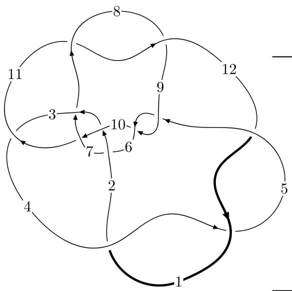
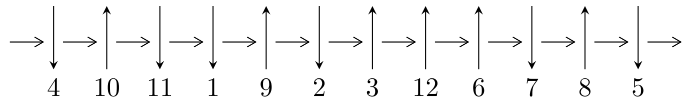
$12a_{1194}$ ($K12a_{1194}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle 9.79780 \times 10^{46} u^{37} + 3.35501 \times 10^{46} u^{36} + \cdots + 1.92279 \times 10^{47} b - 2.18034 \times 10^{47},\ a - 1, \\
&\quad u^{38} + u^{37} + \cdots + 19u^2 - 1 \rangle \\
I_2^u &= \langle 1.82885 \times 10^{255} u^{71} - 9.62892 \times 10^{254} u^{70} + \cdots + 6.92537 \times 10^{255} b + 6.25833 \times 10^{257}, \\
&\quad 1.88860 \times 10^{255} u^{71} - 1.18895 \times 10^{255} u^{70} + \cdots + 6.92537 \times 10^{255} a + 4.84199 \times 10^{257}, \\
&\quad u^{72} + u^{70} + \cdots + 600u + 192 \rangle \\
I_3^u &= \langle -u^{15} - u^{14} + u^{11} - 2u^{10} - 6u^9 - 5u^8 + 9u^7 - 13u^6 - 5u^5 + 30u^4 + u^3 - 25u^2 + b + 8,\ a + 1, \\
&\quad u^{17} - u^{14} + u^{12} + 6u^{11} - 2u^{10} - 7u^9 + 13u^8 - 6u^7 - 24u^6 + 12u^5 + 19u^4 - 6u^3 - 7u^2 + u + 1 \rangle \\
I_4^u &= \langle 3b + u - 2,\ a - u - 1,\ u^2 - u + 1 \rangle \\
I_5^u &= \langle 6b - u - 3,\ 6a - u - 3,\ u^2 + 3 \rangle \\
I_6^u &= \langle b + 1,\ a + 1,\ u^2 - u + 1 \rangle
\end{aligned}$$

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 133 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. $I^u_1 = \langle 9.80 \times 10^{46}u^{37} + 3.36 \times 10^{46}u^{36} + \cdots + 1.92 \times 10^{47}b - 2.18 \times 10^{47},\ a - 1,\ u^{38} + u^{37} + \cdots + 19u^2 - 1\rangle$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ -0.509562u^{37} - 0.174487u^{36} + \cdots - 3.84868u + 1.13395 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.509562u^{37} + 0.174487u^{36} + \cdots + 3.84868u - 0.133946 \\ -0.509562u^{37} - 0.174487u^{36} + \cdots - 3.84868u + 1.13395 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.24784u^{37} + 1.13746u^{36} + \cdots + 6.22030u - 2.73265 \\ -0.912766u^{37} - 0.757139u^{36} + \cdots - 5.08636u + 2.22309 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.0452476u^{37} - 0.116918u^{36} + \cdots + 0.509562u + 0.664925 \\ -0.448231u^{37} - 0.142720u^{36} + \cdots - 3.29387u + 0.870541 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -u \\ -0.335075u^{37} - 0.380323u^{36} + \cdots - 0.133946u + 0.509562 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1.54245u^{37} - 1.84686u^{36} + \cdots - 19.6552u + 3.53329 \\ 0.666260u^{37} + 0.909070u^{36} + \cdots + 13.3755u - 2.01544 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0452476u^{37} - 0.116918u^{36} + \cdots + 0.509562u + 0.664925 \\ -0.110380u^{37} + 0.0315993u^{36} + \cdots - 2.73265u + 1.24784 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.915215u^{37} + 0.651574u^{36} + \cdots + 5.45183u - 0.569657 \\ -1.33092u^{37} - 0.844964u^{36} + \cdots - 10.0710u + 3.53250 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2.03274u^{37} - 1.11723u^{36} + \cdots - 15.2736u + 6.20954 \\ 2.05290u^{37} + 1.33796u^{36} + \cdots + 17.7773u - 6.02161 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.739502u^{37} - 0.948748u^{36} + \cdots - 10.0381u + 6.25697$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$u^{38} - 10u^{37} + \cdots + 208u - 16$
c_2, c_7	$u^{38} + u^{37} + \cdots + 19u^2 - 1$
c_3, c_6	$u^{38} + u^{37} + \cdots - 8u - 4$
c_5, c_8, c_9 c_{11}	$u^{38} - 22u^{36} + \cdots + 12u + 1$
c_{10}	$u^{38} + 18u^{37} + \cdots - 62u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{38} + 38y^{37} + \cdots + 2016y + 256$
c_2, c_7	$y^{38} - 19y^{37} + \cdots - 38y + 1$
c_3, c_6	$y^{38} + 7y^{37} + \cdots + 264y + 16$
c_5, c_8, c_9 c_{11}	$y^{38} - 44y^{37} + \cdots - 50y + 1$
c_{10}	$y^{38} - 4y^{37} + \cdots - 716y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.479520 + 0.882461I$ $a = 1.00000$ $b = 0.751362 - 0.367985I$	$-0.19527 + 1.57472I$	$-3.21629 - 2.23777I$
$u = 0.479520 - 0.882461I$ $a = 1.00000$ $b = 0.751362 + 0.367985I$	$-0.19527 - 1.57472I$	$-3.21629 + 2.23777I$
$u = 0.644139 + 0.745875I$ $a = 1.00000$ $b = 0.822899 - 0.634508I$	$-0.13192 + 1.60989I$	$-0.75540 - 1.36355I$
$u = 0.644139 - 0.745875I$ $a = 1.00000$ $b = 0.822899 + 0.634508I$	$-0.13192 - 1.60989I$	$-0.75540 + 1.36355I$
$u = -0.937133 + 0.239327I$ $a = 1.00000$ $b = 0.76066 - 1.21673I$	$9.11838 - 5.83428I$	$8.14618 + 5.74561I$
$u = -0.937133 - 0.239327I$ $a = 1.00000$ $b = 0.76066 + 1.21673I$	$9.11838 + 5.83428I$	$8.14618 - 5.74561I$
$u = 0.852502 + 0.278386I$ $a = 1.00000$ $b = 0.95818 + 1.45928I$	$16.3227 + 9.5388I$	$10.67449 - 6.03102I$
$u = 0.852502 - 0.278386I$ $a = 1.00000$ $b = 0.95818 - 1.45928I$	$16.3227 - 9.5388I$	$10.67449 + 6.03102I$
$u = -0.871208 + 0.681798I$ $a = 1.00000$ $b = 1.16064 + 0.91404I$	$-1.77981 - 4.59053I$	$-3.12624 + 6.99491I$
$u = -0.871208 - 0.681798I$ $a = 1.00000$ $b = 1.16064 - 0.91404I$	$-1.77981 + 4.59053I$	$-3.12624 - 6.99491I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.098320 + 0.234964I$ $a = 1.00000$ $b = 0.682932 + 0.779615I$	$8.59426 + 0.71431I$	$7.79538 + 0.07256I$
$u = 1.098320 - 0.234964I$ $a = 1.00000$ $b = 0.682932 - 0.779615I$	$8.59426 - 0.71431I$	$7.79538 - 0.07256I$
$u = 0.957238 + 0.605348I$ $a = 1.00000$ $b = 1.27321 - 1.10751I$	$3.03840 + 7.55076I$	$2.62397 - 7.06584I$
$u = 0.957238 - 0.605348I$ $a = 1.00000$ $b = 1.27321 + 1.10751I$	$3.03840 - 7.55076I$	$2.62397 + 7.06584I$
$u = -0.666023 + 0.378508I$ $a = 1.00000$ $b = 0.385427 + 1.322160I$	$5.43833 - 1.25341I$	$5.66766 + 5.57255I$
$u = -0.666023 - 0.378508I$ $a = 1.00000$ $b = 0.385427 - 1.322160I$	$5.43833 + 1.25341I$	$5.66766 - 5.57255I$
$u = 0.753740 + 0.136199I$ $a = 1.00000$ $b = -0.541177 - 0.389347I$	$2.42366 - 3.68294I$	$-1.25459 - 4.84612I$
$u = 0.753740 - 0.136199I$ $a = 1.00000$ $b = -0.541177 + 0.389347I$	$2.42366 + 3.68294I$	$-1.25459 + 4.84612I$
$u = -1.241290 + 0.060112I$ $a = 1.00000$ $b = -0.159015 + 0.380020I$	$14.1852 - 1.9882I$	$9.99909 + 0.39309I$
$u = -1.241290 - 0.060112I$ $a = 1.00000$ $b = -0.159015 - 0.380020I$	$14.1852 + 1.9882I$	$9.99909 - 0.39309I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.27422$ $a = 1.00000$ $b = 0.155353$	8.57853	10.1100
$u = -1.185860 + 0.497013I$ $a = 1.00000$ $b = 1.108850 - 0.479064I$	$14.7439 + 3.7494I$	$9.22095 - 1.93955I$
$u = -1.185860 - 0.497013I$ $a = 1.00000$ $b = 1.108850 + 0.479064I$	$14.7439 - 3.7494I$	$9.22095 + 1.93955I$
$u = -0.660729$ $a = 1.00000$ $b = -0.500671$	-1.71192	-9.74460
$u = -0.498440 + 1.244020I$ $a = 1.00000$ $b = 0.359751 + 0.272033I$	$2.22750 - 1.67185I$	$11.46563 + 1.61850I$
$u = -0.498440 - 1.244020I$ $a = 1.00000$ $b = 0.359751 - 0.272033I$	$2.22750 + 1.67185I$	$11.46563 - 1.61850I$
$u = -1.34768 + 0.93044I$ $a = 1.00000$ $b = 1.17535 + 1.06620I$	$15.4363 - 18.1987I$	0
$u = -1.34768 - 0.93044I$ $a = 1.00000$ $b = 1.17535 - 1.06620I$	$15.4363 + 18.1987I$	0
$u = -0.318318 + 0.076916I$ $a = 1.00000$ $b = -1.50883 + 0.88780I$	$7.74248 - 1.46031I$	$-0.55144 + 3.69482I$
$u = -0.318318 - 0.076916I$ $a = 1.00000$ $b = -1.50883 - 0.88780I$	$7.74248 + 1.46031I$	$-0.55144 - 3.69482I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.27499 + 1.08569I$ $a = 1.00000$ $b = 0.753733 - 0.824122I$	$15.9166 + 1.5691I$	0
$u = 1.27499 - 1.08569I$ $a = 1.00000$ $b = 0.753733 + 0.824122I$	$15.9166 - 1.5691I$	0
$u = 1.39247 + 0.95063I$ $a = 1.00000$ $b = 1.13211 - 0.94427I$	$7.9524 + 13.4272I$	0
$u = 1.39247 - 0.95063I$ $a = 1.00000$ $b = 1.13211 + 0.94427I$	$7.9524 - 13.4272I$	0
$u = 0.213113 + 0.167716I$ $a = 1.00000$ $b = -0.944587 - 0.435602I$	$1.72141 + 0.61974I$	$2.92253 + 0.39439I$
$u = 0.213113 - 0.167716I$ $a = 1.00000$ $b = -0.944587 + 0.435602I$	$1.72141 - 0.61974I$	$2.92253 - 0.39439I$
$u = -1.40684 + 1.03775I$ $a = 1.00000$ $b = 1.001170 + 0.829159I$	$7.87445 - 6.81193I$	0
$u = -1.40684 - 1.03775I$ $a = 1.00000$ $b = 1.001170 - 0.829159I$	$7.87445 + 6.81193I$	0

II. $\boldsymbol{I_2^u = \langle 1.83 \times 10^{255} u^{71} - 9.63 \times 10^{254} u^{70} + \cdots + 6.93 \times 10^{255} b + 6.26 \times 10^{257},\ 1.89 \times 10^{255} u^{71} - 1.19 \times 10^{255} u^{70} + \cdots + 6.93 \times 10^{255} a + 4.84 \times 10^{257},\ u^{72} + u^{70} + \cdots + 600u + 192\rangle}$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.272707u^{71} + 0.171681u^{70} + \cdots - 122.503u - 69.9167 \\ -0.264080u^{71} + 0.139038u^{70} + \cdots - 110.859u - 90.3682 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.00862691u^{71} + 0.0326421u^{70} + \cdots - 11.6439u + 20.4515 \\ -0.264080u^{71} + 0.139038u^{70} + \cdots - 110.859u - 90.3682 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.643001u^{71} + 0.403385u^{70} + \cdots - 330.474u - 202.802 \\ -0.167715u^{71} + 0.0931258u^{70} + \cdots - 77.9212u - 60.0375 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.308920u^{71} + 0.201634u^{70} + \cdots - 140.432u - 76.1840 \\ -0.165046u^{71} + 0.0822409u^{70} + \cdots - 67.1202u - 57.9218 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.570796u^{71} + 0.359834u^{70} + \cdots - 300.743u - 183.584 \\ 0.239920u^{71} - 0.136677u^{70} + \cdots + 109.652u + 79.2555 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.104996u^{71} + 0.0708180u^{70} + \cdots - 74.8935u - 49.3580 \\ 0.170685u^{71} - 0.0962956u^{70} + \cdots + 81.4730u + 61.4960 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.168474u^{71} - 0.104174u^{70} + \cdots + 42.9975u + 42.5367 \\ -0.402366u^{71} + 0.232386u^{70} + \cdots - 187.548u - 137.859 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.326748u^{71} - 0.198736u^{70} + \cdots + 126.792u + 96.5926 \\ -0.515586u^{71} + 0.292522u^{70} + \cdots - 238.142u - 174.717 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.415877u^{71} + 0.258738u^{70} + \cdots - 195.345u - 119.809 \\ -0.0728064u^{71} + 0.0423429u^{70} + \cdots - 28.1964u - 25.4350 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 6.77306u^{71} - 3.76632u^{70} + \cdots + 3118.99u + 2314.71$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$(u^{36} + 7u^{35} + \cdots - u + 1)^2$
c_2, c_7	$u^{72} + u^{70} + \cdots + 600u + 192$
c_3, c_6	$3(3u^{72} + 28u^{70} + \cdots + 696u - 144)$
c_5, c_8, c_9 c_{11}	$3(3u^{72} - 6u^{71} + \cdots - 5096u + 464)$
c_{10}	$9(3u^{36} - 33u^{35} + \cdots + u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$(y^{36} + 39y^{35} + \cdots + 15y + 1)^2$
c_2, c_7	$y^{72} + 2y^{71} + \cdots - 1232832y + 36864$
c_3, c_6	$9(9y^{72} + 168y^{71} + \cdots + 411840y + 20736)$
c_5, c_8, c_9 c_{11}	$9(9y^{72} - 534y^{71} + \cdots - 1.10869 \times 10^7 y + 215296)$
c_{10}	$81(9y^{36} - 21y^{35} + \cdots - 29y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.978478 + 0.196725I$ $a = -0.470303 + 0.120405I$ $b = -2.03002 + 0.15729I$	$7.64664 + 0.89830I$	0
$u = -0.978478 - 0.196725I$ $a = -0.470303 - 0.120405I$ $b = -2.03002 - 0.15729I$	$7.64664 - 0.89830I$	0
$u = 1.022020 + 0.069411I$ $a = -0.529866 + 0.043954I$ $b = -1.188640 + 0.471909I$	$2.40022 - 0.09330I$	0
$u = 1.022020 - 0.069411I$ $a = -0.529866 - 0.043954I$ $b = -1.188640 - 0.471909I$	$2.40022 + 0.09330I$	0
$u = 0.888845 + 0.539655I$ $a = -1.55452 - 0.20173I$ $b = -0.555893 + 0.888952I$	$11.15320 + 4.60597I$	0
$u = 0.888845 - 0.539655I$ $a = -1.55452 + 0.20173I$ $b = -0.555893 - 0.888952I$	$11.15320 - 4.60597I$	0
$u = -0.905766 + 0.290443I$ $a = 0.054213 - 0.795751I$ $b = 0.31798 + 1.90900I$	$9.17715 - 0.71197I$	$0. - 6.68193I$
$u = -0.905766 - 0.290443I$ $a = 0.054213 + 0.795751I$ $b = 0.31798 - 1.90900I$	$9.17715 + 0.71197I$	$0. + 6.68193I$
$u = -0.644561 + 0.873982I$ $a = -1.16999 + 1.42334I$ $b = -0.616672 - 0.336692I$	$12.6707 - 9.2670I$	0
$u = -0.644561 - 0.873982I$ $a = -1.16999 - 1.42334I$ $b = -0.616672 + 0.336692I$	$12.6707 + 9.2670I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.792031 + 0.437469I$ $a = -0.49927 + 1.78168I$ $b = 0.369829 - 0.333785I$	$8.39463 + 3.54557I$	$5.80898 - 6.93351I$
$u = 0.792031 - 0.437469I$ $a = -0.49927 - 1.78168I$ $b = 0.369829 + 0.333785I$	$8.39463 - 3.54557I$	$5.80898 + 6.93351I$
$u = -1.10588$ $a = 0.279991$ $b = -0.520793$	-1.68620	0
$u = -0.527966 + 0.702604I$ $a = 0.75481 - 1.23770I$ $b = 0.819842 + 0.533691I$	$5.98660 - 4.60314I$	$3.32384 + 5.95672I$
$u = -0.527966 - 0.702604I$ $a = 0.75481 + 1.23770I$ $b = 0.819842 - 0.533691I$	$5.98660 + 4.60314I$	$3.32384 - 5.95672I$
$u = 0.293423 + 1.091190I$ $a = -1.96904 - 0.66256I$ $b = -0.592260 + 0.122395I$	$4.63277 + 3.77829I$	0
$u = 0.293423 - 1.091190I$ $a = -1.96904 + 0.66256I$ $b = -0.592260 - 0.122395I$	$4.63277 - 3.77829I$	0
$u = -0.518294 + 0.602575I$ $a = 0.60287 - 2.01252I$ $b = 0.268383 + 0.145956I$	$1.37324 - 1.52816I$	$-6.63056 + 1.97711I$
$u = -0.518294 - 0.602575I$ $a = 0.60287 + 2.01252I$ $b = 0.268383 - 0.145956I$	$1.37324 + 1.52816I$	$-6.63056 - 1.97711I$
$u = 0.775530 + 0.171708I$ $a = -0.479700 + 0.760784I$ $b = -0.44714 - 1.48857I$	$2.85135 + 0.79016I$	$24.0507 + 6.2510I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.775530 - 0.171708I$ $a = -0.479700 - 0.760784I$ $b = -0.44714 + 1.48857I$	$2.85135 - 0.79016I$	$24.0507 - 6.2510I$
$u = 0.274069 + 0.731062I$ $a = 1.37652 + 0.96080I$ $b = 0.656214 - 0.208478I$	$-0.58194 + 2.00247I$	$-5.14664 - 7.85469I$
$u = 0.274069 - 0.731062I$ $a = 1.37652 - 0.96080I$ $b = 0.656214 + 0.208478I$	$-0.58194 - 2.00247I$	$-5.14664 + 7.85469I$
$u = -0.942728 + 0.807529I$ $a = -1.235170 - 0.104166I$ $b = -0.945820 - 0.825413I$	$2.69290 - 5.70756I$	0
$u = -0.942728 - 0.807529I$ $a = -1.235170 + 0.104166I$ $b = -0.945820 + 0.825413I$	$2.69290 + 5.70756I$	0
$u = 0.182016 + 0.736510I$ $a = 0.085219 + 1.250870I$ $b = 0.31798 + 1.90900I$	$9.17715 - 0.71197I$	$2.28150 - 6.68193I$
$u = 0.182016 - 0.736510I$ $a = 0.085219 - 1.250870I$ $b = 0.31798 - 1.90900I$	$9.17715 + 0.71197I$	$2.28150 + 6.68193I$
$u = 0.747739 + 0.088600I$ $a = 1.63880 - 1.62675I$ $b = 0.341909 + 1.000020I$	$15.8742 - 7.9244I$	$11.14213 + 5.15246I$
$u = 0.747739 - 0.088600I$ $a = 1.63880 + 1.62675I$ $b = 0.341909 - 1.000020I$	$15.8742 + 7.9244I$	$11.14213 - 5.15246I$
$u = 0.471101 + 1.183790I$ $a = 0.359152 + 0.588923I$ $b = 0.819842 + 0.533691I$	$5.98660 - 4.60314I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.471101 - 1.183790I$ $a = 0.359152 - 0.588923I$ $b = 0.819842 - 0.533691I$	$5.98660 + 4.60314I$	0
$u = -0.502655 + 0.507643I$ $a = -0.593024 - 0.940511I$ $b = -0.44714 - 1.48857I$	$2.85135 + 0.79016I$	$24.0507 + 6.2510I$
$u = -0.502655 - 0.507643I$ $a = -0.593024 + 0.940511I$ $b = -0.44714 + 1.48857I$	$2.85135 - 0.79016I$	$24.0507 - 6.2510I$
$u = -0.325144 + 1.269650I$ $a = 0.488484 - 0.340958I$ $b = 0.656214 - 0.208478I$	$-0.58194 + 2.00247I$	0
$u = -0.325144 - 1.269650I$ $a = 0.488484 + 0.340958I$ $b = 0.656214 + 0.208478I$	$-0.58194 - 2.00247I$	0
$u = -0.167887 + 0.636465I$ $a = -1.64983 - 1.52369I$ $b = -0.578317 - 0.313401I$	$1.46233 - 4.15403I$	$-0.04109 + 11.01980I$
$u = -0.167887 - 0.636465I$ $a = -1.64983 + 1.52369I$ $b = -0.578317 + 0.313401I$	$1.46233 + 4.15403I$	$-0.04109 - 11.01980I$
$u = 0.999348 + 0.905429I$ $a = -1.051100 + 0.164278I$ $b = -1.10990 + 0.99508I$	$1.77290 + 8.98505I$	0
$u = 0.999348 - 0.905429I$ $a = -1.051100 - 0.164278I$ $b = -1.10990 - 0.99508I$	$1.77290 - 8.98505I$	0
$u = -0.624513 + 0.014551I$ $a = 2.52548 + 1.23501I$ $b = 0.664296 - 0.754586I$	$7.66073 + 4.68142I$	$6.98748 - 6.62319I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.624513 - 0.014551I$ $a = 2.52548 - 1.23501I$ $b = 0.664296 + 0.754586I$	$7.66073 - 4.68142I$	$6.98748 + 6.62319I$
$u = -0.989355 + 0.981502I$ $a = -0.983641 - 0.231346I$ $b = -1.16325 - 1.14285I$	$8.31330 - 11.25680I$	0
$u = -0.989355 - 0.981502I$ $a = -0.983641 + 0.231346I$ $b = -1.16325 + 1.14285I$	$8.31330 + 11.25680I$	0
$u = 1.200240 + 0.736562I$ $a = -0.963343 - 0.226572I$ $b = -1.16325 + 1.14285I$	$8.31330 + 11.25680I$	0
$u = 1.200240 - 0.736562I$ $a = -0.963343 + 0.226572I$ $b = -1.16325 - 1.14285I$	$8.31330 - 11.25680I$	0
$u = -1.19915 + 0.78752I$ $a = -0.928703 + 0.145149I$ $b = -1.10990 - 0.99508I$	$1.77290 - 8.98505I$	0
$u = -1.19915 - 0.78752I$ $a = -0.928703 - 0.145149I$ $b = -1.10990 + 0.99508I$	$1.77290 + 8.98505I$	0
$u = -0.544584 + 0.008144I$ $a = -1.87437 - 0.15549I$ $b = -1.188640 + 0.471909I$	$2.40022 - 0.09330I$	$11.1239 - 12.0920I$
$u = -0.544584 - 0.008144I$ $a = -1.87437 + 0.15549I$ $b = -1.188640 - 0.471909I$	$2.40022 + 0.09330I$	$11.1239 + 12.0920I$
$u = 1.24676 + 0.79425I$ $a = -0.327116 - 0.302106I$ $b = -0.578317 + 0.313401I$	$1.46233 + 4.15403I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.24676 - 0.79425I$ $a = -0.327116 + 0.302106I$ $b = -0.578317 - 0.313401I$	$1.46233 - 4.15403I$	0
$u = 0.512014$ $a = 3.36891$ $b = 1.09972$	5.27612	-1.90140
$u = 0.436495 + 0.210334I$ $a = -1.99549 + 0.51088I$ $b = -2.03002 - 0.15729I$	$7.64664 - 0.89830I$	$8.29327 - 10.91471I$
$u = 0.436495 - 0.210334I$ $a = -1.99549 - 0.51088I$ $b = -2.03002 + 0.15729I$	$7.64664 + 0.89830I$	$8.29327 + 10.91471I$
$u = 1.24854 + 0.89923I$ $a = -0.803889 - 0.067795I$ $b = -0.945820 + 0.825413I$	$2.69290 + 5.70756I$	0
$u = 1.24854 - 0.89923I$ $a = -0.803889 + 0.067795I$ $b = -0.945820 - 0.825413I$	$2.69290 - 5.70756I$	0
$u = -1.27287 + 1.01821I$ $a = -0.632631 - 0.082095I$ $b = -0.555893 - 0.888952I$	$11.15320 - 4.60597I$	0
$u = -1.27287 - 1.01821I$ $a = -0.632631 + 0.082095I$ $b = -0.555893 + 0.888952I$	$11.15320 + 4.60597I$	0
$u = 0.90023 + 1.40635I$ $a = 0.136591 + 0.455971I$ $b = 0.268383 + 0.145956I$	$1.37324 - 1.52816I$	0
$u = 0.90023 - 1.40635I$ $a = 0.136591 - 0.455971I$ $b = 0.268383 - 0.145956I$	$1.37324 + 1.52816I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.17487 + 1.19273I$ $a = -0.145830 - 0.520402I$ $b = 0.369829 - 0.333785I$	$8.39463 + 3.54557I$	0
$u = -1.17487 - 1.19273I$ $a = -0.145830 + 0.520402I$ $b = 0.369829 + 0.333785I$	$8.39463 - 3.54557I$	0
$u = -0.309637$ $a = 3.57154$ $b = -0.520793$	-1.68620	-13.2240
$u = 1.72493$ $a = 0.296832$ $b = 1.09972$	5.27612	0
$u = 1.36953 + 1.07118I$ $a = 0.307354 - 0.305092I$ $b = 0.341909 - 1.000020I$	$15.8742 + 7.9244I$	0
$u = 1.36953 - 1.07118I$ $a = 0.307354 + 0.305092I$ $b = 0.341909 + 1.000020I$	$15.8742 - 7.9244I$	0
$u = -1.59517 + 0.73453I$ $a = 0.319547 + 0.156265I$ $b = 0.664296 + 0.754586I$	$7.66073 - 4.68142I$	0
$u = -1.59517 - 0.73453I$ $a = 0.319547 - 0.156265I$ $b = 0.664296 - 0.754586I$	$7.66073 + 4.68142I$	0
$u = -0.48985 + 1.93998I$ $a = -0.344643 + 0.419275I$ $b = -0.616672 + 0.336692I$	$12.6707 + 9.2670I$	0
$u = -0.48985 - 1.93998I$ $a = -0.344643 - 0.419275I$ $b = -0.616672 - 0.336692I$	$12.6707 - 9.2670I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.14521 + 2.34300I$ $a = -0.456207 - 0.153508I$ $b = -0.592260 - 0.122395I$	$4.63277 - 3.77829I$	0
$u = \quad 0.14521 - 2.34300I$ $a = -0.456207 + 0.153508I$ $b = -0.592260 + 0.122395I$	$4.63277 + 3.77829I$	0

III. $\boldsymbol{I_3^u = \langle -u^{15} - u^{14} + \cdots + b + 8,\ a + 1,\ u^{17} - u^{14} + \cdots + u + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1 \\ u^{15} + u^{14} + \cdots + 25u^2 - 8 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -u^{15} - u^{14} + \cdots - 25u^2 + 7 \\ u^{15} + u^{14} + \cdots + 25u^2 - 8 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 6u^{16} - 9u^{15} + \cdots - 7u + 16 \\ -7u^{16} + 8u^{15} + \cdots + 15u - 16 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -u^{16} - u^{14} + \cdots - 6u^3 + u \\ u^{15} + u^{14} + \cdots + 24u^2 - 7 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u \\ u^{16} + u^{15} + \cdots + 25u^3 - 7u \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 48u^{16} + 9u^{15} + \cdots - 80u - 16 \\ -62u^{16} + 9u^{15} + \cdots + 80u - 32 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} u^{16} + u^{14} - u^{13} + u^{12} + 7u^{10} - 2u^9 + 11u^7 - 6u^6 - 13u^5 + 6u^4 + 6u^3 - u \\ -9u^{16} + u^{15} + \cdots + 10u - 6 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ -7u^{16} + 6u^{15} + \cdots + 6u - 25 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u^{16} + u^{14} - u^{13} + u^{12} + 7u^{10} - 2u^9 + 11u^7 - 6u^6 - 13u^5 + 6u^4 + 6u^3 - u \\ 15u^{16} - 18u^{15} + \cdots - 8u + 55 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 117u^{16} + 131u^{15} + 72u^{14} - 26u^{13} - 83u^{12} + 105u^{11} + 775u^{10} + 615u^9 - 595u^8 + 1046u^7 + 640u^6 - 3005u^5 - 1222u^4 + 1910u^3 + 802u^2 - 385u - 155$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u^{17} - 4u^{16} + \cdots + 8u - 1$
c_2, c_7	$u^{17} - u^{14} + \cdots + u + 1$
c_3, c_6	$u^{17} - u^{16} + \cdots - 9u + 7$
c_4	$u^{17} + 4u^{16} + \cdots + 8u + 1$
c_5, c_8	$u^{17} - 2u^{16} + \cdots + 4u + 1$
c_9, c_{11}	$u^{17} + 2u^{16} + \cdots + 4u - 1$
c_{10}	$u^{17} - 11u^{16} + \cdots - 5u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{17} + 18y^{16} + \cdots - 12y - 1$
c_2, c_7	$y^{17} + 11y^{14} + \cdots + 15y - 1$
c_3, c_6	$y^{17} + 7y^{16} + \cdots - 297y - 49$
c_5, c_8, c_9 c_{11}	$y^{17} - 14y^{16} + \cdots + 16y - 1$
c_{10}	$y^{17} - y^{16} + \cdots + 9y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.815350 + 0.025667I$ $a = -1.00000$ $b = 0.432123 + 0.459880I$	$2.66696 - 4.00977I$	$10.5482 + 10.6174I$
$u = 0.815350 - 0.025667I$ $a = -1.00000$ $b = 0.432123 - 0.459880I$	$2.66696 + 4.00977I$	$10.5482 - 10.6174I$
$u = -0.810925$ $a = -1.00000$ $b = 0.399877$	-1.28018	9.76010
$u = -0.762904 + 0.132866I$ $a = -1.00000$ $b = -0.68250 - 1.44184I$	$6.13610 - 0.18293I$	$11.77568 - 0.45975I$
$u = -0.762904 - 0.132866I$ $a = -1.00000$ $b = -0.68250 + 1.44184I$	$6.13610 + 0.18293I$	$11.77568 + 0.45975I$
$u = 0.448064 + 1.151790I$ $a = -1.00000$ $b = -0.136738 + 0.627250I$	$13.8413 + 8.5902I$	$8.37133 - 5.57169I$
$u = 0.448064 - 1.151790I$ $a = -1.00000$ $b = -0.136738 - 0.627250I$	$13.8413 - 8.5902I$	$8.37133 + 5.57169I$
$u = 0.698818 + 0.100416I$ $a = -1.00000$ $b = -1.13778 + 1.04571I$	$2.48509 - 0.51154I$	$13.52668 - 1.22374I$
$u = 0.698818 - 0.100416I$ $a = -1.00000$ $b = -1.13778 - 1.04571I$	$2.48509 + 0.51154I$	$13.52668 + 1.22374I$
$u = -0.630549 + 0.102934I$ $a = -1.00000$ $b = -1.76137 - 1.10971I$	$8.14897 + 1.24811I$	$15.2631 + 4.1484I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.630549 - 0.102934I$ $a = -1.00000$ $b = -1.76137 + 1.10971I$	$8.14897 - 1.24811I$	$15.2631 - 4.1484I$
$u = 1.163290 + 0.724126I$ $a = -1.00000$ $b = -1.17544 + 1.06539I$	$4.81289 + 8.43599I$	$7.48683 - 6.84073I$
$u = 1.163290 - 0.724126I$ $a = -1.00000$ $b = -1.17544 - 1.06539I$	$4.81289 - 8.43599I$	$7.48683 + 6.84073I$
$u = -1.09074 + 0.97038I$ $a = -1.00000$ $b = -0.905613 - 0.885471I$	$3.26959 - 7.23683I$	$6.29628 + 7.79702I$
$u = -1.09074 - 0.97038I$ $a = -1.00000$ $b = -0.905613 + 0.885471I$	$3.26959 + 7.23683I$	$6.29628 - 7.79702I$
$u = -0.23586 + 1.55862I$ $a = -1.00000$ $b = -0.332619 - 0.180741I$	$5.33734 - 3.68274I$	$9.85182 + 3.87924I$
$u = -0.23586 - 1.55862I$ $a = -1.00000$ $b = -0.332619 + 0.180741I$	$5.33734 + 3.68274I$	$9.85182 - 3.87924I$

IV. $I_4^u = \langle 3b + u - 2,\ a - u - 1,\ u^2 - u + 1 \rangle$

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u+1 \\ -\frac{1}{3}u + \frac{2}{3} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{4}{3}u + \frac{1}{3} \\ -\frac{1}{3}u + \frac{2}{3} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -u + \frac{8}{3} \\ 0.333333 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} \frac{4}{3}u - \frac{2}{3} \\ \frac{2}{3}u - \frac{1}{3} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -3u+3 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{3}u + \frac{4}{3} \\ \frac{1}{3}u - \frac{1}{3} \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} \frac{4}{3}u + \frac{1}{3} \\ -\frac{1}{3}u + \frac{2}{3} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{1}{3}u + \frac{5}{3} \\ -\frac{1}{3}u + \frac{1}{3} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{116}{9}u + \frac{53}{9}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7, c_{12}	$u^2 - u + 1$
c_2	$u^2 + 3$
c_3	$3(3u^2 - 3u + 7)$
c_4	$u^2 + u + 1$
c_5	$3(3u^2 - 3u + 1)$
c_6	u^2
c_8	$(u + 1)^2$
c_9, c_{10}	$3(3u^2 + 3u + 1)$
c_{11}	$(u - 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_7 c_{12}	$y^2 + y + 1$
c_2	$(y+3)^2$
c_3	$9(9y^2 + 33y + 49)$
c_5, c_9, c_{10}	$9(9y^2 - 3y + 1)$
c_6	y^2
c_8, c_{11}	$(y-1)^2$

(vi) Complex Volumes and Cusp Shapes

	Solutions to I^u_4	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.500000+0.866025I$		
$a=$	$1.50000+0.86603I$	$1.64493+2.02988I$	$-0.55556-11.16211I$
$b=$	$0.500000-0.288675I$		
$u=$	$0.500000-0.866025I$		
$a=$	$1.50000-0.86603I$	$1.64493-2.02988I$	$-0.55556+11.16211I$
$b=$	$0.500000+0.288675I$		

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

(i) Arc colorings

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

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ 3 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} \frac{1}{6}u + \frac{1}{2} \\ \frac{1}{6}u + \frac{1}{2} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ \frac{1}{6}u + \frac{1}{2} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} \frac{1}{6}u + \frac{1}{2} \\ \frac{2}{3}u + 2 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{6}u + \frac{1}{2} \\ \frac{5}{6}u + \frac{1}{2} \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{6}u + \frac{1}{2} \\ \frac{1}{3}u + 2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -\frac{1}{3}u + \frac{1}{3} \\ -\frac{5}{6}u + \frac{11}{6} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{1}{6}u + \frac{5}{6} \\ -\frac{2}{3}u + \frac{7}{3} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{1}{6}u - \frac{1}{2} \\ -\frac{1}{6}u - \frac{1}{2} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{58}{9}u - \frac{5}{9}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_{12}	$u^2 - u + 1$
c_3	u^2
c_4	$u^2 + u + 1$
c_5	$(u+1)^2$
c_6	$3(3u^2 - 3u + 7)$
c_7	$u^2 + 3$
c_8	$3(3u^2 - 3u + 1)$
c_9	$(u-1)^2$
c_{10}, c_{11}	$3(3u^2 + 3u + 1)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4 c_{12}	$y^2 + y + 1$
c_3	y^2
c_5, c_9	$(y-1)^2$
c_6	$9(9y^2 + 33y + 49)$
c_7	$(y+3)^2$
c_8, c_{10}, c_{11}	$9(9y^2 - 3y + 1)$

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_5^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$1.73205I$		
$a =$	$0.500000 + 0.288675I$	$1.64493 - 2.02988I$	$-0.55556 + 11.16211I$
$b =$	$0.500000 + 0.288675I$		
$u =$	$-1.73205I$		
$a =$	$0.500000 - 0.288675I$	$1.64493 + 2.02988I$	$-0.55556 - 11.16211I$
$b =$	$0.500000 - 0.288675I$		

VI. $I_6^u = \langle b+1,\ a+1,\ u^2-u+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -4u+5$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 0.500000 + 0.866025I$ $a = -1.00000$ $b = -1.00000$	$1.64493 + 2.02988I$	$3.00000 - 3.46410I$
$u = \quad 0.500000 - 0.866025I$ $a = -1.00000$ $b = -1.00000$	$1.64493 - 2.02988I$	$3.00000 + 3.46410I$

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$((u^2-u+1)^3)(u^{17}-4u^{16}+\cdots+8u-1)(u^{36}+7u^{35}+\cdots-u+1)^2$ $\cdot(u^{38}-10u^{37}+\cdots+208u-16)$
c_2, c_7	$(u^2+3)(u^2-u+1)^2(u^{17}-u^{14}+\cdots+u+1)(u^{38}+u^{37}+\cdots+19u^2-1)$ $\cdot(u^{72}+u^{70}+\cdots+600u+192)$
c_3, c_6	$9u^4(3u^2-3u+7)(u^{17}-u^{16}+\cdots-9u+7)(u^{38}+u^{37}+\cdots-8u-4)$ $\cdot(3u^{72}+28u^{70}+\cdots+696u-144)$
c_4	$((u^2+u+1)^3)(u^{17}+4u^{16}+\cdots+8u+1)(u^{36}+7u^{35}+\cdots-u+1)^2$ $\cdot(u^{38}-10u^{37}+\cdots+208u-16)$
c_5, c_8	$9(u+1)^4(3u^2-3u+1)(u^{17}-2u^{16}+\cdots+4u+1)$ $\cdot(u^{38}-22u^{36}+\cdots+12u+1)(3u^{72}-6u^{71}+\cdots-5096u+464)$
c_9, c_{11}	$9(u-1)^4(3u^2+3u+1)(u^{17}+2u^{16}+\cdots+4u-1)$ $\cdot(u^{38}-22u^{36}+\cdots+12u+1)(3u^{72}-6u^{71}+\cdots-5096u+464)$
c_{10}	$81(u-1)^2(3u^2+3u+1)^2(u^{17}-11u^{16}+\cdots-5u+1)$ $\cdot((3u^{36}-33u^{35}+\cdots+u-1)^2)(u^{38}+18u^{37}+\cdots-62u-4)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$((y^2+y+1)^3)(y^{17}+18y^{16}+\cdots-12y-1)$ $\cdot\,((y^{36}+39y^{35}+\cdots+15y+1)^2)(y^{38}+38y^{37}+\cdots+2016y+256)$
c_2, c_7	$((y+3)^2)(y^2+y+1)^2(y^{17}+11y^{14}+\cdots+15y-1)$ $\cdot\,(y^{38}-19y^{37}+\cdots-38y+1)(y^{72}+2y^{71}+\cdots-1232832y+36864)$
c_3, c_6	$81y^4(9y^2+33y+49)(y^{17}+7y^{16}+\cdots-297y-49)$ $\cdot\,(y^{38}+7y^{37}+\cdots+264y+16)$ $\cdot\,(9y^{72}+168y^{71}+\cdots+411840y+20736)$
c_5, c_8, c_9 c_{11}	$81(y-1)^4(9y^2-3y+1)(y^{17}-14y^{16}+\cdots+16y-1)$ $\cdot\,(y^{38}-44y^{37}+\cdots-50y+1)$ $\cdot\,(9y^{72}-534y^{71}+\cdots-11086880y+215296)$
c_{10}	$6561(y-1)^2(9y^2-3y+1)^2(y^{17}-y^{16}+\cdots+9y-1)$ $\cdot\,((9y^{36}-21y^{35}+\cdots-29y+1)^2)(y^{38}-4y^{37}+\cdots-716y+16)$