.44450I$	$-11.71074+3.98998I$
$u=-0.234229-0.135956I$ $a=\ \ 3.16603+0.77183I$ $b=\ \ 0.872341-0.394830I$	$-1.88761+1.44450I$	$-11.71074-3.98998I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.38422+1.68637I$ $a=-0.06395+1.90894I$ $b=\ \ 0.909420-0.826421I$	$14.9021+6.2030I$	0
$u=-0.38422-1.68637I$ $a=-0.06395-1.90894I$ $b=\ \ 0.909420+0.826421I$	$14.9021-6.2030I$	0
$u=\ \ 0.35426+1.70934I$ $a=-0.87648+1.13190I$ $b=\ \ 0.892376-0.832193I$	$14.9552-0.0207I$	0
$u=\ \ 0.35426-1.70934I$ $a=-0.87648-1.13190I$ $b=\ \ 0.892376+0.832193I$	$14.9552+0.0207I$	0

II.

$\boldsymbol{I_2^u = \langle -u^{12}-7u^{10}+\cdots+b-1,\ u^{15}+9u^{13}+\cdots+a+2u,\ u^{20}+12u^{18}+\cdots+2u-1\rangle}$

(i) Arc colorings

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

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

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

$$a_7 = \begin{pmatrix} -u^{15} - 9u^{13} - 31u^{11} - 49u^9 - 32u^7 - 5u^5 - 3u^3 - 2u \\ u^{12} + 7u^{10} + 17u^8 + u^7 + 15u^6 + 4u^5 + u^4 + 4u^3 - u^2 + 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^{19} + 11u^{17} + \cdots + 2u + 1 \\ -u^{19} - 11u^{17} + \cdots - 4u^3 - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 + 2u \\ -u^{19} - 11u^{17} + \cdots - 4u^3 - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^7 - 4u^5 - 4u^3 \\ -u^9 - 5u^7 - 7u^5 - u^3 + 2u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^{10} + 6u^8 + 12u^6 + 8u^4 + u^2 + 1 \\ u^{12} + 7u^{10} + 17u^8 + 15u^6 + u^4 - 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^{19} + 11u^{17} + \cdots + 3u + 1 \\ -u^{19} - 11u^{17} + \cdots + u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^{17} - 10u^{15} + \cdots - 3u - 1 \\ u^{17} + 10u^{15} + \cdots + u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4u^{19} + 47u^{17} - 2u^{16} + 225u^{15} - 16u^{14} + 553u^{13} - 42u^{12} + 709u^{11} - 24u^{10} + 398u^9 + 59u^8 + 23u^7 + 72u^6 + u^4 + 36u^3 - 5u^2 + 2u + 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{20} - 8u^{19} + \cdots - 15u + 1$
c_2	$u^{20} - 4u^{18} + \cdots + u + 1$
c_3, c_4	$u^{20} + 12u^{18} + \cdots + 2u - 1$
c_5	$u^{20} - 2u^{18} + \cdots - u - 1$
c_6	$u^{20} - 4u^{18} + \cdots - u + 1$
c_7	$u^{20} + 8u^{19} + \cdots + 15u + 1$
c_8	$u^{20} - 4u^{19} + \cdots + 5u + 1$
c_9	$u^{20} + 12u^{18} + \cdots - 2u - 1$
c_{10}	$u^{20} + 4u^{19} + \cdots + 6u + 1$
c_{11}	$u^{20} + 4u^{19} + \cdots - 5u + 1$
c_{12}	$u^{20} + u^{19} + \cdots + 2u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{20} + 16y^{19} + \cdots - 19y + 1$
c_2, c_6	$y^{20} - 8y^{19} + \cdots - 15y + 1$
c_3, c_4, c_9	$y^{20} + 24y^{19} + \cdots - 8y + 1$
c_5	$y^{20} - 4y^{19} + \cdots - 7y + 1$
c_8, c_{11}	$y^{20} - 24y^{19} + \cdots + 39y + 1$
c_{10}	$y^{20} + 4y^{19} + \cdots - 20y + 1$
c_{12}	$y^{20} - 7y^{19} + \cdots - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.082617 + 0.972592I$ $a = 0.46585 + 2.01695I$ $b = -0.820647 - 0.519052I$	$0.07220 - 2.08153I$	$-5.27988 + 3.56850I$
$u = 0.082617 - 0.972592I$ $a = 0.46585 - 2.01695I$ $b = -0.820647 + 0.519052I$	$0.07220 + 2.08153I$	$-5.27988 - 3.56850I$
$u = 0.145657 + 0.667229I$ $a = 0.668097 - 0.491145I$ $b = 0.787890 - 0.308801I$	$-0.99868 + 1.31531I$	$-1.48801 - 4.97789I$
$u = 0.145657 - 0.667229I$ $a = 0.668097 + 0.491145I$ $b = 0.787890 + 0.308801I$	$-0.99868 - 1.31531I$	$-1.48801 + 4.97789I$
$u = -0.596499 + 0.244913I$ $a = -1.02878 - 1.75372I$ $b = -0.826291 + 0.815126I$	$6.42751 + 1.06605I$	$-1.05015 - 2.88825I$
$u = -0.596499 - 0.244913I$ $a = -1.02878 + 1.75372I$ $b = -0.826291 - 0.815126I$	$6.42751 - 1.06605I$	$-1.05015 + 2.88825I$
$u = 0.563183 + 0.309037I$ $a = 0.586211 - 0.158353I$ $b = -0.951603 + 0.784592I$	$6.04203 + 4.93414I$	$-1.54489 - 2.49382I$
$u = 0.563183 - 0.309037I$ $a = 0.586211 + 0.158353I$ $b = -0.951603 - 0.784592I$	$6.04203 - 4.93414I$	$-1.54489 + 2.49382I$
$u = -0.594374$ $a = 3.59409$ $b = 0.575317$	2.33297	-12.8660
$u = 0.21953 + 1.44872I$ $a = 0.19440 - 1.71239I$ $b = 1.007370 + 0.750824I$	$10.38950 - 7.88778I$	$3.85457 + 6.32689I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.21953 - 1.44872I$ $a = 0.19440 + 1.71239I$ $b = 1.007370 - 0.750824I$	$10.38950 + 7.88778I$	$3.85457 - 6.32689I$
$u = 0.09667 + 1.47937I$ $a = -0.058612 - 0.469253I$ $b = -1.152870 + 0.128392I$	$5.72078 - 1.52942I$	$-2.50362 - 1.38490I$
$u = 0.09667 - 1.47937I$ $a = -0.058612 + 0.469253I$ $b = -1.152870 - 0.128392I$	$5.72078 + 1.52942I$	$-2.50362 + 1.38490I$
$u = -0.21415 + 1.48809I$ $a = -0.663577 - 0.745150I$ $b = 0.749243 + 0.805642I$	$11.18290 + 2.01192I$	$5.40727 - 0.66728I$
$u = -0.21415 - 1.48809I$ $a = -0.663577 + 0.745150I$ $b = 0.749243 - 0.805642I$	$11.18290 - 2.01192I$	$5.40727 + 0.66728I$
$u = -0.14597 + 1.55577I$ $a = 0.339045 - 1.226810I$ $b = -0.524487 + 0.125129I$	$8.32194 + 2.75801I$	$0.496027 + 0.458149I$
$u = -0.14597 - 1.55577I$ $a = 0.339045 + 1.226810I$ $b = -0.524487 - 0.125129I$	$8.32194 - 2.75801I$	$0.496027 - 0.458149I$
$u = -0.01754 + 1.60857I$ $a = -0.90265 + 1.90473I$ $b = 0.903263 - 0.859516I$	$14.0387 + 3.1794I$	$4.78161 - 2.41137I$
$u = -0.01754 - 1.60857I$ $a = -0.90265 - 1.90473I$ $b = 0.903263 + 0.859516I$	$14.0387 - 3.1794I$	$4.78161 + 2.41137I$
$u = 0.327398$ $a = -0.794054$ $b = 1.08094$	0.288303	2.51980

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{20}-8u^{19}+\cdots-15u+1)(u^{94}+27u^{93}+\cdots+38u+1)$
c_2	$(u^{20}-4u^{18}+\cdots+u+1)(u^{94}-u^{93}+\cdots-6u-1)$
c_3, c_4	$(u^{20}+12u^{18}+\cdots+2u-1)(u^{94}+u^{93}+\cdots+167u-29)$
c_5	$(u^{20}-2u^{18}+\cdots-u-1)(u^{94}+u^{93}+\cdots-48236u-34973)$
c_6	$(u^{20}-4u^{18}+\cdots-u+1)(u^{94}-u^{93}+\cdots-6u-1)$
c_7	$(u^{20}+8u^{19}+\cdots+15u+1)(u^{94}+27u^{93}+\cdots+38u+1)$
c_8	$(u^{20}-4u^{19}+\cdots+5u+1)(u^{94}+u^{93}+\cdots+18u-1)$
c_9	$(u^{20}+12u^{18}+\cdots-2u-1)(u^{94}+u^{93}+\cdots+167u-29)$
c_{10}	$(u^{20}+4u^{19}+\cdots+6u+1)$ $\cdot(u^{94}-15u^{93}+\cdots-23727557u+1575181)$
c_{11}	$(u^{20}+4u^{19}+\cdots-5u+1)(u^{94}+u^{93}+\cdots+18u-1)$
c_{12}	$(u^{20}+u^{19}+\cdots+2u^2-1)(u^{94}-4u^{93}+\cdots-1684565u+327443)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^{20}+16y^{19}+\cdots-19y+1)(y^{94}+89y^{93}+\cdots+330y+1)$
c_2, c_6	$(y^{20}-8y^{19}+\cdots-15y+1)(y^{94}-27y^{93}+\cdots-38y+1)$
c_3, c_4, c_9	$(y^{20}+24y^{19}+\cdots-8y+1)(y^{94}+105y^{93}+\cdots+13233y+841)$
c_5	$(y^{20}-4y^{19}+\cdots-7y+1)$ $\cdot(y^{94}-39y^{93}+\cdots-42017779234y+1223110729)$
c_8, c_{11}	$(y^{20}-24y^{19}+\cdots+39y+1)(y^{94}-87y^{93}+\cdots-396y+1)$
c_{10}	$(y^{20}+4y^{19}+\cdots-20y+1)$ $\cdot(y^{94}+49y^{93}+\cdots-1793204056987y+2481195182761)$
c_{12}	$(y^{20}-7y^{19}+\cdots-4y+1)$ $\cdot(y^{94}-46y^{93}+\cdots-4312336575555y+107218918249)$