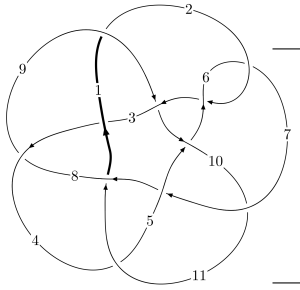
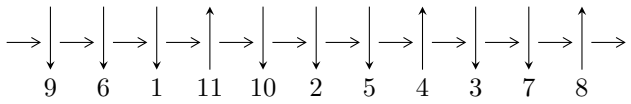
$11a_{327}$ $(K11a_{327})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 4427228u^{24} - 51386293u^{23} + \cdots + 7423256b + 218726992,$$
$$- 5223503u^{24} + 65905467u^{23} + \cdots + 14846512a - 424794688,\ u^{25} - 11u^{24} + \cdots + 304u - 32\rangle$$
$$I_2^u = \langle -487u^{15} - 1824u^{14} + \cdots + 1084b - 1471,\ 1589u^{15} + 3060u^{14} + \cdots + 1084a - 2223,$$
$$u^{16} + 2u^{15} + 6u^{14} + 8u^{13} + 10u^{12} + 13u^{11} + 7u^{10} + 15u^9 + 5u^8 + 8u^7 + 9u^6 - 4u^5 + 12u^4 - 6u^3 + 7u^2 - u +$$
$$I_3^u = \langle -232u^{41} - 1201u^{40} + \cdots + 16b - 31,\ 31u^{41}a + 170u^{41} + \cdots - 515a + 1252,\ u^{42} + 6u^{41} + \cdots + 5u - 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 125 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. $I_1^u =$
$\langle \mathbf{4.43\times 10^6 u^{24} - 5.14\times 10^7 u^{23} + \cdots + 7.42\times 10^6 b + 2.19\times 10^8},\ \mathbf{-5.22\times 10^6 u^{24} + 6.59\times 10^7 u^{23} + \cdots + 1.48\times 10^7 a - 4.25\times 10^8},\ \mathbf{u^{25} - 11u^{24} + \cdots + 304u - 32}\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -u \\ u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.351834u^{24} - 4.43912u^{23} + \cdots - 244.548u + 28.6124 \\ -0.596400u^{24} + 6.92234u^{23} + \cdots + 262.565u - 29.4651 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.311972u^{24} - 4.00378u^{23} + \cdots - 299.653u + 35.2367 \\ -0.556538u^{24} + 6.48700u^{23} + \cdots + 317.669u - 36.0894 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -0.250673u^{24} + 3.42364u^{23} + \cdots + 197.791u - 19.2950 \\ 0.161063u^{24} - 2.76565u^{23} + \cdots - 266.465u + 29.3409 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.277406u^{24} + 3.01578u^{23} + \cdots + 199.144u - 23.7794 \\ -0.0363785u^{24} + 0.0499409u^{23} + \cdots - 154.341u + 18.2222 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.235672u^{24} - 2.80148u^{23} + \cdots - 87.9695u + 9.74840 \\ -0.130974u^{24} + 1.51883u^{23} + \cdots - 18.7296u + 3.35035 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.920784u^{24} - 9.53223u^{23} + \cdots - 166.203u + 17.3537 \\ 0.207009u^{24} - 2.31696u^{23} + \cdots - 73.4954u + 7.82611 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.238111u^{24} - 2.57557u^{23} + \cdots - 106.961u + 13.9134 \\ 0.163550u^{24} - 1.64723u^{23} + \cdots - 42.9394u + 4.26453 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.238111u^{24} - 2.57557u^{23} + \cdots - 106.961u + 13.9134 \\ 0.163550u^{24} - 1.64723u^{23} + \cdots - 42.9394u + 4.26453 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{4915601}{1855814}u^{24} - \frac{53210001}{1855814}u^{23} + \cdots - \frac{95751464}{927907}u - \frac{19294134}{927907}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{25} - 2u^{24} + \cdots - 5u + 1$
c_2, c_6	$u^{25} + 11u^{24} + \cdots + 304u + 32$
c_3, c_7	$u^{25} - 2u^{24} + \cdots - 7u + 1$
c_4, c_8	$u^{25} - 6u^{24} + \cdots + 2u + 1$
c_5, c_9	$u^{25} - 6u^{24} + \cdots + 13u^2 + 1$
c_{11}	$u^{25} - 18u^{24} + \cdots - 1536u + 256$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{25} + 6y^{24} + \cdots - 9y - 1$
c_2, c_6	$y^{25} + 11y^{24} + \cdots - 3328y - 1024$
c_3, c_7	$y^{25} + 22y^{23} + \cdots + 17y - 1$
c_4, c_8	$y^{25} - 2y^{24} + \cdots - 16y - 1$
c_5, c_9	$y^{25} + 4y^{24} + \cdots - 26y - 1$
c_{11}	$y^{25} + 10y^{24} + \cdots + 720896y - 65536$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.415596 + 0.889012I$ $a = -1.53371 + 1.85229I$ $b = 1.86263 - 1.68366I$	$1.61415 - 1.93498I$	$-3.0424 + 31.4661I$
$u = 0.415596 - 0.889012I$ $a = -1.53371 - 1.85229I$ $b = 1.86263 + 1.68366I$	$1.61415 + 1.93498I$	$-3.0424 - 31.4661I$
$u = 1.003880 + 0.591915I$ $a = -0.060664 + 0.510320I$ $b = -0.283392 - 0.212996I$	$-2.76859 - 1.48183I$	$-6.65987 - 5.81420I$
$u = 1.003880 - 0.591915I$ $a = -0.060664 - 0.510320I$ $b = -0.283392 + 0.212996I$	$-2.76859 + 1.48183I$	$-6.65987 + 5.81420I$
$u = -1.142140 + 0.259514I$ $a = -0.132195 + 0.169180I$ $b = -0.170331 + 0.515196I$	$-1.89203 + 4.73023I$	$-8.60021 - 1.58329I$
$u = -1.142140 - 0.259514I$ $a = -0.132195 - 0.169180I$ $b = -0.170331 - 0.515196I$	$-1.89203 - 4.73023I$	$-8.60021 + 1.58329I$
$u = 1.142400 + 0.260296I$ $a = 0.360462 - 1.041080I$ $b = 0.382380 + 0.021730I$	$0.01107 + 12.92330I$	$-4.84732 - 8.19604I$
$u = 1.142400 - 0.260296I$ $a = 0.360462 + 1.041080I$ $b = 0.382380 - 0.021730I$	$0.01107 - 12.92330I$	$-4.84732 + 8.19604I$
$u = 0.071145 + 1.245000I$ $a = -0.926069 + 0.287044I$ $b = 1.80314 + 0.52501I$	$6.44614 - 2.45412I$	$2.40382 + 6.69375I$
$u = 0.071145 - 1.245000I$ $a = -0.926069 - 0.287044I$ $b = 1.80314 - 0.52501I$	$6.44614 + 2.45412I$	$2.40382 - 6.69375I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.263360 + 0.222570I$ $a = -0.217471 + 0.724765I$ $b = -0.307861 + 0.131345I$	$-2.66023 + 4.12938I$	$-8.27327 - 5.73297I$
$u = 1.263360 - 0.222570I$ $a = -0.217471 - 0.724765I$ $b = -0.307861 - 0.131345I$	$-2.66023 - 4.12938I$	$-8.27327 + 5.73297I$
$u = 0.634694 + 1.156470I$ $a = 0.870338 - 0.021834I$ $b = -1.358990 + 0.305406I$	$-0.75795 - 4.50706I$	$-7.57070 + 5.07072I$
$u = 0.634694 - 1.156470I$ $a = 0.870338 + 0.021834I$ $b = -1.358990 - 0.305406I$	$-0.75795 + 4.50706I$	$-7.57070 - 5.07072I$
$u = 0.63878 + 1.29685I$ $a = -1.205210 + 0.103104I$ $b = 2.26792 - 0.63100I$	$3.3047 - 19.2356I$	$-2.92755 + 10.21183I$
$u = 0.63878 - 1.29685I$ $a = -1.205210 - 0.103104I$ $b = 2.26792 + 0.63100I$	$3.3047 + 19.2356I$	$-2.92755 - 10.21183I$
$u = 0.20692 + 1.46356I$ $a = 0.639225 + 0.048922I$ $b = -1.43216 - 0.66120I$	$6.31210 + 7.97978I$	$0.59190 - 6.19914I$
$u = 0.20692 - 1.46356I$ $a = 0.639225 - 0.048922I$ $b = -1.43216 + 0.66120I$	$6.31210 - 7.97978I$	$0.59190 + 6.19914I$
$u = 0.139855 + 0.499323I$ $a = 0.65973 + 1.57256I$ $b = 0.321732 - 0.818524I$	$1.59913 - 1.70507I$	$2.11756 + 1.16667I$
$u = 0.139855 - 0.499323I$ $a = 0.65973 - 1.57256I$ $b = 0.321732 + 0.818524I$	$1.59913 + 1.70507I$	$2.11756 - 1.16667I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.64308 + 1.34654I$ $a = 1.001290 - 0.082426I$ $b = -2.01357 + 0.55420I$	$0.99069 - 10.76890I$	$-7.04060 + 8.50753I$
$u = 0.64308 - 1.34654I$ $a = 1.001290 + 0.082426I$ $b = -2.01357 - 0.55420I$	$0.99069 + 10.76890I$	$-7.04060 - 8.50753I$
$u = 0.25168 + 1.49957I$ $a = -0.606065 + 0.151895I$ $b = 1.59013 + 0.08120I$	$3.88935 - 1.44009I$	$-9.35211 + 8.90381I$
$u = 0.25168 - 1.49957I$ $a = -0.606065 - 0.151895I$ $b = 1.59013 - 0.08120I$	$3.88935 + 1.44009I$	$-9.35211 - 8.90381I$
$u = 0.461512$ $a = 1.30067$ $b = -0.323241$	-0.923370	-10.5990

II. $I_2^u = \langle -487u^{15} - 1824u^{14} + \cdots + 1084b - 1471,\ 1589u^{15} + 3060u^{14} + \cdots + 1084a - 2223,\ u^{16} + 2u^{15} + \cdots - u + 1 \rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -1.46587u^{15} - 2.82288u^{14} + \cdots - 8.94373u + 2.05074 \\ 0.449262u^{15} + 1.68266u^{14} + \cdots + 2.15959u + 1.35701 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.16513u^{15} - 4.00554u^{14} + \cdots - 10.8533u + 2.94373 \\ 1.14852u^{15} + 2.86531u^{14} + \cdots + 4.06919u + 0.464022 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1.54520u^{15} - 1.93727u^{14} + \cdots - 11.4124u + 3.55443 \\ 1.44557u^{15} + 2.59594u^{14} + \cdots + 5.70756u + 0.392066 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.904982u^{15} + 0.642066u^{14} + \cdots + 6.23524u - 5.72232 \\ -1.47325u^{15} - 2.99631u^{14} + \cdots - 6.84779u + 1.12085 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.52768u^{15} + 4.90037u^{14} + \cdots + 2.14022u + 5.48708 \\ 0.885609u^{15} + 0.811808u^{14} + \cdots + 5.48708u - 2.41328 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1.35701u^{15} - 2.26476u^{14} + \cdots - 8.35886u + 3.51661 \\ 0.892989u^{15} + 2.48524u^{14} + \cdots + 2.39114u + 1.01661 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.758303u^{15} - 2.07011u^{14} + \cdots + 2.85793u - 3.04613 \\ -0.258303u^{15} - 0.0701107u^{14} + \cdots - 3.64207u + 0.453875 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.758303u^{15} - 2.07011u^{14} + \cdots + 2.85793u - 3.04613 \\ -0.258303u^{15} - 0.0701107u^{14} + \cdots - 3.64207u + 0.453875 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{883}{271}u^{15} + \frac{7393}{1084}u^{14} + \cdots + \frac{7220}{271}u - \frac{8893}{1084}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{16} + 2u^{15} + \cdots + 4u + 12$
c_2	$u^{16} + 2u^{15} + \cdots - u + 1$
c_3, c_7	$u^{16} + 2u^{15} + \cdots + 8u + 4$
c_4, c_8	$4(4u^{16} + 14u^{14} + \cdots - 3u + 1)$
c_5, c_9	$4(4u^{16} + 10u^{14} + \cdots - 5u + 1)$
c_6	$u^{16} - 2u^{15} + \cdots + u + 1$
c_{11}	$u^{16} + 5u^{15} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{16} - 2y^{15} + \cdots - 352y + 144$
c_2, c_6	$y^{16} + 8y^{15} + \cdots + 13y + 1$
c_3, c_7	$y^{16} + 4y^{15} + \cdots + 48y + 16$
c_4, c_8	$16(16y^{16} + 112y^{15} + \cdots + 15y + 1)$
c_5, c_9	$16(16y^{16} + 80y^{15} + \cdots - 7y + 1)$
c_{11}	$y^{16} + 7y^{15} + \cdots - 22y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.127924 + 0.951196I$ $a = 1.199100 + 0.627565I$ $b = -1.66156 + 0.95514I$	$1.55850 - 0.57188I$	$-4.03325 + 0.08278I$
$u = 0.127924 - 0.951196I$ $a = 1.199100 - 0.627565I$ $b = -1.66156 - 0.95514I$	$1.55850 + 0.57188I$	$-4.03325 - 0.08278I$
$u = 0.576501 + 0.749960I$ $a = 0.038226 + 0.569336I$ $b = -0.906045 + 0.258948I$	$-2.90623 - 2.39320I$	$-11.15335 + 3.39673I$
$u = 0.576501 - 0.749960I$ $a = 0.038226 - 0.569336I$ $b = -0.906045 - 0.258948I$	$-2.90623 + 2.39320I$	$-11.15335 - 3.39673I$
$u = -0.236683 + 1.046650I$ $a = -1.215370 - 0.028025I$ $b = 1.56644 - 0.63415I$	$6.29877 + 0.99707I$	$2.79381 - 0.26391I$
$u = -0.236683 - 1.046650I$ $a = -1.215370 + 0.028025I$ $b = 1.56644 + 0.63415I$	$6.29877 - 0.99707I$	$2.79381 + 0.26391I$
$u = 0.677411 + 0.413884I$ $a = -0.426400 + 0.321010I$ $b = -0.724338 - 0.105805I$	$-2.89915 - 2.26107I$	$-9.33280 + 4.93182I$
$u = 0.677411 - 0.413884I$ $a = -0.426400 - 0.321010I$ $b = -0.724338 + 0.105805I$	$-2.89915 + 2.26107I$	$-9.33280 - 4.93182I$
$u = -1.320930 + 0.057937I$ $a = -0.246952 + 0.504969I$ $b = -0.055825 + 0.235863I$	$-1.55964 + 5.26639I$	$-1.17081 - 11.68071I$
$u = -1.320930 - 0.057937I$ $a = -0.246952 - 0.504969I$ $b = -0.055825 - 0.235863I$	$-1.55964 - 5.26639I$	$-1.17081 + 11.68071I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.475337+1.308180I$ $a=\ \ 0.992931+0.359393I$ $b=-1.97006-0.64060I$	$3.22523+10.87130I$	$-2.52543-9.79507I$
$u=-0.475337-1.308180I$ $a=\ \ 0.992931-0.359393I$ $b=-1.97006+0.64060I$	$3.22523-10.87130I$	$-2.52543+9.79507I$
$u=-0.001694+0.451366I$ $a=\ \ 0.26545-2.71413I$ $b=\ \ 1.166390+0.676954I$	$-1.17125-8.19000I$	$-3.99419+8.09299I$
$u=-0.001694-0.451366I$ $a=\ \ 0.26545+2.71413I$ $b=\ \ 1.166390-0.676954I$	$-1.17125+8.19000I$	$-3.99419-8.09299I$
$u=-0.34720+1.51741I$ $a=-0.606987-0.107433I$ $b=\ \ 1.58500-0.00976I$	$4.03350+1.05064I$	$-2.08398+8.23407I$
$u=-0.34720-1.51741I$ $a=-0.606987+0.107433I$ $b=\ \ 1.58500+0.00976I$	$4.03350-1.05064I$	$-2.08398-8.23407I$

III. $I_3^u = \langle -232u^{41} - 1201u^{40} + \cdots + 16b - 31,\ 31u^{41}a + 170u^{41} + \cdots - 515a + 1252,\ u^{42} + 6u^{41} + \cdots + 5u - 1\rangle$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} a \\ 14.5000u^{41} + 75.0625u^{40} + \cdots - 41.8750u + 1.93750 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{37}{8}u^{41} + \frac{115}{8}u^{40} + \cdots + a + \frac{191}{16} \\ \frac{79}{8}u^{41} + \frac{971}{16}u^{40} + \cdots + \frac{517}{16}u - 10 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -14.5000au^{41} - 4.25000u^{41} + \cdots - 1.93750a - 10.6250 \\ 4.62500au^{41} + 4.68750u^{41} + \cdots + 11.9375a - 0.0625000 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 10.2500au^{41} - 0.562500u^{41} + \cdots - 3.93750a + 20.2500 \\ -4.43750au^{41} - 0.687500u^{41} + \cdots + 3.68750a - 1.31250 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -9.87500au^{41} + 2.43750u^{41} + \cdots + 9.25000a - 24.5000 \\ 9u^{41}a - \frac{93}{16}u^{41} + \cdots + \frac{7}{8}a - \frac{21}{16} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{29}{2}u^{41} + \frac{1201}{16}u^{40} + \cdots + a + \frac{31}{16} \\ \frac{79}{8}u^{41} + \frac{971}{16}u^{40} + \cdots + \frac{517}{16}u - 10 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -13.3750au^{41} + 2.56250u^{41} + \cdots + 4.62500a + 11.3750 \\ 8.31250au^{41} + 4.25000u^{41} + \cdots - 5.25000a - 4.06250 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -13.3750au^{41} + 2.56250u^{41} + \cdots + 4.62500a + 11.3750 \\ 8.31250au^{41} + 4.25000u^{41} + \cdots - 5.25000a - 4.06250 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{19}{4}u^{41} - \frac{29}{2}u^{40} + \cdots + 101u - \frac{91}{4}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$u^{84} - 3u^{83} + \cdots + 3176u + 2356$
c_2, c_6	$(u^{42} - 6u^{41} + \cdots - 5u - 1)^2$
c_3, c_7	$u^{84} - 9u^{83} + \cdots - 35640u + 2484$
c_4, c_8	$4(4u^{84} - 12u^{83} + \cdots + 1046u + 469)$
c_5, c_9	$4(4u^{84} - 4u^{83} + \cdots - 1099480u + 136525)$
c_{11}	$(u^{42} + 10u^{41} + \cdots + 8u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$y^{84} - 17y^{83} + \cdots - 109199184y + 5550736$
c_2, c_6	$(y^{42} + 26y^{41} + \cdots - 119y + 1)^2$
c_3, c_7	$y^{84} + 23y^{83} + \cdots + 232799184y + 6170256$
c_4, c_8	$16(16y^{84} + 96y^{83} + \cdots + 1.50976 \times 10^7 y + 219961)$
c_5, c_9	$16(16y^{84} + 288y^{83} + \cdots + 6.61960 \times 10^{10} y + 1.86391 \times 10^{10})$
c_{11}	$(y^{42} - 10y^{41} + \cdots - 30y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.325948+0.949697I$ $a=-0.964750-0.436121I$ $b=\ \ 2.40317+1.11984I$	$-0.63873+10.04910I$	$-4.01954-9.88636I$
$u=-0.325948+0.949697I$ $a=\ \ 0.45071+1.85178I$ $b=\ \ 0.059181-0.978397I$	$-0.63873+10.04910I$	$-4.01954-9.88636I$
$u=-0.325948-0.949697I$ $a=-0.964750+0.436121I$ $b=\ \ 2.40317-1.11984I$	$-0.63873-10.04910I$	$-4.01954+9.88636I$
$u=-0.325948-0.949697I$ $a=\ \ 0.45071-1.85178I$ $b=\ \ 0.059181+0.978397I$	$-0.63873-10.04910I$	$-4.01954+9.88636I$
$u=\ \ 0.112450+0.998802I$ $a=\ \ 0.200694+0.455272I$ $b=\ \ 0.52750+2.80905I$	$1.74133-0.33747I$	$2.7137-43.4048I$
$u=\ \ 0.112450+0.998802I$ $a=-3.26809+0.46049I$ $b=\ \ 3.54766-1.43933I$	$1.74133-0.33747I$	$2.7137-43.4048I$
$u=\ \ 0.112450-0.998802I$ $a=\ \ 0.200694-0.455272I$ $b=\ \ 0.52750-2.80905I$	$1.74133+0.33747I$	$2.7137+43.4048I$
$u=\ \ 0.112450-0.998802I$ $a=-3.26809-0.46049I$ $b=\ \ 3.54766+1.43933I$	$1.74133+0.33747I$	$2.7137+43.4048I$
$u=\ \ 0.538797+0.860840I$ $a=-0.171556+1.119860I$ $b=-0.545075-0.528944I$	$-1.79973-4.25346I$	$-6.96363+7.82606I$
$u=\ \ 0.538797+0.860840I$ $a=-0.330198+0.277066I$ $b=\ \ 0.948270-0.886884I$	$-1.79973-4.25346I$	$-6.96363+7.82606I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.538797 - 0.860840I$ $a = -0.171556 - 1.119860I$ $b = -0.545075 + 0.528944I$	$-1.79973 + 4.25346I$	$-6.96363 - 7.82606I$
$u = 0.538797 - 0.860840I$ $a = -0.330198 - 0.277066I$ $b = 0.948270 + 0.886884I$	$-1.79973 + 4.25346I$	$-6.96363 - 7.82606I$
$u = -0.298007 + 0.971824I$ $a = 0.853265 + 0.008147I$ $b = -2.06211 - 1.01872I$	$-1.71171 + 3.49501I$	$-4.54786 - 6.62152I$
$u = -0.298007 + 0.971824I$ $a = 0.101215 - 1.406540I$ $b = -0.639103 + 0.318059I$	$-1.71171 + 3.49501I$	$-4.54786 - 6.62152I$
$u = -0.298007 - 0.971824I$ $a = 0.853265 - 0.008147I$ $b = -2.06211 + 1.01872I$	$-1.71171 - 3.49501I$	$-4.54786 + 6.62152I$
$u = -0.298007 - 0.971824I$ $a = 0.101215 + 1.406540I$ $b = -0.639103 - 0.318059I$	$-1.71171 - 3.49501I$	$-4.54786 + 6.62152I$
$u = 0.257956 + 0.918905I$ $a = -0.857753 + 1.032860I$ $b = 1.50278 - 1.12038I$	$1.73911 - 1.92391I$	$0.68192 + 8.36291I$
$u = 0.257956 + 0.918905I$ $a = -0.465729 + 1.311450I$ $b = 0.910902 - 0.719132I$	$1.73911 - 1.92391I$	$0.68192 + 8.36291I$
$u = 0.257956 - 0.918905I$ $a = -0.857753 - 1.032860I$ $b = 1.50278 + 1.12038I$	$1.73911 + 1.92391I$	$0.68192 - 8.36291I$
$u = 0.257956 - 0.918905I$ $a = -0.465729 - 1.311450I$ $b = 0.910902 + 0.719132I$	$1.73911 + 1.92391I$	$0.68192 - 8.36291I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.895252+0.152881I$ $a=-0.470894-1.244210I$ $b=\ \ 0.074629+0.157299I$	$2.24777-5.28258I$	$-1.79836+5.79106I$
$u=-0.895252+0.152881I$ $a=\ \ 0.663629+1.226450I$ $b=\ \ 0.240307-0.269247I$	$2.24777-5.28258I$	$-1.79836+5.79106I$
$u=-0.895252-0.152881I$ $a=-0.470894+1.244210I$ $b=\ \ 0.074629-0.157299I$	$2.24777+5.28258I$	$-1.79836-5.79106I$
$u=-0.895252-0.152881I$ $a=\ \ 0.663629-1.226450I$ $b=\ \ 0.240307+0.269247I$	$2.24777+5.28258I$	$-1.79836-5.79106I$
$u=-1.083120+0.207022I$ $a=-0.396667-0.804873I$ $b=-0.262157-0.314734I$	$-2.65956-4.72365I$	$-10.86372+6.28405I$
$u=-1.083120+0.207022I$ $a=\ \ 0.416341+0.464688I$ $b=\ \ 0.082718-0.451135I$	$-2.65956-4.72365I$	$-10.86372+6.28405I$
$u=-1.083120-0.207022I$ $a=-0.396667+0.804873I$ $b=-0.262157+0.314734I$	$-2.65956+4.72365I$	$-10.86372-6.28405I$
$u=-1.083120-0.207022I$ $a=\ \ 0.416341-0.464688I$ $b=\ \ 0.082718+0.451135I$	$-2.65956+4.72365I$	$-10.86372-6.28405I$
$u=\ \ 1.102180+0.313402I$ $a=-0.195443-0.871124I$ $b=\ \ 0.796667-0.423906I$	$0.59757-5.16280I$	$-2.48880+8.90244I$
$u=\ \ 1.102180+0.313402I$ $a=-0.509959-0.475402I$ $b=-0.298579+0.138256I$	$0.59757-5.16280I$	$-2.48880+8.90244I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.102180 - 0.313402I$ $a = -0.195443 + 0.871124I$ $b = 0.796667 + 0.423906I$	$0.59757 + 5.16280I$	$-2.48880 - 8.90244I$
$u = 1.102180 - 0.313402I$ $a = -0.509959 + 0.475402I$ $b = -0.298579 - 0.138256I$	$0.59757 + 5.16280I$	$-2.48880 - 8.90244I$
$u = 0.075659 + 0.844181I$ $a = 0.457368 - 0.528326I$ $b = -2.83732 + 0.20631I$	$0.946887 + 0.000924I$	$-0.489674 - 0.600771I$
$u = 0.075659 + 0.844181I$ $a = 0.53699 - 3.00985I$ $b = -0.47574 + 1.85018I$	$0.946887 + 0.000924I$	$-0.489674 - 0.600771I$
$u = 0.075659 - 0.844181I$ $a = 0.457368 + 0.528326I$ $b = -2.83732 - 0.20631I$	$0.946887 - 0.000924I$	$-0.489674 + 0.600771I$
$u = 0.075659 - 0.844181I$ $a = 0.53699 + 3.00985I$ $b = -0.47574 - 1.85018I$	$0.946887 - 0.000924I$	$-0.489674 + 0.600771I$
$u = -0.359732 + 1.156400I$ $a = 0.803632 + 0.179500I$ $b = -1.40145 + 0.77758I$	$6.25056 + 3.50676I$	0
$u = -0.359732 + 1.156400I$ $a = -1.45348 - 0.04951I$ $b = 2.21108 + 0.40433I$	$6.25056 + 3.50676I$	0
$u = -0.359732 - 1.156400I$ $a = 0.803632 - 0.179500I$ $b = -1.40145 - 0.77758I$	$6.25056 - 3.50676I$	0
$u = -0.359732 - 1.156400I$ $a = -1.45348 + 0.04951I$ $b = 2.21108 - 0.40433I$	$6.25056 - 3.50676I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.382825+0.638516I$ $a=-1.38881-0.77315I$ $b=\ \ 1.25297+1.46432I$	$-1.54662-6.94396I$	$-6.14826+1.80846I$
$u=-0.382825+0.638516I$ $a=\ \ 0.20384+1.86406I$ $b=-0.167271+0.004343I$	$-1.54662-6.94396I$	$-6.14826+1.80846I$
$u=-0.382825-0.638516I$ $a=-1.38881+0.77315I$ $b=\ \ 1.25297-1.46432I$	$-1.54662+6.94396I$	$-6.14826-1.80846I$
$u=-0.382825-0.638516I$ $a=\ \ 0.20384-1.86406I$ $b=-0.167271-0.004343I$	$-1.54662+6.94396I$	$-6.14826-1.80846I$
$u=\ \ 0.512878+0.535469I$ $a=\ \ 1.267690+0.182619I$ $b=-1.156610+0.534850I$	$-2.62567+0.01437I$	$-9.66321+0.05333I$
$u=\ \ 0.512878+0.535469I$ $a=\ \ 1.110440-0.853009I$ $b=-0.110157-0.142346I$	$-2.62567+0.01437I$	$-9.66321+0.05333I$
$u=\ \ 0.512878-0.535469I$ $a=\ \ 1.267690-0.182619I$ $b=-1.156610-0.534850I$	$-2.62567-0.01437I$	$-9.66321-0.05333I$
$u=\ \ 0.512878-0.535469I$ $a=\ \ 1.110440+0.853009I$ $b=-0.110157+0.142346I$	$-2.62567-0.01437I$	$-9.66321-0.05333I$
$u=-0.230795+1.303580I$ $a=\ \ 0.814037+0.666476I$ $b=-0.995505-0.929146I$	$3.16694-0.26769I$	0
$u=-0.230795+1.303580I$ $a=-0.496678+0.044530I$ $b=\ \ 1.90104-0.68178I$	$3.16694-0.26769I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.230795-1.303580I$ $a=\ \ 0.814037-0.666476I$ $b=-0.995505+0.929146I$	$3.16694+0.26769I$	0
$u=-0.230795-1.303580I$ $a=-0.496678-0.044530I$ $b=\ \ 1.90104+0.68178I$	$3.16694+0.26769I$	0
$u=-0.378608+1.274890I$ $a=-0.858200+0.272003I$ $b=\ \ 1.60611-0.48936I$	$6.70547-0.94792I$	0
$u=-0.378608+1.274890I$ $a=\ \ 0.674687-0.144148I$ $b=-1.117200+0.759402I$	$6.70547-0.94792I$	0
$u=-0.378608-1.274890I$ $a=-0.858200-0.272003I$ $b=\ \ 1.60611+0.48936I$	$6.70547+0.94792I$	0
$u=-0.378608-1.274890I$ $a=\ \ 0.674687+0.144148I$ $b=-1.117200-0.759402I$	$6.70547+0.94792I$	0
$u=-0.543373+1.232310I$ $a=\ \ 1.225940+0.209319I$ $b=-2.23920-0.34704I$	$5.50034+10.51420I$	0
$u=-0.543373+1.232310I$ $a=-1.359110-0.228250I$ $b=\ \ 2.28106+0.70236I$	$5.50034+10.51420I$	0
$u=-0.543373-1.232310I$ $a=\ \ 1.225940-0.209319I$ $b=-2.23920+0.34704I$	$5.50034-10.51420I$	0
$u=-0.543373-1.232310I$ $a=-1.359110+0.228250I$ $b=\ \ 2.28106-0.70236I$	$5.50034-10.51420I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.311468+0.567237I$ $a=\ 1.292270-0.168197I$ $b=-1.33812-0.86681I$	$-2.83797-0.65564I$	$-8.38135-1.81835I$
$u=-0.311468+0.567237I$ $a=-0.12822-1.67182I$ $b=-0.254835-0.364369I$	$-2.83797-0.65564I$	$-8.38135-1.81835I$
$u=-0.311468-0.567237I$ $a=\ 1.292270+0.168197I$ $b=-1.33812+0.86681I$	$-2.83797+0.65564I$	$-8.38135+1.81835I$
$u=-0.311468-0.567237I$ $a=-0.12822+1.67182I$ $b=-0.254835+0.364369I$	$-2.83797+0.65564I$	$-8.38135+1.81835I$
$u=\ 0.396691+1.332610I$ $a=\ 1.197580-0.251128I$ $b=-2.06300+0.81742I$	$5.77239-9.91992I$	0
$u=\ 0.396691+1.332610I$ $a=\ 0.669581-0.093528I$ $b=-1.79454-0.63699I$	$5.77239-9.91992I$	0
$u=\ 0.396691-1.332610I$ $a=\ 1.197580+0.251128I$ $b=-2.06300-0.81742I$	$5.77239+9.91992I$	0
$u=\ 0.396691-1.332610I$ $a=\ 0.669581+0.093528I$ $b=-1.79454+0.63699I$	$5.77239+9.91992I$	0
$u=-0.595370$ $a=\ 0.55085+1.47940I$ $b=\ 0.523221-0.356395I$	2.99475	-0.888110
$u=-0.595370$ $a=\ 0.55085-1.47940I$ $b=\ 0.523221+0.356395I$	2.99475	-0.888110

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.592284+1.279270I$ $a=\ \ 1.012450+0.084454I$ $b=-2.22219-0.61915I$	$0.72340+10.65260I$	0
$u=-0.592284+1.279270I$ $a=-0.971424-0.369796I$ $b=\ \ 1.39630+0.70236I$	$0.72340+10.65260I$	0
$u=-0.592284-1.279270I$ $a=\ \ 1.012450-0.084454I$ $b=-2.22219+0.61915I$	$0.72340-10.65260I$	0
$u=-0.592284-1.279270I$ $a=-0.971424+0.369796I$ $b=\ \ 1.39630-0.70236I$	$0.72340-10.65260I$	0
$u=-0.83407+1.17304I$ $a=-0.846452+0.470033I$ $b=\ \ 1.91783+0.40306I$	$3.47473+3.59921I$	0
$u=-0.83407+1.17304I$ $a=\ \ 0.698535-0.136771I$ $b=-0.897515+0.111127I$	$3.47473+3.59921I$	0
$u=-0.83407-1.17304I$ $a=-0.846452-0.470033I$ $b=\ \ 1.91783-0.40306I$	$3.47473-3.59921I$	0
$u=-0.83407-1.17304I$ $a=\ \ 0.698535+0.136771I$ $b=-0.897515-0.111127I$	$3.47473-3.59921I$	0
$u=\ \ 0.49310+1.49129I$ $a=-0.750144-0.060457I$ $b=\ \ 2.06938-0.32915I$	$4.60778-1.63835I$	0
$u=\ \ 0.49310+1.49129I$ $a=-0.494383+0.168172I$ $b=\ \ 1.011680+0.088282I$	$4.60778-1.63835I$	0

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.49310 - 1.49129I$ $a = -0.750144 + 0.060457I$ $b = 2.06938 + 0.32915I$	$4.60778 + 1.63835I$	0
$u = 0.49310 - 1.49129I$ $a = -0.494383 - 0.168172I$ $b = 1.011680 - 0.088282I$	$4.60778 + 1.63835I$	0
$u = 0.0869009$ $a = 11.17620 + 5.82018I$ $b = -0.886821 + 0.549732I$	0.204160	-5.26330
$u = 0.0869009$ $a = 11.17620 - 5.82018I$ $b = -0.886821 - 0.549732I$	0.204160	-5.26330

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{10}	$(u^{16}+2u^{15}+\cdots+4u+12)(u^{25}-2u^{24}+\cdots-5u+1)$ $\cdot(u^{84}-3u^{83}+\cdots+3176u+2356)$
c_2	$(u^{16}+2u^{15}+\cdots-u+1)(u^{25}+11u^{24}+\cdots+304u+32)$ $\cdot(u^{42}-6u^{41}+\cdots-5u-1)^2$
c_3, c_7	$(u^{16}+2u^{15}+\cdots+8u+4)(u^{25}-2u^{24}+\cdots-7u+1)$ $\cdot(u^{84}-9u^{83}+\cdots-35640u+2484)$
c_4, c_8	$16(4u^{16}+14u^{14}+\cdots-3u+1)(u^{25}-6u^{24}+\cdots+2u+1)$ $\cdot(4u^{84}-12u^{83}+\cdots+1046u+469)$
c_5, c_9	$16(4u^{16}+10u^{14}+\cdots-5u+1)(u^{25}-6u^{24}+\cdots+13u^2+1)$ $\cdot(4u^{84}-4u^{83}+\cdots-1099480u+136525)$
c_6	$(u^{16}-2u^{15}+\cdots+u+1)(u^{25}+11u^{24}+\cdots+304u+32)$ $\cdot(u^{42}-6u^{41}+\cdots-5u-1)^2$
c_{11}	$(u^{16}+5u^{15}+\cdots-2u+1)(u^{25}-18u^{24}+\cdots-1536u+256)$ $\cdot(u^{42}+10u^{41}+\cdots+8u+1)^2$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{10}	$(y^{16} - 2y^{15} + \cdots - 352y + 144)(y^{25} + 6y^{24} + \cdots - 9y - 1)$ $\cdot (y^{84} - 17y^{83} + \cdots - 109199184y + 5550736)$
c_2, c_6	$(y^{16} + 8y^{15} + \cdots + 13y + 1)(y^{25} + 11y^{24} + \cdots - 3328y - 1024)$ $\cdot (y^{42} + 26y^{41} + \cdots - 119y + 1)^2$
c_3, c_7	$(y^{16} + 4y^{15} + \cdots + 48y + 16)(y^{25} + 22y^{23} + \cdots + 17y - 1)$ $\cdot (y^{84} + 23y^{83} + \cdots + 232799184y + 6170256)$
c_4, c_8	$256(16y^{16} + 112y^{15} + \cdots + 15y + 1)(y^{25} - 2y^{24} + \cdots - 16y - 1)$ $\cdot (16y^{84} + 96y^{83} + \cdots + 15097640y + 219961)$
c_5, c_9	$256(16y^{16} + 80y^{15} + \cdots - 7y + 1)(y^{25} + 4y^{24} + \cdots - 26y - 1)$ $\cdot (16y^{84} + 288y^{83} + \cdots + 66196030900y + 18639075625)$
c_{11}	$(y^{16} + 7y^{15} + \cdots - 22y + 1)(y^{25} + 10y^{24} + \cdots + 720896y - 65536)$ $\cdot (y^{42} - 10y^{41} + \cdots - 30y + 1)^2$