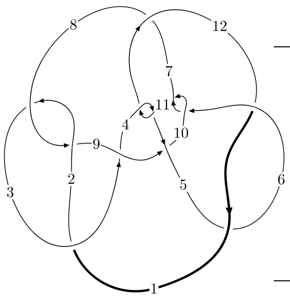
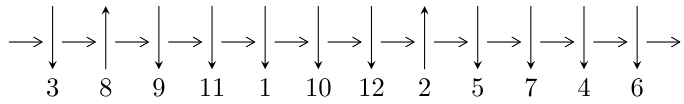
$12a_{0741}$ ($K12a_{0741}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u = \langle & -9.22629 \times 10^{114} u^{52} - 2.74007 \times 10^{115} u^{51} + \cdots + 4.77254 \times 10^{116} b + 2.56825 \times 10^{117}, \\
& 1.04478 \times 10^{116} u^{52} + 3.89252 \times 10^{116} u^{51} + \cdots + 1.90902 \times 10^{118} a - 3.41478 \times 10^{118}, \\
& u^{53} + 2u^{52} + \cdots + 329u + 160 \rangle \\
I_2^u = \langle & u^{38} + u^{37} + \cdots + a + 2,\ 2u^{38} a + 14u^{38} + \cdots + 6a + 14,\ u^{39} + u^{38} + \cdots + 2u + 1 \rangle \\
I_3^u = \langle & b - 1,\ 16a^4 - 32a^3 + 16a^2 + 1,\ u + 1 \rangle \\
I_4^u = \langle & -4u^2 a + au - 13u^2 + 23b + 10a + 9u - 25,\ -70u^2 a + 25a^2 + 40au + 151u^2 - 130a - 62u + 309, \\
& u^3 - u^2 + 2u - 1 \rangle \\
I_5^u = \langle & b + 1,\ 8a^3 + 12a^2 + 6a + 1,\ u - 1 \rangle
\end{aligned}$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 144 representations.

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[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. $\boldsymbol{I_1^u = \langle -9.23 \times 10^{114} u^{52} - 2.74 \times 10^{115} u^{51} + \cdots + 4.77 \times 10^{116} b + 2.57 \times 10^{117},\ 1.04 \times 10^{116} u^{52} + 3.89 \times 10^{116} u^{51} + \cdots + 1.91 \times 10^{118} a - 3.41 \times 10^{118},\ u^{53} + 2u^{52} + \cdots + 329u + 160 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.00547287u^{52} - 0.0203902u^{51} + \cdots - 5.89017u + 1.78876 \\ 0.0193320u^{52} + 0.0574133u^{51} + \cdots - 12.8760u - 5.38131 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.0243283u^{52} + 0.0637946u^{51} + \cdots - 4.49363u + 0.406738 \\ 0.0256578u^{52} + 0.0667823u^{51} + \cdots - 17.0251u - 4.63953 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.0430776u^{52} + 0.111948u^{51} + \cdots - 16.2352u - 2.68638 \\ 0.0138491u^{52} + 0.0344025u^{51} + \cdots - 11.7889u - 3.25117 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.0196369u^{52} + 0.0612628u^{51} + \cdots - 3.78192u - 4.37932 \\ -0.00126582u^{52} - 0.00958516u^{51} + \cdots - 0.909111u + 0.348371 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.0151668u^{52} + 0.0328572u^{51} + \cdots - 12.7531u - 1.36568 \\ -0.0100144u^{52} - 0.0235824u^{51} + \cdots + 0.705795u - 0.528707 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 0.0138591u^{52} + 0.0370231u^{51} + \cdots - 18.7662u - 3.59254 \\ 0.0193320u^{52} + 0.0574133u^{51} + \cdots - 12.8760u - 5.38131 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.0241663u^{52} - 0.0663621u^{51} + \cdots + 3.16247u + 1.51646 \\ 0.00213415u^{52} + 0.00509088u^{51} + \cdots - 1.04158u - 0.257202 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.00119343u^{52} - 0.0121666u^{51} + \cdots - 6.31916u + 1.10586 \\ -0.0242121u^{52} - 0.0727143u^{51} + \cdots + 5.31037u + 2.13761 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.102716u^{52} + 0.362833u^{51} + \cdots + 2.34272u - 23.6794$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{53} + 25u^{52} + \cdots - 112u - 64$
c_2, c_8	$u^{53} - 3u^{52} + \cdots - 12u + 8$
c_3	$u^{53} + 3u^{52} + \cdots + 91812u + 11464$
c_4, c_5, c_{11} c_{12}	$u^{53} - u^{52} + \cdots - 2u + 1$
c_6, c_{10}	$u^{53} + 2u^{52} + \cdots + 329u + 160$
c_7, c_9	$128(128u^{53} - 64u^{52} + \cdots - 13u + 1)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{53} + 9y^{52} + \cdots - 3840y - 4096$
c_2, c_8	$y^{53} + 25y^{52} + \cdots - 112y - 64$
c_3	$y^{53} - 7y^{52} + \cdots + 828536208y - 131423296$
c_4, c_5, c_{11} c_{12}	$y^{53} + 17y^{52} + \cdots - 18y - 1$
c_6, c_{10}	$y^{53} - 22y^{52} + \cdots + 992401y - 25600$
c_7, c_9	$16384(16384y^{53} - 208896y^{52} + \cdots - 135y - 1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.010500 + 0.277494I$ $a = -0.309112 + 0.248738I$ $b = -1.230130 + 0.452325I$	$-3.60132 - 1.23088I$	$-8.16326 + 5.88240I$
$u = 1.010500 - 0.277494I$ $a = -0.309112 - 0.248738I$ $b = -1.230130 - 0.452325I$	$-3.60132 + 1.23088I$	$-8.16326 - 5.88240I$
$u = -1.016340 + 0.336995I$ $a = 0.237630 + 0.305698I$ $b = 1.31165 + 0.53324I$	$-5.96983 + 5.72038I$	$-11.2924 - 8.5433I$
$u = -1.016340 - 0.336995I$ $a = 0.237630 - 0.305698I$ $b = 1.31165 - 0.53324I$	$-5.96983 - 5.72038I$	$-11.2924 + 8.5433I$
$u = 0.894368 + 0.170124I$ $a = -1.173990 + 0.551696I$ $b = 0.192195 - 0.262622I$	$-4.05202 + 3.78789I$	$-10.53464 - 4.24172I$
$u = 0.894368 - 0.170124I$ $a = -1.173990 - 0.551696I$ $b = 0.192195 + 0.262622I$	$-4.05202 - 3.78789I$	$-10.53464 + 4.24172I$
$u = 0.889815 + 0.158884I$ $a = -0.558076 + 0.216460I$ $b = -1.237620 + 0.182509I$	$-2.84156 - 0.53577I$	$-2.03217 + 7.98267I$
$u = 0.889815 - 0.158884I$ $a = -0.558076 - 0.216460I$ $b = -1.237620 - 0.182509I$	$-2.84156 + 0.53577I$	$-2.03217 - 7.98267I$
$u = 0.856411 + 0.685171I$ $a = 0.23931 - 1.74388I$ $b = 0.468215 + 0.785484I$	$-4.04273 + 0.39813I$	$-11.01909 + 4.12127I$
$u = 0.856411 - 0.685171I$ $a = 0.23931 + 1.74388I$ $b = 0.468215 - 0.785484I$	$-4.04273 - 0.39813I$	$-11.01909 - 4.12127I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.357016+1.088740I$ $a=\ \ 0.29731+1.45796I$ $b=-0.487890-1.101780I$	$0.44124-4.68393I$	$-8.30547+4.38111I$
$u=-0.357016-1.088740I$ $a=\ \ 0.29731-1.45796I$ $b=-0.487890+1.101780I$	$0.44124+4.68393I$	$-8.30547-4.38111I$
$u=-1.107520+0.302023I$ $a=\ \ 0.185994+0.166983I$ $b=\ \ 1.135680+0.628747I$	$-7.15683-1.71285I$	$-15.0160-0.3603I$
$u=-1.107520-0.302023I$ $a=\ \ 0.185994-0.166983I$ $b=\ \ 1.135680-0.628747I$	$-7.15683+1.71285I$	$-15.0160+0.3603I$
$u=-0.246858+1.143050I$ $a=\ \ 0.22408+1.48798I$ $b=-0.507181-1.240200I$	$3.35515-13.11250I$	$-5.16195+8.65922I$
$u=-0.246858-1.143050I$ $a=\ \ 0.22408-1.48798I$ $b=-0.507181+1.240200I$	$3.35515+13.11250I$	$-5.16195-8.65922I$
$u=\ \ 0.285314+1.165920I$ $a=-0.23055+1.46085I$ $b=\ \ 0.460429-1.210720I$	$5.76708+7.70183I$	$-2.26158-5.23055I$
$u=\ \ 0.285314-1.165920I$ $a=-0.23055-1.46085I$ $b=\ \ 0.460429+1.210720I$	$5.76708-7.70183I$	$-2.26158+5.23055I$
$u=-1.190920+0.164534I$ $a=\ \ 0.595741+0.422528I$ $b=\ \ 0.162888-0.445268I$	$-1.54684+0.49363I$	$-7.46237-2.14913I$
$u=-1.190920-0.164534I$ $a=\ \ 0.595741-0.422528I$ $b=\ \ 0.162888+0.445268I$	$-1.54684-0.49363I$	$-7.46237+2.14913I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.957980+0.787698I$ $a=-0.37852-1.57550I$ $b=-0.434771+0.898967I$	$-0.60629+4.29298I$	$-8.00000-7.47231I$
$u=-0.957980-0.787698I$ $a=-0.37852+1.57550I$ $b=-0.434771-0.898967I$	$-0.60629-4.29298I$	$-8.00000+7.47231I$
$u=\ 1.041380+0.692963I$ $a=\ 0.56731-1.66360I$ $b=\ 0.542920+0.942914I$	$-4.64111-8.53246I$	$-11.2112+9.6162I$
$u=\ 1.041380-0.692963I$ $a=\ 0.56731+1.66360I$ $b=\ 0.542920-0.942914I$	$-4.64111+8.53246I$	$-11.2112-9.6162I$
$u=-0.738902+0.118991I$ $a=\ 0.839648+0.253541I$ $b=\ 1.328440+0.061804I$	$-4.61573-3.33353I$	$-5.28986+1.76068I$
$u=-0.738902-0.118991I$ $a=\ 0.839648-0.253541I$ $b=\ 1.328440-0.061804I$	$-4.61573+3.33353I$	$-5.28986-1.76068I$
$u=\ 1.309210+0.191706I$ $a=-0.150987-0.150085I$ $b=-0.689475+0.753211I$	$-5.84739+0.86218I$	0
$u=\ 1.309210-0.191706I$ $a=-0.150987+0.150085I$ $b=-0.689475-0.753211I$	$-5.84739-0.86218I$	0
$u=\ 0.455502+1.311390I$ $a=-0.229330+1.339160I$ $b=\ 0.293604-1.116830I$	$7.73147+4.14673I$	0
$u=\ 0.455502-1.311390I$ $a=-0.229330-1.339160I$ $b=\ 0.293604+1.116830I$	$7.73147-4.14673I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.253370 + 0.652070I$ $a = -0.94701 - 1.36034I$ $b = -0.633605 + 1.227090I$	$-2.43644 + 10.92000I$	0
$u = -1.253370 - 0.652070I$ $a = -0.94701 + 1.36034I$ $b = -0.633605 - 1.227090I$	$-2.43644 - 10.92000I$	0
$u = -1.29214 + 0.64007I$ $a = -1.01211 - 1.27074I$ $b = -0.64920 + 1.30689I$	$0.0577 + 19.4085I$	0
$u = -1.29214 - 0.64007I$ $a = -1.01211 + 1.27074I$ $b = -0.64920 - 1.30689I$	$0.0577 - 19.4085I$	0
$u = 1.28693 + 0.65572I$ $a = 0.96664 - 1.27292I$ $b = 0.61846 + 1.29081I$	$2.5806 - 14.1172I$	0
$u = 1.28693 - 0.65572I$ $a = 0.96664 + 1.27292I$ $b = 0.61846 - 1.29081I$	$2.5806 + 14.1172I$	0
$u = 1.28431 + 0.72559I$ $a = 0.80342 - 1.23877I$ $b = 0.498243 + 1.251700I$	$4.89820 - 11.20600I$	0
$u = 1.28431 - 0.72559I$ $a = 0.80342 + 1.23877I$ $b = 0.498243 - 1.251700I$	$4.89820 + 11.20600I$	0
$u = -1.27009 + 0.77458I$ $a = -0.70606 - 1.24445I$ $b = -0.441345 + 1.205700I$	$4.39290 + 5.76841I$	0
$u = -1.27009 - 0.77458I$ $a = -0.70606 + 1.24445I$ $b = -0.441345 - 1.205700I$	$4.39290 - 5.76841I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.62038+1.36139I$ $a=\ 0.247137+1.266590I$ $b=-0.239949-1.046860I$	$6.83679+1.68050I$	0
$u=-0.62038-1.36139I$ $a=\ 0.247137-1.266590I$ $b=-0.239949+1.046860I$	$6.83679-1.68050I$	0
$u=-1.50653+0.08391I$ $a=\ 0.136195-0.401648I$ $b=\ 0.397232+0.840006I$	$-1.12611-2.71991I$	0
$u=-1.50653-0.08391I$ $a=\ 0.136195+0.401648I$ $b=\ 0.397232-0.840006I$	$-1.12611+2.71991I$	0
$u=-0.18082+1.50804I$ $a=-0.025191-1.242950I$ $b=-0.035651+0.846395I$	$5.62880+2.99985I$	0
$u=-0.18082-1.50804I$ $a=-0.025191+1.242950I$ $b=-0.035651-0.846395I$	$5.62880-2.99985I$	0
$u=\ 1.52320+0.19708I$ $a=-0.031722-0.366987I$ $b=-0.453417+0.944633I$	$-3.01084+7.94270I$	0
$u=\ 1.52320-0.19708I$ $a=-0.031722+0.366987I$ $b=-0.453417-0.944633I$	$-3.01084-7.94270I$	0
$u=-0.279211+0.248748I$ $a=\ 0.598547-0.883823I$ $b=-0.239491+0.269538I$	$-0.533461+0.879212I$	$-9.52326-7.63662I$
$u=-0.279211-0.248748I$ $a=\ 0.598547+0.883823I$ $b=-0.239491-0.269538I$	$-0.533461-0.879212I$	$-9.52326+7.63662I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.349659 + 0.074107I$ $a = -2.23401 + 1.00440I$ $b = 0.596328 - 0.151333I$	$-3.95805 + 3.86479I$	$-11.90700 - 4.97851I$
$u = 0.349659 - 0.074107I$ $a = -2.23401 - 1.00440I$ $b = 0.596328 + 0.151333I$	$-3.95805 - 3.86479I$	$-11.90700 + 4.97851I$
$u = -0.337034$ $a = 1.65164$ $b = -0.453134$	-1.01554	-10.2060

II.

$$I_2^u = \langle u^{38}+u^{37}+\cdots+a+2,\ 2u^{38}a+14u^{38}+\cdots+6a+14,\ u^{39}+u^{38}+\cdots+2u+1\rangle$$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} a \\ -u^{38} - u^{37} + \cdots - a - 2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -u^{38}a - 4u^{38} + \cdots - 2a - 2 \\ u^5a + u^6 - 2u^3a - 2u^4 + au + 2u^2 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -u^{38}a - 4u^{38} + \cdots - 2a - 3 \\ 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -2u^{38}a - 10u^{38} + \cdots - a - 10 \\ u^{38} - u^{37} + \cdots + a + 4 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^{38}a - 3u^{37}a + \cdots + 12u + 7 \\ -2u^{38} - 2u^{37} + \cdots + au + 2u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{38} - u^{37} + \cdots - 2u - 2 \\ -u^{38} - u^{37} + \cdots - a - 2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^{38}a + 10u^{38} + \cdots + 4a + 13 \\ -2u^{38} - 2u^{37} + \cdots + 2u - 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^{38}a - 11u^{38} + \cdots + 24u + 6 \\ u^{37}a - u^{38} + \cdots + au + 2u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes

$= -4u^{38} + 44u^{36} + 4u^{35} - 232u^{34} - 40u^{33} + 752u^{32} + 192u^{31} - 1620u^{30} - 564u^{29} + 2316u^{28} + 1092u^{27} - 1948u^{26} - 1380u^{25} + 284u^{24} + 980u^{23} + 1508u^{22} - 16u^{21} - 1892u^{20} - 728u^{19} + 776u^{18} + 660u^{17} + 444u^{16} - 64u^{15} - 692u^{14} - 332u^{13} + 236u^{12} + 252u^{11} + 128u^{10} + 4u^9 - 132u^8 - 96u^7 + 20u^6 + 40u^5 + 20u^4 + 8u^3 - 8u^2 - 12u - 14$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{39}+19u^{38}+\cdots+2u^2-1)^2$
c_2, c_8	$(u^{39}+u^{38}+\cdots+2u^3-1)^2$
c_3	$(u^{39}-u^{38}+\cdots-18u-17)^2$
c_4, c_5, c_{11} c_{12}	$u^{78}+3u^{77}+\cdots+788u+173$
c_6, c_{10}	$(u^{39}+u^{38}+\cdots+2u+1)^2$
c_7, c_9	$u^{78}-21u^{77}+\cdots+448674u+57751$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{39} + 3y^{38} + \cdots + 4y - 1)^2$
c_2, c_8	$(y^{39} + 19y^{38} + \cdots + 2y^2 - 1)^2$
c_3	$(y^{39} - 13y^{38} + \cdots + 3588y - 289)^2$
c_4, c_5, c_{11} c_{12}	$y^{78} + 47y^{77} + \cdots + 318100y + 29929$
c_6, c_{10}	$(y^{39} - 21y^{38} + \cdots + 2y^2 - 1)^2$
c_7, c_9	$y^{78} + 27y^{77} + \cdots - 879585708y + 3335178001$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.913577+0.379498I$ $a=-1.64226-0.07520I$ $b=-0.477548+0.774232I$	$1.22606+1.25772I$	$-10.67108-2.89583I$
$u=-0.913577+0.379498I$ $a=\quad 0.62112+1.52499I$ $b=-0.068253-1.290290I$	$1.22606+1.25772I$	$-10.67108-2.89583I$
$u=-0.913577-0.379498I$ $a=-1.64226+0.07520I$ $b=-0.477548-0.774232I$	$1.22606-1.25772I$	$-10.67108+2.89583I$
$u=-0.913577-0.379498I$ $a=\quad 0.62112-1.52499I$ $b=-0.068253+1.290290I$	$1.22606-1.25772I$	$-10.67108+2.89583I$
$u=-0.867921+0.539600I$ $a=\quad 0.510917+0.983764I$ $b=-0.18434-1.52434I$	$3.26214+7.71489I$	$-5.96279-8.94046I$
$u=-0.867921+0.539600I$ $a=-1.238810-0.665421I$ $b=-0.787918+1.001630I$	$3.26214+7.71489I$	$-5.96279-8.94046I$
$u=-0.867921-0.539600I$ $a=\quad 0.510917-0.983764I$ $b=-0.18434+1.52434I$	$3.26214-7.71489I$	$-5.96279+8.94046I$
$u=-0.867921-0.539600I$ $a=-1.238810+0.665421I$ $b=-0.787918-1.001630I$	$3.26214-7.71489I$	$-5.96279+8.94046I$
$u=\quad 0.824609+0.517095I$ $a=-0.377205+0.997280I$ $b=\quad 0.24151-1.45331I$	$5.20022-2.98443I$	$-2.14009+4.48194I$
$u=\quad 0.824609+0.517095I$ $a=\quad 1.37439-0.72790I$ $b=\quad 0.683848+1.053830I$	$5.20022-2.98443I$	$-2.14009+4.48194I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.824609 - 0.517095I$ $a = -0.377205 - 0.997280I$ $b = 0.24151 + 1.45331I$	$5.20022 + 2.98443I$	$-2.14009 - 4.48194I$
$u = 0.824609 - 0.517095I$ $a = 1.37439 + 0.72790I$ $b = 0.683848 - 1.053830I$	$5.20022 + 2.98443I$	$-2.14009 - 4.48194I$
$u = 1.027710 + 0.074094I$ $a = 3.84195 + 7.80158I$ $b = -0.025359 + 0.910828I$	$-0.87783 - 3.61917I$	$-14.0650 + 4.3346I$
$u = 1.027710 + 0.074094I$ $a = -7.85413 + 3.84314I$ $b = -0.015457 - 1.071100I$	$-0.87783 - 3.61917I$	$-14.0650 + 4.3346I$
$u = 1.027710 - 0.074094I$ $a = 3.84195 - 7.80158I$ $b = -0.025359 - 0.910828I$	$-0.87783 + 3.61917I$	$-14.0650 - 4.3346I$
$u = 1.027710 - 0.074094I$ $a = -7.85413 - 3.84314I$ $b = -0.015457 + 1.071100I$	$-0.87783 + 3.61917I$	$-14.0650 - 4.3346I$
$u = -0.898181$ $a = -5.31152 + 5.23221I$ $b = -0.086796 - 1.011240I$	1.82692	-10.3980
$u = -0.898181$ $a = -5.31152 - 5.23221I$ $b = -0.086796 + 1.011240I$	1.82692	-10.3980
$u = 0.704254 + 0.512490I$ $a = -0.054845 + 0.799959I$ $b = 0.392937 - 1.328450I$	$5.54691 - 1.23434I$	$-0.76309 + 3.43750I$
$u = 0.704254 + 0.512490I$ $a = 1.51387 - 1.03796I$ $b = 0.516935 + 1.213000I$	$5.54691 - 1.23434I$	$-0.76309 + 3.43750I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.704254 - 0.512490I$ $a = -0.054845 - 0.799959I$ $b = 0.392937 + 1.328450I$	$5.54691 + 1.23434I$	$-0.76309 - 3.43750I$
$u = 0.704254 - 0.512490I$ $a = 1.51387 + 1.03796I$ $b = 0.516935 - 1.213000I$	$5.54691 + 1.23434I$	$-0.76309 - 3.43750I$
$u = -0.632327 + 0.547010I$ $a = -0.020576 + 0.552941I$ $b = -0.503524 - 1.265570I$	$3.92367 - 3.33294I$	$-3.97830 + 2.50936I$
$u = -0.632327 + 0.547010I$ $a = -1.45180 - 1.22116I$ $b = -0.443589 + 1.320110I$	$3.92367 - 3.33294I$	$-3.97830 + 2.50936I$
$u = -0.632327 - 0.547010I$ $a = -0.020576 - 0.552941I$ $b = -0.503524 + 1.265570I$	$3.92367 + 3.33294I$	$-3.97830 - 2.50936I$
$u = -0.632327 - 0.547010I$ $a = -1.45180 + 1.22116I$ $b = -0.443589 - 1.320110I$	$3.92367 + 3.33294I$	$-3.97830 - 2.50936I$
$u = -0.139221 + 0.807285I$ $a = 0.299849 - 0.814758I$ $b = -0.880048 + 0.059607I$	$-0.17425 - 8.12134I$	$-7.90397 + 6.02892I$
$u = -0.139221 + 0.807285I$ $a = -0.60927 - 1.40465I$ $b = 0.471332 + 1.226850I$	$-0.17425 - 8.12134I$	$-7.90397 + 6.02892I$
$u = -0.139221 - 0.807285I$ $a = 0.299849 + 0.814758I$ $b = -0.880048 - 0.059607I$	$-0.17425 + 8.12134I$	$-7.90397 - 6.02892I$
$u = -0.139221 - 0.807285I$ $a = -0.60927 + 1.40465I$ $b = 0.471332 - 1.226850I$	$-0.17425 + 8.12134I$	$-7.90397 - 6.02892I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.114960 + 0.441427I$ $a = 0.96280 + 1.05055I$ $b = 0.305249 - 1.203980I$	$0.79891 + 1.59434I$	$-7.82288 - 0.43137I$
$u = -1.114960 + 0.441427I$ $a = -0.392949 + 0.110127I$ $b = -0.685928 + 0.085145I$	$0.79891 + 1.59434I$	$-7.82288 - 0.43137I$
$u = -1.114960 - 0.441427I$ $a = 0.96280 - 1.05055I$ $b = 0.305249 + 1.203980I$	$0.79891 - 1.59434I$	$-7.82288 + 0.43137I$
$u = -1.114960 - 0.441427I$ $a = -0.392949 - 0.110127I$ $b = -0.685928 - 0.085145I$	$0.79891 - 1.59434I$	$-7.82288 + 0.43137I$
$u = -0.076025 + 0.793162I$ $a = 0.273987 - 0.956855I$ $b = -0.679913 + 0.270947I$	$-1.95085 - 0.25023I$	$-10.76221 - 0.26522I$
$u = -0.076025 + 0.793162I$ $a = -0.45840 - 1.35614I$ $b = 0.460844 + 1.007450I$	$-1.95085 - 0.25023I$	$-10.76221 - 0.26522I$
$u = -0.076025 - 0.793162I$ $a = 0.273987 + 0.956855I$ $b = -0.679913 - 0.270947I$	$-1.95085 + 0.25023I$	$-10.76221 + 0.26522I$
$u = -0.076025 - 0.793162I$ $a = -0.45840 + 1.35614I$ $b = 0.460844 - 1.007450I$	$-1.95085 + 0.25023I$	$-10.76221 + 0.26522I$
$u = 0.132738 + 0.775160I$ $a = -0.231485 - 0.830100I$ $b = 0.751940 + 0.013317I$	$2.28825 + 3.25758I$	$-4.69216 - 2.50620I$
$u = 0.132738 + 0.775160I$ $a = 0.56771 - 1.46731I$ $b = -0.382264 + 1.186640I$	$2.28825 + 3.25758I$	$-4.69216 - 2.50620I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.132738 - 0.775160I$ $a = -0.231485 + 0.830100I$ $b = 0.751940 - 0.013317I$	$2.28825 - 3.25758I$	$-4.69216 + 2.50620I$
$u = 0.132738 - 0.775160I$ $a = 0.56771 + 1.46731I$ $b = -0.382264 - 1.186640I$	$2.28825 - 3.25758I$	$-4.69216 + 2.50620I$
$u = 1.142370 + 0.483180I$ $a = -0.935088 + 1.044860I$ $b = -0.477838 - 1.271590I$	$1.19227 - 6.17588I$	$-6.65093 + 6.87938I$
$u = 1.142370 + 0.483180I$ $a = 0.272499 - 0.151704I$ $b = 0.929505 - 0.024096I$	$1.19227 - 6.17588I$	$-6.65093 + 6.87938I$
$u = 1.142370 - 0.483180I$ $a = -0.935088 - 1.044860I$ $b = -0.477838 + 1.271590I$	$1.19227 + 6.17588I$	$-6.65093 - 6.87938I$
$u = 1.142370 - 0.483180I$ $a = 0.272499 + 0.151704I$ $b = 0.929505 + 0.024096I$	$1.19227 + 6.17588I$	$-6.65093 - 6.87938I$
$u = -1.194180 + 0.388571I$ $a = 0.760362 + 0.937327I$ $b = 0.321822 - 0.694203I$	$-1.60456 + 0.66747I$	$-9.40097 - 0.84813I$
$u = -1.194180 + 0.388571I$ $a = 0.390346 + 0.318847I$ $b = -0.353940 - 0.520941I$	$-1.60456 + 0.66747I$	$-9.40097 - 0.84813I$
$u = -1.194180 - 0.388571I$ $a = 0.760362 - 0.937327I$ $b = 0.321822 + 0.694203I$	$-1.60456 - 0.66747I$	$-9.40097 + 0.84813I$
$u = -1.194180 - 0.388571I$ $a = 0.390346 - 0.318847I$ $b = -0.353940 + 0.520941I$	$-1.60456 - 0.66747I$	$-9.40097 + 0.84813I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.213030 + 0.378072I$ $a = -0.662575 + 1.045760I$ $b = -0.425457 - 0.498391I$	$-4.23928 + 4.12434I$	$-12.59821 - 2.83806I$
$u = 1.213030 + 0.378072I$ $a = -0.617933 + 0.190406I$ $b = 0.373755 - 0.738426I$	$-4.23928 + 4.12434I$	$-12.59821 - 2.83806I$
$u = 1.213030 - 0.378072I$ $a = -0.662575 - 1.045760I$ $b = -0.425457 + 0.498391I$	$-4.23928 - 4.12434I$	$-12.59821 + 2.83806I$
$u = 1.213030 - 0.378072I$ $a = -0.617933 - 0.190406I$ $b = 0.373755 + 0.738426I$	$-4.23928 - 4.12434I$	$-12.59821 + 2.83806I$
$u = 1.210580 + 0.415258I$ $a = -0.826285 + 1.053700I$ $b = -0.562463 - 0.775475I$	$-5.75156 - 3.95701I$	$-14.5927 + 3.7511I$
$u = 1.210580 + 0.415258I$ $a = -0.314458 + 0.021623I$ $b = 0.625189 - 0.563346I$	$-5.75156 - 3.95701I$	$-14.5927 + 3.7511I$
$u = 1.210580 - 0.415258I$ $a = -0.826285 - 1.053700I$ $b = -0.562463 + 0.775475I$	$-5.75156 + 3.95701I$	$-14.5927 - 3.7511I$
$u = 1.210580 - 0.415258I$ $a = -0.314458 - 0.021623I$ $b = 0.625189 + 0.563346I$	$-5.75156 + 3.95701I$	$-14.5927 - 3.7511I$
$u = 1.185450 + 0.504016I$ $a = -0.94362 + 1.05600I$ $b = -0.69021 - 1.27161I$	$-0.78771 - 7.98510I$	$-8.00000 + 5.54137I$
$u = 1.185450 + 0.504016I$ $a = 0.109545 - 0.319832I$ $b = 1.113180 - 0.221223I$	$-0.78771 - 7.98510I$	$-8.00000 + 5.54137I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.185450 - 0.504016I$ $a = -0.94362 - 1.05600I$ $b = -0.69021 + 1.27161I$	$-0.78771 + 7.98510I$	$-8.00000 - 5.54137I$
$u = 1.185450 - 0.504016I$ $a = 0.109545 + 0.319832I$ $b = 1.113180 + 0.221223I$	$-0.78771 + 7.98510I$	$-8.00000 - 5.54137I$
$u = -1.200000 + 0.486246I$ $a = 0.93326 + 1.06775I$ $b = 0.720212 - 1.161810I$	$-5.24646 + 4.91106I$	$-13.8091 - 3.0612I$
$u = -1.200000 + 0.486246I$ $a = -0.008020 - 0.279310I$ $b = -1.043390 - 0.337545I$	$-5.24646 + 4.91106I$	$-13.8091 - 3.0612I$
$u = -1.200000 - 0.486246I$ $a = 0.93326 - 1.06775I$ $b = 0.720212 + 1.161810I$	$-5.24646 - 4.91106I$	$-13.8091 + 3.0612I$
$u = -1.200000 - 0.486246I$ $a = -0.008020 + 0.279310I$ $b = -1.043390 + 0.337545I$	$-5.24646 - 4.91106I$	$-13.8091 + 3.0612I$
$u = -1.194900 + 0.512673I$ $a = 0.95104 + 1.05959I$ $b = 0.74829 - 1.29366I$	$-3.28896 + 12.96900I$	$-10.9187 - 9.0478I$
$u = -1.194900 + 0.512673I$ $a = -0.089777 - 0.373592I$ $b = -1.179310 - 0.254876I$	$-3.28896 + 12.96900I$	$-10.9187 - 9.0478I$
$u = -1.194900 - 0.512673I$ $a = 0.95104 - 1.05959I$ $b = 0.74829 + 1.29366I$	$-3.28896 - 12.96900I$	$-10.9187 + 9.0478I$
$u = -1.194900 - 0.512673I$ $a = -0.089777 + 0.373592I$ $b = -1.179310 + 0.254876I$	$-3.28896 - 12.96900I$	$-10.9187 + 9.0478I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.180542 + 0.637095I$ $a = 0.064504 - 0.748110I$ $b = 0.495256 - 0.410729I$	$3.93259 + 1.83013I$	$-2.77518 - 3.69155I$
$u = 0.180542 + 0.637095I$ $a = 0.68301 - 1.84952I$ $b = -0.100757 + 1.244120I$	$3.93259 + 1.83013I$	$-2.77518 - 3.69155I$
$u = 0.180542 - 0.637095I$ $a = 0.064504 + 0.748110I$ $b = 0.495256 + 0.410729I$	$3.93259 - 1.83013I$	$-2.77518 + 3.69155I$
$u = 0.180542 - 0.637095I$ $a = 0.68301 + 1.84952I$ $b = -0.100757 - 1.244120I$	$3.93259 - 1.83013I$	$-2.77518 + 3.69155I$
$u = -0.339086 + 0.540694I$ $a = -0.372018 - 0.331028I$ $b = -0.515841 - 0.801258I$	$3.03920 + 2.27932I$	$-4.43670 - 3.34383I$
$u = -0.339086 + 0.540694I$ $a = -1.21813 - 1.86370I$ $b = -0.081651 + 1.313520I$	$3.03920 + 2.27932I$	$-4.43670 - 3.34383I$
$u = -0.339086 - 0.540694I$ $a = -0.372018 + 0.331028I$ $b = -0.515841 + 0.801258I$	$3.03920 - 2.27932I$	$-4.43670 + 3.34383I$
$u = -0.339086 - 0.540694I$ $a = -1.21813 + 1.86370I$ $b = -0.081651 - 1.313520I$	$3.03920 - 2.27932I$	$-4.43670 + 3.34383I$

III. $I_3^u = \langle b-1,\ 16a^4 - 32a^3 + 16a^2 + 1,\ u+1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} a \\ 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -a+1 \\ -1 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -a \\ -1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -a^2+2a-1 \\ -a \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 2a^3-5a^2+3a-1 \\ 2a^2-a-1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} a+1 \\ 1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -a^2-a+1 \\ -a+1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 2a^3-9a^2+\frac{15}{2}a-\frac{1}{4} \\ 4a^3-6a^2+3a-\frac{1}{2} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 16a^2 - 16a - 16$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2-2u+2)^2$
c_2, c_8	u^4+2u^2+2
c_3	u^4-2u^2+2
c_4, c_5, c_{10}	$(u-1)^4$
c_6, c_{11}, c_{12}	$(u+1)^4$
c_7	$16(16u^4+32u^3+16u^2+1)$
c_9	$16(16u^4-32u^3+16u^2+1)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+4)^2$
c_2, c_8	$(y^2+2y+2)^2$
c_3	$(y^2-2y+2)^2$
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$(y-1)^4$
c_7, c_9	$256(256y^4-512y^3+288y^2+32y+1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \ \ 1.049340 + 0.227545I$ $b = \ \ 1.00000$	$-5.75727 - 3.66386I$	$-16.0000 + 4.0000I$
$u = -1.00000$ $a = \ \ 1.049340 - 0.227545I$ $b = \ \ 1.00000$	$-5.75727 + 3.66386I$	$-16.0000 - 4.0000I$
$u = -1.00000$ $a = -0.049342 + 0.227545I$ $b = \ \ 1.00000$	$-5.75727 + 3.66386I$	$-16.0000 - 4.0000I$
$u = -1.00000$ $a = -0.049342 - 0.227545I$ $b = \ \ 1.00000$	$-5.75727 - 3.66386I$	$-16.0000 + 4.0000I$

IV. $I_4^u = \langle -4u^2a + au - 13u^2 + 23b + 10a + 9u - 25,\ -70u^2a + 151u^2 + \cdots - 130a + 309,\ u^3 - u^2 + 2u - 1 \rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} a \\ 0.173913au^2 + 0.565217u^2 + \cdots - 0.434783a + 1.08696 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^2 + 3u - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.565217au^2 - 2.11304u^2 + \cdots + 1.08696a - 4.01739 \\ 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.434783au^2 - 2.28696u^2 + \cdots + 0.913043a - 4.58261 \\ 0.869565au^2 - 0.173913u^2 + \cdots + 0.826087a + 1.43478 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.852174au^2 + 1.09043u^2 + \cdots - 1.66957a + 1.81391 \\ 0.173913au^2 - 1.23478u^2 + \cdots + 0.565217a - 2.11304 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.565217au^2 - 3.75304u^2 + \cdots + 1.08696a - 6.77739 \\ 0.391304au^2 + 0.521739u^2 + \cdots + 0.521739a + 1.69565 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.173913au^2 + 0.565217u^2 + \cdots + 0.565217a + 1.08696 \\ 0.173913au^2 + 0.565217u^2 + \cdots - 0.434783a + 1.08696 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1.10435au^2 + 2.90087u^2 + \cdots - 1.93913a + 6.10783 \\ 0.130435au^2 - 0.0260870u^2 + \cdots + 0.173913a - 2.23478 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1.17391au^2 - 2.19478u^2 + \cdots + 1.56522a - 3.75304 \\ -0.782609au^2 + 0.956522u^2 + \cdots - 0.0434783a + 1.60870 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u^2 + 4u - 8$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$(u^3 - u^2 + 2u - 1)^2$
c_2, c_8	$u^6 + u^4 + 2u^2 + 1$
c_3	$u^6 + 5u^4 + 10u^2 + 1$
c_4, c_5, c_{11} c_{12}	$(u^2 + 1)^3$
c_7	$25(25u^6 + 40u^5 + 87u^4 + 26u^3 + 56u^2 + 6u + 1)$
c_9	$25(25u^6 - 40u^5 + 87u^4 - 26u^3 + 56u^2 - 6u + 1)$
c_{10}	$(u^3 + u^2 + 2u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6, c_{10}	$(y^3 + 3y^2 + 2y - 1)^2$
c_2, c_8	$(y^3 + y^2 + 2y + 1)^2$
c_3	$(y^3 + 5y^2 + 10y + 1)^2$
c_4, c_5, c_{11} c_{12}	$(y + 1)^6$
c_7, c_9	$625(625y^6 + 2750y^5 + 8289y^4 + 8638y^3 + 2998y^2 + 76y + 1)$

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.215080+1.307140I$		
$a=$	$0.024694+1.101050I$	$6.31400-2.82812I$	$-0.49024+2.97945I$
$b=$	$-1.000000I$		
$u=$	$0.215080+1.307140I$		
$a=$	$0.17657-1.61809I$	$6.31400-2.82812I$	$-0.49024+2.97945I$
$b=$	$1.000000I$		
$u=$	$0.215080-1.307140I$		
$a=$	$0.024694-1.101050I$	$6.31400+2.82812I$	$-0.49024-2.97945I$
$b=$	$1.000000I$		
$u=$	$0.215080-1.307140I$		
$a=$	$0.17657+1.61809I$	$6.31400+2.82812I$	$-0.49024-2.97945I$
$b=$	$-1.000000I$		
$u=$	0.569840		
$a=$	$2.59873+2.48086I$	2.17641	-7.01950
$b=$	$-1.000000I$		
$u=$	0.569840		
$a=$	$2.59873-2.48086I$	2.17641	-7.01950
$b=$	$1.000000I$		

V. $I_5^u = \langle b+1,\ 8a^3+12a^2+6a+1,\ u-1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\1\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\1\end{pmatrix}$$
$$a_1 = \begin{pmatrix}a\\-1\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-1\\0\end{pmatrix}$$
$$a_5 = \begin{pmatrix}a+1\\-1\end{pmatrix}$$
$$a_4 = \begin{pmatrix}a\\-1\end{pmatrix}$$
$$a_9 = \begin{pmatrix}a^2+2a+1\\-a\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-2a^2-\frac{3}{2}a-\frac{3}{4}\\2a^2+a-1\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}a-1\\-1\end{pmatrix}$$
$$a_8 = \begin{pmatrix}-a^2+a+1\\a+1\end{pmatrix}$$
$$a_2 = \begin{pmatrix}2a^2+3a+\frac{1}{2}\\4a^2+4a\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 34a^2+34a-\frac{7}{2}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3 c_8	u^3
c_4, c_5, c_{10}	$(u+1)^3$
c_6, c_{11}, c_{12}	$(u-1)^3$
c_7	$512(2u-1)^3$
c_9	$512(2u+1)^3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_8	y^3
c_4, c_5, c_6 c_{10}, c_{11}, c_{12}	$(y-1)^3$
c_7, c_9	$262144(4y-1)^3$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.00000$ $a = -0.500000$ $b = -1.00000$	-3.28987	-12.0000
$u = 1.00000$ $a = -0.500000$ $b = -1.00000$	-3.28987	-12.0000
$u = 1.00000$ $a = -0.500000$ $b = -1.00000$	-3.28987	-12.0000

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u^3(u^2-2u+2)^2(u^3-u^2+2u-1)^2(u^{39}+19u^{38}+\cdots+2u^2-1)^2$ $\cdot(u^{53}+25u^{52}+\cdots-112u-64)$
c_2, c_8	$u^3(u^4+2u^2+2)(u^6+u^4+2u^2+1)(u^{39}+u^{38}+\cdots+2u^3-1)^2$ $\cdot(u^{53}-3u^{52}+\cdots-12u+8)$
c_3	$u^3(u^4-2u^2+2)(u^6+5u^4+10u^2+1)(u^{39}-u^{38}+\cdots-18u-17)^2$ $\cdot(u^{53}+3u^{52}+\cdots+91812u+11464)$
c_4, c_5	$((u-1)^4)(u+1)^3(u^2+1)^3(u^{53}-u^{52}+\cdots-2u+1)$ $\cdot(u^{78}+3u^{77}+\cdots+788u+173)$
c_6	$((u-1)^3)(u+1)^4(u^3-u^2+2u-1)^2(u^{39}+u^{38}+\cdots+2u+1)^2$ $\cdot(u^{53}+2u^{52}+\cdots+329u+160)$
c_7	$26214400(2u-1)^3(16u^4+32u^3+16u^2+1)$ $\cdot(25u^6+40u^5+87u^4+26u^3+56u^2+6u+1)$ $\cdot(128u^{53}-64u^{52}+\cdots-13u+1)$ $\cdot(u^{78}-21u^{77}+\cdots+448674u+57751)$
c_9	$26214400(2u+1)^3(16u^4-32u^3+16u^2+1)$ $\cdot(25u^6-40u^5+87u^4-26u^3+56u^2-6u+1)$ $\cdot(128u^{53}-64u^{52}+\cdots-13u+1)$ $\cdot(u^{78}-21u^{77}+\cdots+448674u+57751)$
c_{10}	$((u-1)^4)(u+1)^3(u^3+u^2+2u+1)^2(u^{39}+u^{38}+\cdots+2u+1)^2$ $\cdot(u^{53}+2u^{52}+\cdots+329u+160)$
c_{11}, c_{12}	$((u-1)^3)(u+1)^4(u^2+1)^3(u^{53}-u^{52}+\cdots-2u+1)$ $\cdot(u^{78}+3u^{77}+\cdots+788u+173)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y^3(y^2+4)^2(y^3+3y^2+2y-1)^2(y^{39}+3y^{38}+\cdots+4y-1)^2$ $\cdot\,(y^{53}+9y^{52}+\cdots-3840y-4096)$
c_2, c_8	$y^3(y^2+2y+2)^2(y^3+y^2+2y+1)^2(y^{39}+19y^{38}+\cdots+2y^2-1)^2$ $\cdot\,(y^{53}+25y^{52}+\cdots-112y-64)$
c_3	$y^3(y^2-2y+2)^2(y^3+5y^2+10y+1)^2$ $\cdot\,(y^{39}-13y^{38}+\cdots+3588y-289)^2$ $\cdot\,(y^{53}-7y^{52}+\cdots+828536208y-131423296)$
c_4, c_5, c_{11} c_{12}	$((y-1)^7)(y+1)^6(y^{53}+17y^{52}+\cdots-18y-1)$ $\cdot\,(y^{78}+47y^{77}+\cdots+318100y+29929)$
c_6, c_{10}	$((y-1)^7)(y^3+3y^2+2y-1)^2(y^{39}-21y^{38}+\cdots+2y^2-1)^2$ $\cdot\,(y^{53}-22y^{52}+\cdots+992401y-25600)$
c_7, c_9	$687194767360000(4y-1)^3(256y^4-512y^3+288y^2+32y+1)$ $\cdot\,(625y^6+2750y^5+8289y^4+8638y^3+2998y^2+76y+1)$ $\cdot\,(16384y^{53}-208896y^{52}+\cdots-135y-1)$ $\cdot\,(y^{78}+27y^{77}+\cdots-879585708y+3335178001)$