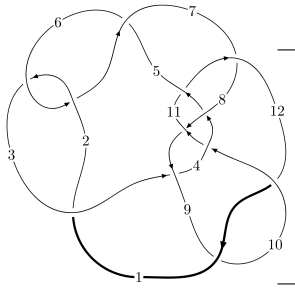
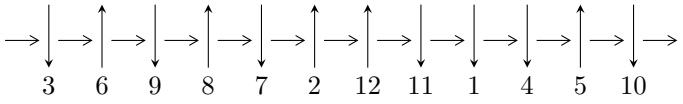
$12a_{0360}$ $(K12a_{0360})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -3.30570 \times 10^{1105} u^{145} - 4.41286 \times 10^{1106} u^{144} + \cdots + 1.33638 \times 10^{1108} b - 8.24729 \times 10^{1108}, \\ & - 6.53292 \times 10^{1106} u^{145} - 8.61380 \times 10^{1107} u^{144} + \cdots + 5.34553 \times 10^{1108} a - 1.10086 \times 10^{1110}, \\ & u^{146} + 13u^{145} + \cdots + 3712u + 768 \rangle \\ I_2^u = \langle & 7.17507 \times 10^{32} u^{25} - 3.74911 \times 10^{33} u^{24} + \cdots + 2.20341 \times 10^{33} b - 2.57469 \times 10^{35}, \\ & 7.48722 \times 10^{34} u^{25} - 3.83632 \times 10^{35} u^{24} + \cdots + 1.43222 \times 10^{35} a - 2.61037 \times 10^{37}, \\ & u^{26} - 6u^{25} + \cdots - 1450u + 325 \rangle \end{aligned}$$

$$\begin{aligned} I_1^v &= \langle a,\ -v^2 + b + 2v,\ v^4 - 3v^3 + 2v^2 + 1 \rangle \\ I_2^v &= \langle a,\ -5v^3 + 16v^2 + 8b - 40v + 15,\ v^4 - 3v^3 + 8v^2 - 3v + 1 \rangle \end{aligned}$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 180 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. $\boldsymbol{I_1^u = \langle -3.31 \times 10^{1105} u^{145} - 4.41 \times 10^{1106} u^{144} + \cdots + 1.34 \times 10^{1108} b - 8.25 \times 10^{1108},\ -6.53 \times 10^{1106} u^{145} - 8.61 \times 10^{1107} u^{144} + \cdots + 5.35 \times 10^{1108} a - 1.10 \times 10^{1110},\ u^{146} + 13 u^{145} + \cdots + 3712 u + 768 \rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.0122213u^{145} + 0.161140u^{144} + \cdots + 123.861u + 20.5939 \\ 0.00247362u^{145} + 0.0330209u^{144} + \cdots + 31.3706u + 6.17135 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.00406636u^{145} - 0.0533296u^{144} + \cdots - 47.0455u - 7.79538 \\ -0.000663045u^{145} - 0.00907307u^{144} + \cdots - 11.0244u - 2.37289 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.00974766u^{145} + 0.128119u^{144} + \cdots + 92.4900u + 14.4226 \\ 0.00247362u^{145} + 0.0330209u^{144} + \cdots + 31.3706u + 6.17135 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0143319u^{145} + 0.188459u^{144} + \cdots + 136.542u + 21.6688 \\ 0.00140153u^{145} + 0.0192365u^{144} + \cdots + 25.0843u + 5.59915 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.00508132u^{145} + 0.0632419u^{144} + \cdots + 9.88946u - 3.18855 \\ 0.000960881u^{145} + 0.0115579u^{144} + \cdots + 3.55703u - 0.539101 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0202071u^{145} - 0.269862u^{144} + \cdots - 246.988u - 42.3344 \\ -0.000188244u^{145} - 0.00491796u^{144} + \cdots - 44.8135u - 10.4290 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.00444409u^{145} - 0.0545649u^{144} + \cdots - 3.69753u + 4.61182 \\ -0.000951740u^{145} - 0.0118936u^{144} + \cdots - 7.64145u - 0.530581 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00366625u^{145} - 0.0476731u^{144} + \cdots - 30.5632u - 4.50047 \\ 0.000262933u^{145} + 0.00341664u^{144} + \cdots - 3.45791u - 0.922013 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.00241677u^{145} - 0.0308188u^{144} + \cdots - 10.6699u - 0.449860 \\ -0.000892350u^{145} - 0.0114009u^{144} + \cdots - 5.71646u - 0.449654 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.00659825u^{145} - 0.0907768u^{144} + \cdots - 143.657u - 31.5748$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{146} + 41u^{145} + \cdots + 13874u + 441$
c_2, c_6	$u^{146} - 3u^{145} + \cdots + 56u + 21$
c_3	$u^{146} + 3u^{145} + \cdots - 213878079u + 69993509$
c_4	$u^{146} + 9u^{145} + \cdots + 97u + 16$
c_7	$u^{146} - 5u^{145} + \cdots + 163744u + 32887$
c_8	$u^{146} - 13u^{145} + \cdots - 3712u + 768$
c_9, c_{12}	$u^{146} + 7u^{145} + \cdots + 95533u + 4448$
c_{10}	$u^{146} - 6u^{144} + \cdots - 35u + 1$
c_{11}	$u^{146} + 2u^{145} + \cdots + 153777u + 21323$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{146} + 141y^{145} + \cdots + 10798130y + 194481$
c_2, c_6	$y^{146} + 41y^{145} + \cdots + 13874y + 441$
c_3	$y^{146} + 59y^{145} + \cdots + 839682611759848865y + 4899091302133081$
c_4	$y^{146} + 21y^{145} + \cdots + 13375y + 256$
c_7	$y^{146} - 39y^{145} + \cdots - 49681388466y + 1081554769$
c_8	$y^{146} + 11y^{145} + \cdots + 6373376y + 589824$
c_9, c_{12}	$y^{146} + 97y^{145} + \cdots - 4451394729y + 19784704$
c_{10}	$y^{146} - 12y^{145} + \cdots + 265y + 1$
c_{11}	$y^{146} - 30y^{145} + \cdots - 28764118101y + 454670329$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.802454+0.588037I$ $a=-0.531807-1.135870I$ $b=-1.020260-0.872880I$	$3.29509+2.59410I$	0
$u=-0.802454-0.588037I$ $a=-0.531807+1.135870I$ $b=-1.020260+0.872880I$	$3.29509-2.59410I$	0
$u=\ 0.871003+0.506893I$ $a=\ 0.403140-0.851076I$ $b=\ 1.20409-1.11526I$	$-1.65989-5.49131I$	0
$u=\ 0.871003-0.506893I$ $a=\ 0.403140+0.851076I$ $b=\ 1.20409+1.11526I$	$-1.65989+5.49131I$	0
$u=\ 0.429141+0.917197I$ $a=-0.201495+0.959077I$ $b=-0.87385+1.26504I$	$1.51786-4.56864I$	0
$u=\ 0.429141-0.917197I$ $a=-0.201495-0.959077I$ $b=-0.87385-1.26504I$	$1.51786+4.56864I$	0
$u=-0.827144+0.492973I$ $a=\ 0.616486+1.195440I$ $b=\ 1.07282+0.96391I$	$2.42208+8.12198I$	0
$u=-0.827144-0.492973I$ $a=\ 0.616486-1.195440I$ $b=\ 1.07282-0.96391I$	$2.42208-8.12198I$	0
$u=\ 0.748394+0.604038I$ $a=-0.598029-0.270701I$ $b=\ 0.205977-0.532694I$	$-1.38423-0.78057I$	0
$u=\ 0.748394-0.604038I$ $a=-0.598029+0.270701I$ $b=\ 0.205977+0.532694I$	$-1.38423+0.78057I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.508387+0.924849I$ $a=-0.960150-0.195445I$ $b=\ \ 0.387156+0.376888I$	$3.13027+3.31987I$	0
$u=-0.508387-0.924849I$ $a=-0.960150+0.195445I$ $b=\ \ 0.387156-0.376888I$	$3.13027-3.31987I$	0
$u=\ \ 0.053551+0.932125I$ $a=-0.161722-1.071830I$ $b=-1.021500-0.623407I$	$6.30567+0.04181I$	0
$u=\ \ 0.053551-0.932125I$ $a=-0.161722+1.071830I$ $b=-1.021500+0.623407I$	$6.30567-0.04181I$	0
$u=\ \ 0.137828+0.917504I$ $a=\ \ 0.168695+1.034250I$ $b=\ \ 1.060330+0.607548I$	$5.81980-6.06300I$	0
$u=\ \ 0.137828-0.917504I$ $a=\ \ 0.168695-1.034250I$ $b=\ \ 1.060330-0.607548I$	$5.81980+6.06300I$	0
$u=\ \ 1.078310+0.012960I$ $a=\ \ 0.48197+1.49587I$ $b=\ \ 0.065355+0.580528I$	$-3.69081-0.08768I$	0
$u=\ \ 1.078310-0.012960I$ $a=\ \ 0.48197-1.49587I$ $b=\ \ 0.065355-0.580528I$	$-3.69081+0.08768I$	0
$u=-0.961574+0.533261I$ $a=\ \ 1.22512-1.29575I$ $b=-0.332786-0.684088I$	$6.09233+10.74490I$	0
$u=-0.961574-0.533261I$ $a=\ \ 1.22512+1.29575I$ $b=-0.332786+0.684088I$	$6.09233-10.74490I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.082670+0.263362I$ $a=-0.663520+0.363145I$ $b=-0.287318+0.715534I$	$1.32164-2.89842I$	0
$u=-1.082670-0.263362I$ $a=-0.663520-0.363145I$ $b=-0.287318-0.715534I$	$1.32164+2.89842I$	0
$u=-0.224981+0.850372I$ $a=\ \ 0.344235+0.246836I$ $b=\ \ 0.471852-0.683778I$	$-1.85922-1.49457I$	0
$u=-0.224981-0.850372I$ $a=\ \ 0.344235-0.246836I$ $b=\ \ 0.471852+0.683778I$	$-1.85922+1.49457I$	0
$u=-0.969668+0.612996I$ $a=-1.10536+1.17499I$ $b=\ \ 0.373015+0.672914I$	$6.68296+4.72439I$	0
$u=-0.969668-0.612996I$ $a=-1.10536-1.17499I$ $b=\ \ 0.373015-0.672914I$	$6.68296-4.72439I$	0
$u=-0.560635+1.006060I$ $a=-0.335631+0.864108I$ $b=\ \ 1.19675+1.16993I$	$-1.13829+5.55339I$	0
$u=-0.560635-1.006060I$ $a=-0.335631-0.864108I$ $b=\ \ 1.19675-1.16993I$	$-1.13829-5.55339I$	0
$u=\ \ 0.092261+0.821801I$ $a=\ \ 0.88761+1.79345I$ $b=-0.980157+0.518850I$	$11.02230-3.86586I$	0
$u=\ \ 0.092261-0.821801I$ $a=\ \ 0.88761-1.79345I$ $b=-0.980157-0.518850I$	$11.02230+3.86586I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.617603+0.545779I$ $a=\ \ 1.97468-0.58063I$ $b=-0.263967-0.519798I$	$-0.28583+5.92748I$	0
$u=-0.617603-0.545779I$ $a=\ \ 1.97468+0.58063I$ $b=-0.263967+0.519798I$	$-0.28583-5.92748I$	0
$u=\ \ 0.140250+0.810021I$ $a=-0.90766-1.94652I$ $b=\ \ 0.919417-0.512843I$	$10.1797-10.3417I$	0
$u=\ \ 0.140250-0.810021I$ $a=-0.90766+1.94652I$ $b=\ \ 0.919417+0.512843I$	$10.1797+10.3417I$	0
$u=-0.691017+0.436435I$ $a=-0.465465-1.026020I$ $b=-0.218819-1.095490I$	$1.75912+1.15684I$	0
$u=-0.691017-0.436435I$ $a=-0.465465+1.026020I$ $b=-0.218819+1.095490I$	$1.75912-1.15684I$	0
$u=-0.274708+0.752038I$ $a=\ \ 0.123349+1.187240I$ $b=-1.41094+0.88937I$	$10.65860+4.70645I$	0
$u=-0.274708-0.752038I$ $a=\ \ 0.123349-1.187240I$ $b=-1.41094-0.88937I$	$10.65860-4.70645I$	0
$u=-0.314244+0.725706I$ $a=-0.056143-1.193680I$ $b=\ \ 1.42312-0.94084I$	$9.7361+11.1439I$	0
$u=-0.314244-0.725706I$ $a=-0.056143+1.193680I$ $b=\ \ 1.42312+0.94084I$	$9.7361-11.1439I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.233620 + 0.017461I$ $a = 0.03835 - 1.80354I$ $b = 0.013633 - 0.692946I$	$1.01870 + 2.91649I$	0
$u = 1.233620 - 0.017461I$ $a = 0.03835 + 1.80354I$ $b = 0.013633 + 0.692946I$	$1.01870 - 2.91649I$	0
$u = -0.085565 + 0.757064I$ $a = 0.669355 + 0.943391I$ $b = -1.42801 + 0.48897I$	$5.87623 + 0.37168I$	0
$u = -0.085565 - 0.757064I$ $a = 0.669355 - 0.943391I$ $b = -1.42801 - 0.48897I$	$5.87623 - 0.37168I$	0
$u = 0.813116 + 0.937801I$ $a = -0.175884 - 0.791862I$ $b = 0.847508 - 1.095940I$	$-2.90521 - 2.63874I$	0
$u = 0.813116 - 0.937801I$ $a = -0.175884 + 0.791862I$ $b = 0.847508 + 1.095940I$	$-2.90521 + 2.63874I$	0
$u = -0.647518 + 0.386086I$ $a = 0.51472 + 1.33120I$ $b = 0.813443 + 1.124790I$	$-2.51715 + 2.66644I$	0
$u = -0.647518 - 0.386086I$ $a = 0.51472 - 1.33120I$ $b = 0.813443 - 1.124790I$	$-2.51715 - 2.66644I$	0
$u = -0.081022 + 0.740045I$ $a = 0.93571 + 1.67349I$ $b = -0.241110 - 0.293390I$	$0.651752 - 0.256863I$	0
$u = -0.081022 - 0.740045I$ $a = 0.93571 - 1.67349I$ $b = -0.241110 + 0.293390I$	$0.651752 + 0.256863I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.676797 + 0.281890I$ $a = -1.78827 - 0.18462I$ $b = -0.060429 - 0.293215I$	$-0.121350 - 0.755731I$	0
$u = \quad 0.676797 - 0.281890I$ $a = -1.78827 + 0.18462I$ $b = -0.060429 + 0.293215I$	$-0.121350 + 0.755731I$	0
$u = -0.163534 + 1.260490I$ $a = \quad 0.088612 - 0.482634I$ $b = -1.02625 - 1.83080I$	$7.40675 + 3.00994I$	0
$u = -0.163534 - 1.260490I$ $a = \quad 0.088612 + 0.482634I$ $b = -1.02625 + 1.83080I$	$7.40675 - 3.00994I$	0
$u = \quad 0.082332 + 1.299770I$ $a = \quad 0.044072 + 0.413505I$ $b = \quad 0.31001 + 1.95661I$	$6.39267 - 4.58347I$	0
$u = \quad 0.082332 - 1.299770I$ $a = \quad 0.044072 - 0.413505I$ $b = \quad 0.31001 - 1.95661I$	$6.39267 + 4.58347I$	0
$u = -0.041330 + 0.684286I$ $a = -1.51422 - 0.98978I$ $b = \quad 1.152000 - 0.167085I$	$1.92894 - 4.21551I$	$5.10624 + 4.62566I$
$u = -0.041330 - 0.684286I$ $a = -1.51422 + 0.98978I$ $b = \quad 1.152000 + 0.167085I$	$1.92894 + 4.21551I$	$5.10624 - 4.62566I$
$u = \quad 0.627231 + 0.274078I$ $a = -1.20586 - 0.86517I$ $b = \quad 0.739501 - 0.968326I$	$2.98529 + 2.15718I$	0
$u = \quad 0.627231 - 0.274078I$ $a = -1.20586 + 0.86517I$ $b = \quad 0.739501 + 0.968326I$	$2.98529 - 2.15718I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.112176+0.654366I$ $a=-0.162580-0.770557I$ $b=\ \ 1.66141-0.74380I$	$1.79307+4.84713I$	$7.28682-6.07966I$
$u=-0.112176-0.654366I$ $a=-0.162580+0.770557I$ $b=\ \ 1.66141+0.74380I$	$1.79307-4.84713I$	$7.28682+6.07966I$
$u=-0.443688+1.266100I$ $a=\ \ 0.012240-0.871069I$ $b=\ \ 0.438570-1.038990I$	$9.28459+1.01032I$	0
$u=-0.443688-1.266100I$ $a=\ \ 0.012240+0.871069I$ $b=\ \ 0.438570+1.038990I$	$9.28459-1.01032I$	0
$u=-0.320464+1.303020I$ $a=-0.046142+0.889587I$ $b=-0.500613+1.063090I$	$9.21295-5.35564I$	0
$u=-0.320464-1.303020I$ $a=-0.046142-0.889587I$ $b=-0.500613-1.063090I$	$9.21295+5.35564I$	0
$u=\ \ 0.653144+0.069002I$ $a=\ \ 2.17959+1.52916I$ $b=\ \ 0.155620+0.378066I$	$-0.67695+3.93260I$	$-11.25475-6.09214I$
$u=\ \ 0.653144-0.069002I$ $a=\ \ 2.17959-1.52916I$ $b=\ \ 0.155620-0.378066I$	$-0.67695-3.93260I$	$-11.25475+6.09214I$
$u=-0.909955+0.998183I$ $a=-0.164467-0.904765I$ $b=-0.881074-0.662215I$	$3.55387+1.89506I$	0
$u=-0.909955-0.998183I$ $a=-0.164467+0.904765I$ $b=-0.881074+0.662215I$	$3.55387-1.89506I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.958639 + 0.954754I$ $a = -0.286185 + 0.722804I$ $b = -1.00195 + 1.00927I$	$0.10078 - 4.29110I$	0
$u = 0.958639 - 0.954754I$ $a = -0.286185 - 0.722804I$ $b = -1.00195 - 1.00927I$	$0.10078 + 4.29110I$	0
$u = -0.315970 + 0.548885I$ $a = -0.18304 - 1.41022I$ $b = -0.729260 - 0.689517I$	$1.36793 + 0.94017I$	$3.85710 - 1.23401I$
$u = -0.315970 - 0.548885I$ $a = -0.18304 + 1.41022I$ $b = -0.729260 + 0.689517I$	$1.36793 - 0.94017I$	$3.85710 + 1.23401I$
$u = 0.813226 + 1.113110I$ $a = -0.030267 + 0.875027I$ $b = -0.859728 + 1.100540I$	$0.15079 - 5.32131I$	0
$u = 0.813226 - 1.113110I$ $a = -0.030267 - 0.875027I$ $b = -0.859728 - 1.100540I$	$0.15079 + 5.32131I$	0
$u = 1.254660 + 0.578117I$ $a = 0.441077 - 0.761605I$ $b = 1.18284 - 0.95675I$	$4.19024 - 9.29980I$	0
$u = 1.254660 - 0.578117I$ $a = 0.441077 + 0.761605I$ $b = 1.18284 + 0.95675I$	$4.19024 + 9.29980I$	0
$u = -0.465403 + 0.391641I$ $a = 0.317594 + 1.275180I$ $b = 0.32207 + 1.53524I$	$0.07254 - 3.31724I$	$-3.20482 - 2.86742I$
$u = -0.465403 - 0.391641I$ $a = 0.317594 - 1.275180I$ $b = 0.32207 - 1.53524I$	$0.07254 + 3.31724I$	$-3.20482 + 2.86742I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.298915 + 0.526501I$ $a = 0.324718 - 1.103420I$ $b = 1.04305 - 1.59122I$	$0.227473 - 0.396209I$	$3.67014 + 9.08431I$
$u = 0.298915 - 0.526501I$ $a = 0.324718 + 1.103420I$ $b = 1.04305 + 1.59122I$	$0.227473 + 0.396209I$	$3.67014 - 9.08431I$
$u = -0.717126 + 1.214700I$ $a = 0.105752 - 0.882481I$ $b = -1.07858 - 1.22167I$	$4.01021 + 9.20227I$	0
$u = -0.717126 - 1.214700I$ $a = 0.105752 + 0.882481I$ $b = -1.07858 + 1.22167I$	$4.01021 - 9.20227I$	0
$u = 0.879221 + 1.104450I$ $a = 0.270707 + 0.368200I$ $b = -0.121478 + 0.779280I$	$-2.60636 - 3.62739I$	0
$u = 0.879221 - 1.104450I$ $a = 0.270707 - 0.368200I$ $b = -0.121478 - 0.779280I$	$-2.60636 + 3.62739I$	0
$u = 1.25670 + 0.66375I$ $a = -0.429462 + 0.745416I$ $b = -1.15696 + 0.95062I$	$4.51748 - 3.32543I$	0
$u = 1.25670 - 0.66375I$ $a = -0.429462 - 0.745416I$ $b = -1.15696 - 0.95062I$	$4.51748 + 3.32543I$	0
$u = 0.556667 + 0.157222I$ $a = 1.58529 + 0.98466I$ $b = -0.686976 + 0.957219I$	$3.33704 - 3.66399I$	$0.44736 + 4.04098I$
$u = 0.556667 - 0.157222I$ $a = 1.58529 - 0.98466I$ $b = -0.686976 - 0.957219I$	$3.33704 + 3.66399I$	$0.44736 - 4.04098I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.99418+1.04243I$ $a=-0.188300+0.848592I$ $b=\ \ 0.709545+0.629884I$	$4.09131+4.58759I$	0
$u=-0.99418-1.04243I$ $a=-0.188300-0.848592I$ $b=\ \ 0.709545-0.629884I$	$4.09131-4.58759I$	0
$u=-0.87443+1.15416I$ $a=-0.066903+0.986336I$ $b=\ \ 1.06573+1.18272I$	$0.57798+13.78210I$	0
$u=-0.87443-1.15416I$ $a=-0.066903-0.986336I$ $b=\ \ 1.06573-1.18272I$	$0.57798-13.78210I$	0
$u=\ \ 0.144479+0.531071I$ $a=-0.232323+0.877556I$ $b=\ \ 0.935011+0.242956I$	$-0.73777-1.93423I$	$-1.16196+5.89787I$
$u=\ \ 0.144479-0.531071I$ $a=-0.232323-0.877556I$ $b=\ \ 0.935011-0.242956I$	$-0.73777+1.93423I$	$-1.16196-5.89787I$
$u=\ \ 0.96653+1.12786I$ $a=-0.035349-0.972317I$ $b=\ \ 0.851919-1.103510I$	$-2.56858-8.46422I$	0
$u=\ \ 0.96653-1.12786I$ $a=-0.035349+0.972317I$ $b=\ \ 0.851919+1.103510I$	$-2.56858+8.46422I$	0
$u=-1.25107+0.83285I$ $a=\ \ 0.504342-0.191372I$ $b=\ \ 0.332700-0.608096I$	$-0.72741-6.37136I$	0
$u=-1.25107-0.83285I$ $a=\ \ 0.504342+0.191372I$ $b=\ \ 0.332700+0.608096I$	$-0.72741+6.37136I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.95879+1.19437I$ $a=-0.070193+0.281575I$ $b=\ \ 0.722768+0.354840I$	$4.08493+3.44456I$	0
$u=-0.95879-1.19437I$ $a=-0.070193-0.281575I$ $b=\ \ 0.722768-0.354840I$	$4.08493-3.44456I$	0
$u=-0.95534+1.21871I$ $a=-0.002971-1.124170I$ $b=-0.796490-0.772451I$	$10.14710-0.08191I$	0
$u=-0.95534-1.21871I$ $a=-0.002971+1.124170I$ $b=-0.796490+0.772451I$	$10.14710+0.08191I$	0
$u=-0.124855+0.428054I$ $a=\ \ 0.16953+3.86744I$ $b=\ \ 0.389763+0.947661I$	$3.22067+6.26738I$	$-2.17854-6.95136I$
$u=-0.124855-0.428054I$ $a=\ \ 0.16953-3.86744I$ $b=\ \ 0.389763-0.947661I$	$3.22067-6.26738I$	$-2.17854+6.95136I$
$u=-0.99469+1.20464I$ $a=-0.034102+1.124490I$ $b=\ \ 0.776064+0.771091I$	$10.17630+6.07102I$	0
$u=-0.99469-1.20464I$ $a=-0.034102-1.124490I$ $b=\ \ 0.776064-0.771091I$	$10.17630-6.07102I$	0
$u=-1.15857+1.04836I$ $a=-0.286287-0.454025I$ $b=-0.947606-0.404793I$	$2.78645+5.56447I$	0
$u=-1.15857-1.04836I$ $a=-0.286287+0.454025I$ $b=-0.947606+0.404793I$	$2.78645-5.56447I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.66671 + 1.42349I$ $a = -0.183175 + 0.380040I$ $b = -0.734663 + 0.828846I$	$4.55795 - 4.68763I$	0
$u = 0.66671 - 1.42349I$ $a = -0.183175 - 0.380040I$ $b = -0.734663 - 0.828846I$	$4.55795 + 4.68763I$	0
$u = 0.55167 + 1.47597I$ $a = 0.185991 - 0.311739I$ $b = 0.687152 - 0.783132I$	$4.29320 + 1.43417I$	0
$u = 0.55167 - 1.47597I$ $a = 0.185991 + 0.311739I$ $b = 0.687152 + 0.783132I$	$4.29320 - 1.43417I$	0
$u = -0.057032 + 0.413051I$ $a = 0.06908 - 4.04906I$ $b = -0.411782 - 0.956309I$	$3.50521 + 0.40441I$	$-1.27968 - 1.36402I$
$u = -0.057032 - 0.413051I$ $a = 0.06908 + 4.04906I$ $b = -0.411782 + 0.956309I$	$3.50521 - 0.40441I$	$-1.27968 + 1.36402I$
$u = 0.29573 + 1.55558I$ $a = -0.139405 + 0.616609I$ $b = -0.294666 - 0.103183I$	$8.45007 - 4.01645I$	0
$u = 0.29573 - 1.55558I$ $a = -0.139405 - 0.616609I$ $b = -0.294666 + 0.103183I$	$8.45007 + 4.01645I$	0
$u = 0.11916 + 1.58631I$ $a = 0.055671 - 0.581903I$ $b = 0.327032 + 0.107858I$	$8.79268 + 2.27687I$	0
$u = 0.11916 - 1.58631I$ $a = 0.055671 + 0.581903I$ $b = 0.327032 - 0.107858I$	$8.79268 - 2.27687I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.46966 + 0.62366I$ $a = 0.257768 + 0.597655I$ $b = -0.008762 + 0.604709I$	$-3.83356 + 0.38759I$	0
$u = 1.46966 - 0.62366I$ $a = 0.257768 - 0.597655I$ $b = -0.008762 - 0.604709I$	$-3.83356 - 0.38759I$	0
$u = -0.305709 + 0.253315I$ $a = 0.99812 + 3.00858I$ $b = 0.391781 + 0.843855I$	$-2.10847 + 2.41665I$	$-7.89279 - 5.63736I$
$u = -0.305709 - 0.253315I$ $a = 0.99812 - 3.00858I$ $b = 0.391781 - 0.843855I$	$-2.10847 - 2.41665I$	$-7.89279 + 5.63736I$
$u = -0.355700 + 0.091311I$ $a = -0.03410 + 2.58541I$ $b = 0.150760 + 0.786380I$	$0.19720 - 2.31992I$	$1.56244 + 1.36705I$
$u = -0.355700 - 0.091311I$ $a = -0.03410 - 2.58541I$ $b = 0.150760 - 0.786380I$	$0.19720 + 2.31992I$	$1.56244 - 1.36705I$
$u = 0.96640 + 1.33986I$ $a = -0.056754 + 1.017840I$ $b = -0.855296 + 1.100900I$	$4.96333 - 6.71922I$	0
$u = 0.96640 - 1.33986I$ $a = -0.056754 - 1.017840I$ $b = -0.855296 - 1.100900I$	$4.96333 + 6.71922I$	0
$u = -0.98394 + 1.33712I$ $a = -0.044895 - 0.952937I$ $b = -1.03585 - 1.17641I$	$9.6218 + 13.1451I$	0
$u = -0.98394 - 1.33712I$ $a = -0.044895 + 0.952937I$ $b = -1.03585 + 1.17641I$	$9.6218 - 13.1451I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.02833+1.31599I$ $a=\ \ 0.053691+0.974396I$ $b=\ \ 1.03924+1.17085I$	$8.7975+19.6210I$	0
$u=-1.02833-1.31599I$ $a=\ \ 0.053691-0.974396I$ $b=\ \ 1.03924-1.17085I$	$8.7975-19.6210I$	0
$u=\ \ 1.01666+1.32694I$ $a=\ \ 0.044688-1.033270I$ $b=\ \ 0.856920-1.102340I$	$4.43125-12.88750I$	0
$u=\ \ 1.01666-1.32694I$ $a=\ \ 0.044688+1.033270I$ $b=\ \ 0.856920+1.102340I$	$4.43125+12.88750I$	0
$u=\ \ 0.142656+0.106541I$ $a=\ \ 4.69771-4.79416I$ $b=-0.518383-0.916779I$	$-0.63899+2.02048I$	$-5.40557-3.17001I$
$u=\ \ 0.142656-0.106541I$ $a=\ \ 4.69771+4.79416I$ $b=-0.518383+0.916779I$	$-0.63899-2.02048I$	$-5.40557+3.17001I$
$u=-1.33087+1.24696I$ $a=-0.351156-0.189688I$ $b=-0.958957-0.219321I$	$8.99976+8.86703I$	0
$u=-1.33087-1.24696I$ $a=-0.351156+0.189688I$ $b=-0.958957+0.219321I$	$8.99976-8.86703I$	0
$u=-1.29302+1.29790I$ $a=\ \ 0.310140+0.159791I$ $b=\ \ 0.924245+0.205463I$	$9.28156+2.80052I$	0
$u=-1.29302-1.29790I$ $a=\ \ 0.310140-0.159791I$ $b=\ \ 0.924245-0.205463I$	$9.28156-2.80052I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.98823+0.57740I$ $a=-0.389707+0.287305I$ $b=-0.222276+0.546955I$	$7.17013-3.92014I$	0
$u=-1.98823-0.57740I$ $a=-0.389707-0.287305I$ $b=-0.222276-0.546955I$	$7.17013+3.92014I$	0
$u=-2.00423+0.74302I$ $a=\ \ 0.387343-0.263312I$ $b=\ \ 0.240941-0.531243I$	$6.75576-10.20230I$	0
$u=-2.00423-0.74302I$ $a=\ \ 0.387343+0.263312I$ $b=\ \ 0.240941+0.531243I$	$6.75576+10.20230I$	0
$u=\ \ 2.30318+0.10618I$ $a=\ \ 0.018491+0.532841I$ $b=\ \ 0.005633+0.556168I$	$1.63020+3.00541I$	0
$u=\ \ 2.30318-0.10618I$ $a=\ \ 0.018491-0.532841I$ $b=\ \ 0.005633-0.556168I$	$1.63020-3.00541I$	0

II. $I_2^u =$
$\langle 7.18\times10^{32}u^{25}-3.75\times10^{33}u^{24}+\cdots+2.20\times10^{33}b-2.57\times10^{35},\ 7.49\times10^{34}u^{25}-3.84\times10^{35}u^{24}+\cdots+1.43\times10^{35}a-2.61\times10^{37},\ u^{26}-6u^{25}+\cdots-1450u+325\rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-0.522772u^{25}+2.67859u^{24}+\cdots-624.387u+182.261\\-0.325635u^{25}+1.70150u^{24}+\cdots-403.988u+116.850\end{pmatrix}$$
$$a_9 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}0.0869459u^{25}-0.470164u^{24}+\cdots+123.486u-39.0141\\0.0838690u^{25}-0.451703u^{24}+\cdots+116.929u-34.5525\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-0.197137u^{25}+0.977087u^{24}+\cdots-220.399u+65.4101\\-0.325635u^{25}+1.70150u^{24}+\cdots-403.988u+116.850\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.302807u^{25}+1.58855u^{24}+\cdots-390.141u+115.397\\-0.248017u^{25}+1.39983u^{24}+\cdots-402.353u+124.182\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-0.0647902u^{25}+0.393000u^{24}+\cdots-137.579u+47.7686\\0.0930366u^{25}-0.455846u^{24}+\cdots+80.5038u-17.7169\end{pmatrix}$$
$$a_6 = \begin{pmatrix}0.131551u^{25}-0.730484u^{24}+\cdots+173.588u-45.7657\\-0.175827u^{25}+0.660728u^{24}+\cdots-42.9804u+9.38129\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-0.0132789u^{25}+0.0981775u^{24}+\cdots-50.5217u+18.5112\\0.0708953u^{25}-0.319637u^{24}+\cdots+24.5932u+3.52667\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-0.00917141u^{25}+0.0369071u^{24}+\cdots+1.98027u-3.05587\\0.0122483u^{25}-0.0553687u^{24}+\cdots+6.57666u-1.40567\end{pmatrix}$$
$$a_1 = \begin{pmatrix}0.0881941u^{25}-0.465405u^{24}+\cdots+114.671u-35.2473\\0.0647242u^{25}-0.353226u^{24}+\cdots+92.6603u-27.0170\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0.244033u^{25}-1.41410u^{24}+\cdots+528.354u-202.320$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{26} - 8u^{25} + \cdots - 22u + 1$
c_2	$u^{26} - 2u^{25} + \cdots - 2u + 1$
c_3	$u^{26} - 4u^{24} + \cdots - 8u + 1$
c_4	$u^{26} + 3u^{24} + \cdots + 5u^2 + 1$
c_6	$u^{26} + 2u^{25} + \cdots + 2u + 1$
c_7	$u^{26} - 4u^{25} + \cdots + 2u + 1$
c_8	$u^{26} - 6u^{25} + \cdots - 1450u + 325$
c_9	$u^{26} - 8u^{25} + \cdots - 2u + 1$
c_{10}	$u^{26} - 2u^{24} + \cdots + 5u^2 + 1$
c_{11}	$u^{26} + 5u^{24} + \cdots - 2u^2 + 1$
c_{12}	$u^{26} + 8u^{25} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{26} + 28y^{25} + \cdots - 50y + 1$
c_2, c_6	$y^{26} + 8y^{25} + \cdots + 22y + 1$
c_3	$y^{26} - 8y^{25} + \cdots + 26y + 1$
c_4	$y^{26} + 6y^{25} + \cdots + 10y + 1$
c_7	$y^{26} - 24y^{25} + \cdots - 10y + 1$
c_8	$y^{26} - 14y^{25} + \cdots - 506100y + 105625$
c_9, c_{12}	$y^{26} + 12y^{25} + \cdots + 22y + 1$
c_{10}	$y^{26} - 4y^{25} + \cdots + 10y + 1$
c_{11}	$y^{26} + 10y^{25} + \cdots - 4y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.642907 + 0.719704I$ $a = -0.049670 + 0.987522I$ $b = -1.12126 + 1.16360I$	$-1.94746 - 3.72158I$	$-3.38899 + 5.95359I$
$u = 0.642907 - 0.719704I$ $a = -0.049670 - 0.987522I$ $b = -1.12126 - 1.16360I$	$-1.94746 + 3.72158I$	$-3.38899 - 5.95359I$
$u = 0.886895 + 0.060397I$ $a = -0.11730 - 1.58959I$ $b = -0.067849 - 0.797201I$	$-0.64567 - 2.56810I$	$-8.79473 + 2.84141I$
$u = 0.886895 - 0.060397I$ $a = -0.11730 + 1.58959I$ $b = -0.067849 + 0.797201I$	$-0.64567 + 2.56810I$	$-8.79473 - 2.84141I$
$u = 0.932635 + 0.619144I$ $a = -0.471311 + 1.025330I$ $b = -1.17809 + 1.04809I$	$2.09499 - 8.69478I$	$-3.51881 + 11.95658I$
$u = 0.932635 - 0.619144I$ $a = -0.471311 - 1.025330I$ $b = -1.17809 - 1.04809I$	$2.09499 + 8.69478I$	$-3.51881 - 11.95658I$
$u = 0.984240 + 0.685609I$ $a = 0.476981 - 0.915527I$ $b = 1.14488 - 1.00038I$	$2.65402 - 3.22600I$	$-3.00214 + 4.67394I$
$u = 0.984240 - 0.685609I$ $a = 0.476981 + 0.915527I$ $b = 1.14488 + 1.00038I$	$2.65402 + 3.22600I$	$-3.00214 - 4.67394I$
$u = -0.549428 + 0.512959I$ $a = 0.430462 - 0.924955I$ $b = -1.088500 - 0.086833I$	$0.87918 + 5.03600I$	$-1.98431 - 8.01124I$
$u = -0.549428 - 0.512959I$ $a = 0.430462 + 0.924955I$ $b = -1.088500 + 0.086833I$	$0.87918 - 5.03600I$	$-1.98431 + 8.01124I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.901526 + 0.978087I$ $a = 0.287411 - 0.711914I$ $b = 0.945344 - 1.042100I$	$0.04503 - 4.74402I$	$-3.06160 + 13.78611I$
$u = 0.901526 - 0.978087I$ $a = 0.287411 + 0.711914I$ $b = 0.945344 + 1.042100I$	$0.04503 + 4.74402I$	$-3.06160 - 13.78611I$
$u = 1.311010 + 0.228540I$ $a = -0.169705 - 1.061080I$ $b = -0.072227 - 0.544722I$	$-3.39487 + 0.57363I$	$-0.02651 - 12.54083I$
$u = 1.311010 - 0.228540I$ $a = -0.169705 + 1.061080I$ $b = -0.072227 + 0.544722I$	$-3.39487 - 0.57363I$	$-0.02651 + 12.54083I$
$u = 0.157239 + 1.349560I$ $a = 0.085502 - 0.409777I$ $b = 0.11950 - 1.70339I$	$6.36975 - 4.25224I$	$4.76761 - 4.59235I$
$u = 0.157239 - 1.349560I$ $a = 0.085502 + 0.409777I$ $b = 0.11950 + 1.70339I$	$6.36975 + 4.25224I$	$4.76761 + 4.59235I$
$u = -0.214575 + 1.360360I$ $a = -0.148264 + 0.386526I$ $b = 0.65174 + 1.37751I$	$6.99718 + 2.92961I$	$-1.03265 - 2.70666I$
$u = -0.214575 - 1.360360I$ $a = -0.148264 - 0.386526I$ $b = 0.65174 - 1.37751I$	$6.99718 - 2.92961I$	$-1.03265 + 2.70666I$
$u = -1.400040 + 0.172477I$ $a = -0.243878 - 0.684805I$ $b = -0.626936 - 0.109312I$	$7.61432 + 9.84785I$	$3.78900 - 7.90385I$
$u = -1.400040 - 0.172477I$ $a = -0.243878 + 0.684805I$ $b = -0.626936 + 0.109312I$	$7.61432 - 9.84785I$	$3.78900 + 7.90385I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.46101+0.37246I$ $a=\ \ 0.170747+0.645580I$ $b=\ \ 0.623516+0.167102I$	$8.10817+3.70298I$	$4.79874-3.48112I$
$u=-1.46101-0.37246I$ $a=\ \ 0.170747-0.645580I$ $b=\ \ 0.623516-0.167102I$	$8.10817-3.70298I$	$4.79874+3.48112I$
$u=-1.08012+1.13039I$ $a=-0.068718+0.538805I$ $b=\ \ 0.681943+0.477579I$	$3.79621+3.81566I$	$-3.37216-6.96346I$
$u=-1.08012-1.13039I$ $a=-0.068718-0.538805I$ $b=\ \ 0.681943-0.477579I$	$3.79621-3.81566I$	$-3.37216+6.96346I$
$u=\ \ 1.88873+0.07760I$ $a=-0.028411-0.785092I$ $b=-0.012048-0.429242I$	$1.97277+2.99985I$	$9.82655-2.88515I$
$u=\ \ 1.88873-0.07760I$ $a=-0.028411+0.785092I$ $b=-0.012048+0.429242I$	$1.97277-2.99985I$	$9.82655+2.88515I$

III. $I_1^v = \langle a,\ -v^2+b+2v,\ v^4-3v^3+2v^2+1\rangle$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ v^2-2v \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} v \\ v^3-2v^2+v-1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -v^2+2v \\ v^2-2v \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0 \\ v^2-2v \end{pmatrix}$$
$$a_7 = \begin{pmatrix} v^3-v^2-v \\ -v^3+2v^2-v \end{pmatrix}$$
$$a_6 = \begin{pmatrix} v^3-2v^2 \\ -v^3+3v^2-3v+1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -v^3+v^2+v \\ v^3-2v^2+1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -v^3+2v^2+1 \\ v^3-2v^2+v-1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -v^3+v^2+v \\ v^3-2v^2+v \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8v^3-16v^2+11v-8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_9	$(u^2-u+1)^2$
c_2, c_7, c_{12}	$(u^2+u+1)^2$
c_3, c_4	$u^4-u^3+2u^2-2u+1$
c_8	u^4
c_{10}, c_{11}	$u^4+u^3-u^2-u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6, c_7, c_9 c_{12}	$(y^2+y+1)^2$
c_3, c_4	$y^4+3y^3+2y^2+1$
c_8	y^4
c_{10}, c_{11}	$y^4-3y^3+5y^2-3y+1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v=-0.192440+0.547877I$ $a=\quad 0$ $b=\quad 0.121744-1.306620I$	$-\ 4.05977I$	$-4.57732+8.57184I$
$v=-0.192440-0.547877I$ $a=\quad 0$ $b=\quad 0.121744+1.306620I$	$4.05977I$	$-4.57732-8.57184I$
$v=\quad 1.69244+0.31815I$ $a=\quad 0$ $b=-0.621744+0.440597I$	$-\ 4.05977I$	$1.07732+7.88265I$
$v=\quad 1.69244-0.31815I$ $a=\quad 0$ $b=-0.621744-0.440597I$	$4.05977I$	$1.07732-7.88265I$

IV. $\boldsymbol{I_2^v = \langle a,\ -5v^3+16v^2+8b-40v+15,\ v^4-3v^3+8v^2-3v+1\rangle}$

(i) Arc colorings

$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} v \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ \frac{5}{8}v^3 - 2v^2 + 5v - \frac{15}{8} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} v \\ \frac{3}{8}v^3 - v^2 + 3v - \frac{9}{8} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{5}{8}v^3 + 2v^2 - 5v + \frac{15}{8} \\ \frac{5}{8}v^3 - 2v^2 + 5v - \frac{15}{8} \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0 \\ \frac{5}{8}v^3 - 2v^2 + 5v - \frac{15}{8} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{1}{8}v^3 + \frac{5}{8} \\ -\frac{3}{8}v^3 + v^2 - 3v + \frac{1}{8} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{1}{4}v^3 + v^2 - 2v + \frac{3}{4} \\ \frac{5}{8}v^3 - 2v^2 + 5v - \frac{23}{8} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{8}v^3 - \frac{5}{8} \\ \frac{9}{8}v^3 - 3v^2 + 8v - \frac{3}{8} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{3}{8}v^3 + v^2 - 2v + \frac{9}{8} \\ \frac{3}{8}v^3 - v^2 + 3v - \frac{9}{8} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{8}v^3 - \frac{5}{8} \\ \frac{3}{8}v^3 - v^2 + 3v - \frac{1}{8} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3v^3 + 9v^2 - 21v - 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_9	$(u^2-u+1)^2$
c_2, c_7, c_{12}	$(u^2+u+1)^2$
c_3, c_4	$u^4-u^3+2u^2+u+1$
c_8	u^4
c_{10}, c_{11}	$(u^2-u-1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6, c_7, c_9 c_{12}	$(y^2+y+1)^2$
c_3, c_4	$y^4+3y^3+8y^2+3y+1$
c_8	y^4
c_{10}, c_{11}	$(y^2-3y+1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = 0.190983 + 0.330792I$		
$a = 0$	0	$-5.50000 - 5.80948I$
$b = -0.80902 + 1.40126I$		
$v = 0.190983 - 0.330792I$		
$a = 0$	0	$-5.50000 + 5.80948I$
$b = -0.80902 - 1.40126I$		
$v = 1.30902 + 2.26728I$		
$a = 0$	0	$-5.50000 + 5.80948I$
$b = 0.309017 - 0.535233I$		
$v = 1.30902 - 2.26728I$		
$a = 0$	0	$-5.50000 - 5.80948I$
$b = 0.309017 + 0.535233I$		

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_5	$((u^2-u+1)^4)(u^{26}-8u^{25}+\cdots-22u+1)$ $\cdot(u^{146}+41u^{145}+\cdots+13874u+441)$
c_2	$((u^2+u+1)^4)(u^{26}-2u^{25}+\cdots-2u+1)(u^{146}-3u^{145}+\cdots+56u+21)$
c_3	$(u^4-u^3+2u^2-2u+1)(u^4-u^3+2u^2+u+1)(u^{26}-4u^{24}+\cdots-8u+1)$ $\cdot(u^{146}+3u^{145}+\cdots-213878079u+69993509)$
c_4	$(u^4-u^3+2u^2-2u+1)(u^4-u^3+2u^2+u+1)(u^{26}+3u^{24}+\cdots+5u^2+1)$ $\cdot(u^{146}+9u^{145}+\cdots+97u+16)$
c_6	$((u^2-u+1)^4)(u^{26}+2u^{25}+\cdots+2u+1)(u^{146}-3u^{145}+\cdots+56u+21)$
c_7	$((u^2+u+1)^4)(u^{26}-4u^{25}+\cdots+2u+1)$ $\cdot(u^{146}-5u^{145}+\cdots+163744u+32887)$
c_8	$u^8(u^{26}-6u^{25}+\cdots-1450u+325)(u^{146}-13u^{145}+\cdots-3712u+768)$
c_9	$((u^2-u+1)^4)(u^{26}-8u^{25}+\cdots-2u+1)$ $\cdot(u^{146}+7u^{145}+\cdots+95533u+4448)$
c_{10}	$((u^2-u-1)^2)(u^4+u^3-u^2-u+1)(u^{26}-2u^{24}+\cdots+5u^2+1)$ $\cdot(u^{146}-6u^{144}+\cdots-35u+1)$
c_{11}	$((u^2-u-1)^2)(u^4+u^3-u^2-u+1)(u^{26}+5u^{24}+\cdots-2u^2+1)$ $\cdot(u^{146}+2u^{145}+\cdots+153777u+21323)$
c_{12}	$((u^2+u+1)^4)(u^{26}+8u^{25}+\cdots+2u+1)$ $\cdot(u^{146}+7u^{145}+\cdots+95533u+4448)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$((y^2+y+1)^4)(y^{26}+28y^{25}+\cdots-50y+1)$ $\cdot(y^{146}+141y^{145}+\cdots+10798130y+194481)$
c_2, c_6	$((y^2+y+1)^4)(y^{26}+8y^{25}+\cdots+22y+1)$ $\cdot(y^{146}+41y^{145}+\cdots+13874y+441)$
c_3	$(y^4+3y^3+2y^2+1)(y^4+3y^3+\cdots+3y+1)(y^{26}-8y^{25}+\cdots+26y+1)$ $\cdot(y^{146}+59y^{145}+\cdots+839682611759848865y+4899091302133081)$
c_4	$(y^4+3y^3+2y^2+1)(y^4+3y^3+\cdots+3y+1)(y^{26}+6y^{25}+\cdots+10y+1)$ $\cdot(y^{146}+21y^{145}+\cdots+13375y+256)$
c_7	$((y^2+y+1)^4)(y^{26}-24y^{25}+\cdots-10y+1)$ $\cdot(y^{146}-39y^{145}+\cdots-49681388466y+1081554769)$
c_8	$y^8(y^{26}-14y^{25}+\cdots-506100y+105625)$ $\cdot(y^{146}+11y^{145}+\cdots+6373376y+589824)$
c_9, c_{12}	$((y^2+y+1)^4)(y^{26}+12y^{25}+\cdots+22y+1)$ $\cdot(y^{146}+97y^{145}+\cdots-4451394729y+19784704)$
c_{10}	$((y^2-3y+1)^2)(y^4-3y^3+\cdots-3y+1)(y^{26}-4y^{25}+\cdots+10y+1)$ $\cdot(y^{146}-12y^{145}+\cdots+265y+1)$
c_{11}	$((y^2-3y+1)^2)(y^4-3y^3+\cdots-3y+1)(y^{26}+10y^{25}+\cdots-4y+1)$ $\cdot(y^{146}-30y^{145}+\cdots-28764118101y+454670329)$