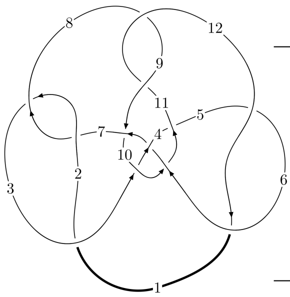
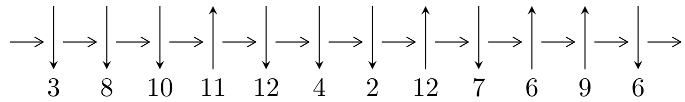
$12n_{0651}$ ($K12n_{0651}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -5.87738 \times 10^{79} u^{37} - 4.81123 \times 10^{79} u^{36} + \cdots + 1.09631 \times 10^{80} b + 6.40170 \times 10^{79},$$
$$- 5.87738 \times 10^{79} u^{37} - 4.81123 \times 10^{79} u^{36} + \cdots + 1.09631 \times 10^{80} a - 4.56137 \times 10^{79},\ u^{38} + u^{37} + \cdots - 2u +$$
$$I_2^u = \langle -1.04653 \times 10^{27} u^{29} + 6.40175 \times 10^{26} u^{28} + \cdots + 7.20755 \times 10^{25} b - 2.20858 \times 10^{27},$$
$$- 1.04653 \times 10^{27} u^{29} + 6.40175 \times 10^{26} u^{28} + \cdots + 7.20755 \times 10^{25} a - 2.13651 \times 10^{27},\ u^{30} + u^{28} + \cdots + 2u +$$
$$I_3^u = \langle -8.10037 \times 10^{37} u^{23} - 8.29349 \times 10^{37} u^{22} + \cdots + 3.72935 \times 10^{40} b + 3.34631 \times 10^{39},$$
$$- 4.67951 \times 10^{43} u^{23} - 5.81164 \times 10^{43} u^{22} + \cdots + 3.64130 \times 10^{45} a + 6.70319 \times 10^{45},$$
$$u^{24} + u^{23} + \cdots - 72u + 389 \rangle$$
$$I_4^u = \langle -7.05840 \times 10^{36} u^{23} + 1.01927 \times 10^{37} u^{22} + \cdots + 1.33403 \times 10^{40} b - 9.50718 \times 10^{39},$$
$$- 4.57492 \times 10^{42} u^{23} + 4.23759 \times 10^{42} u^{22} + \cdots + 2.64466 \times 10^{45} a - 1.17455 \times 10^{45},$$
$$u^{24} + 12u^{22} + \cdots + 1224u + 631 \rangle$$
$$I_5^u = \langle b,\ a - 1,\ u^3 - u^2 + 2u - 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 119 representations.

[1] The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2] All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I.
$\boldsymbol{I_1^u = \langle -5.88\times10^{79}u^{37} - 4.81\times10^{79}u^{36} + \cdots + 1.10\times10^{80}b + 6.40\times10^{79},\ -5.88\times10^{79}u^{37} - 4.81\times10^{79}u^{36} + \cdots + 1.10\times10^{80}a - 4.56\times10^{79},\ u^{38} + u^{37} + \cdots - 2u + 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.536107u^{37} + 0.438858u^{36} + \cdots + 5.20206u + 0.416067 \\ 0.536107u^{37} + 0.438858u^{36} + \cdots + 5.20206u - 0.583933 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0.536107u^{37} + 0.438858u^{36} + \cdots + 5.20206u - 0.583933 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0.551933u^{37} + 0.184165u^{36} + \cdots + 5.75746u - 1.74427 \\ 0.0158259u^{37} - 0.254694u^{36} + \cdots + 0.555407u - 2.16033 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.880326u^{37} + 1.05073u^{36} + \cdots + 6.21709u - 0.512405 \\ 0.415309u^{37} + 0.344712u^{36} + \cdots + 6.06497u - 1.60045 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.370131u^{37} + 0.566178u^{36} + \cdots + 2.00968u + 1.02387 \\ 0.484697u^{37} + 0.579181u^{36} + \cdots + 5.16811u - 0.0626616 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.551933u^{37} + 0.184165u^{36} + \cdots + 5.75746u - 1.74427 \\ -0.138322u^{37} - 0.383483u^{36} + \cdots - 0.732063u - 1.79256 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.603900u^{37} - 0.605524u^{36} + \cdots - 4.99750u + 1.42841 \\ -0.121286u^{37} + 0.101025u^{36} + \cdots - 2.38717u + 2.45390 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.624236u^{37} - 0.742981u^{36} + \cdots - 4.51871u - 0.410519 \\ -0.794152u^{37} - 0.640181u^{36} + \cdots - 8.11717u + 1.88051 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.67858u^{37} - 0.851719u^{36} + \cdots - 22.0981u + 8.20713$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{38} + 20u^{37} + \cdots + 65536u + 65536$
c_2, c_7	$u^{38} - 16u^{37} + \cdots - 2560u + 256$
c_3, c_9	$u^{38} - 2u^{37} + \cdots - 8u + 1$
c_4	$u^{38} - 22u^{36} + \cdots - 1528u + 1456$
c_5, c_{12}	$u^{38} - u^{37} + \cdots + 2u + 1$
c_6	$u^{38} - 19u^{37} + \cdots - 3108u + 245$
c_8, c_{11}	$u^{38} + 12u^{37} + \cdots + 1309u + 245$
c_{10}	$u^{38} - u^{37} + \cdots - 189u + 61$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{38} - 4y^{37} + \cdots - 15032385536y + 4294967296$
c_2, c_7	$y^{38} - 20y^{37} + \cdots - 65536y + 65536$
c_3, c_9	$y^{38} + 20y^{37} + \cdots + 38y + 1$
c_4	$y^{38} - 44y^{37} + \cdots - 18656544y + 2119936$
c_5, c_{12}	$y^{38} + 51y^{37} + \cdots + 14y + 1$
c_6	$y^{38} - 9y^{37} + \cdots + 500486y + 60025$
c_8, c_{11}	$y^{38} + 12y^{37} + \cdots + 698299y + 60025$
c_{10}	$y^{38} - 27y^{37} + \cdots - 45603y + 3721$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.769678 + 0.293616I$ $a = 0.990107 + 0.482059I$ $b = -0.009893 + 0.482059I$	$-1.363000 - 0.273225I$	$-9.42966 + 1.77588I$
$u = 0.769678 - 0.293616I$ $a = 0.990107 - 0.482059I$ $b = -0.009893 - 0.482059I$	$-1.363000 + 0.273225I$	$-9.42966 - 1.77588I$
$u = 0.145322 + 0.514446I$ $a = 0.88401 + 1.27389I$ $b = -0.115995 + 1.273890I$	$-5.36598 - 0.46970I$	$-5.55031 + 3.34064I$
$u = 0.145322 - 0.514446I$ $a = 0.88401 - 1.27389I$ $b = -0.115995 - 1.273890I$	$-5.36598 + 0.46970I$	$-5.55031 - 3.34064I$
$u = -0.471950 + 0.049779I$ $a = 1.55201 - 0.71853I$ $b = 0.552008 - 0.718532I$	$0.91968 - 1.81363I$	$-0.50505 + 3.48218I$
$u = -0.471950 - 0.049779I$ $a = 1.55201 + 0.71853I$ $b = 0.552008 + 0.718532I$	$0.91968 + 1.81363I$	$-0.50505 - 3.48218I$
$u = 0.451414 + 0.116571I$ $a = 1.47086 - 1.11033I$ $b = 0.470864 - 1.110330I$	$-1.87643 - 5.76844I$	$-7.26109 + 7.17876I$
$u = 0.451414 - 0.116571I$ $a = 1.47086 + 1.11033I$ $b = 0.470864 + 1.110330I$	$-1.87643 + 5.76844I$	$-7.26109 - 7.17876I$
$u = -1.52338 + 0.33853I$ $a = 0.660164 - 0.721621I$ $b = -0.339836 - 0.721621I$	$-9.11191 + 1.39764I$	0
$u = -1.52338 - 0.33853I$ $a = 0.660164 + 0.721621I$ $b = -0.339836 + 0.721621I$	$-9.11191 - 1.39764I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.41128 + 1.51296I$ $a = 0.046743 + 0.690253I$ $b = -0.953257 + 0.690253I$	$1.47310 + 1.34582I$	0
$u = 0.41128 - 1.51296I$ $a = 0.046743 - 0.690253I$ $b = -0.953257 - 0.690253I$	$1.47310 - 1.34582I$	0
$u = -0.016686 + 0.398344I$ $a = 1.31541 - 1.24871I$ $b = 0.315412 - 1.248710I$	$-1.19389 - 3.34823I$	$1.04129 + 3.46922I$
$u = -0.016686 - 0.398344I$ $a = 1.31541 + 1.24871I$ $b = 0.315412 + 1.248710I$	$-1.19389 + 3.34823I$	$1.04129 - 3.46922I$
$u = -0.310405 + 0.170863I$ $a = 1.95426 - 0.20841I$ $b = 0.954255 - 0.208414I$	$2.29409 - 1.35414I$	$2.68942 + 3.98636I$
$u = -0.310405 - 0.170863I$ $a = 1.95426 + 0.20841I$ $b = 0.954255 + 0.208414I$	$2.29409 + 1.35414I$	$2.68942 - 3.98636I$
$u = -0.19463 + 1.64159I$ $a = 0.195587 - 1.105580I$ $b = -0.804413 - 1.105580I$	$0.19003 + 7.83950I$	0
$u = -0.19463 - 1.64159I$ $a = 0.195587 + 1.105580I$ $b = -0.804413 + 1.105580I$	$0.19003 - 7.83950I$	0
$u = 0.230980 + 0.257221I$ $a = 1.92353 - 0.29790I$ $b = 0.923530 - 0.297905I$	$1.90925 - 2.85593I$	$-1.44584 + 3.55066I$
$u = 0.230980 - 0.257221I$ $a = 1.92353 + 0.29790I$ $b = 0.923530 + 0.297905I$	$1.90925 + 2.85593I$	$-1.44584 - 3.55066I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.063281 + 0.328463I$ $a = 1.38439 + 1.55227I$ $b = 0.38439 + 1.55227I$	$-4.17774 + 8.19316I$	$2.57658 - 7.35106I$
$u = 0.063281 - 0.328463I$ $a = 1.38439 - 1.55227I$ $b = 0.38439 - 1.55227I$	$-4.17774 - 8.19316I$	$2.57658 + 7.35106I$
$u = -0.29571 + 1.65878I$ $a = -0.115023 + 0.852244I$ $b = -1.115020 + 0.852244I$	$7.44352 + 10.43800I$	0
$u = -0.29571 - 1.65878I$ $a = -0.115023 - 0.852244I$ $b = -1.115020 - 0.852244I$	$7.44352 - 10.43800I$	0
$u = 0.33699 + 1.67811I$ $a = 0.190397 - 0.903287I$ $b = -0.809603 - 0.903287I$	$6.17744 - 3.28622I$	0
$u = 0.33699 - 1.67811I$ $a = 0.190397 + 0.903287I$ $b = -0.809603 + 0.903287I$	$6.17744 + 3.28622I$	0
$u = 0.08401 + 1.79386I$ $a = -0.064653 - 0.833573I$ $b = -1.064650 - 0.833573I$	$9.31632 - 4.00848I$	0
$u = 0.08401 - 1.79386I$ $a = -0.064653 + 0.833573I$ $b = -1.064650 + 0.833573I$	$9.31632 + 4.00848I$	0
$u = -0.14610 + 1.84614I$ $a = 0.181975 + 0.975853I$ $b = -0.818025 + 0.975853I$	$8.09306 - 3.65630I$	0
$u = -0.14610 - 1.84614I$ $a = 0.181975 - 0.975853I$ $b = -0.818025 - 0.975853I$	$8.09306 + 3.65630I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.83573 + 1.82057I$ $a = 0.065993 - 1.107020I$ $b = -0.93401 - 1.10702I$	$6.5788 + 17.8341I$	0
$u = -0.83573 - 1.82057I$ $a = 0.065993 + 1.107020I$ $b = -0.93401 + 1.10702I$	$6.5788 - 17.8341I$	0
$u = -0.69403 + 1.88222I$ $a = 0.117388 - 0.861621I$ $b = -0.882612 - 0.861621I$	$8.47233 + 2.68142I$	0
$u = -0.69403 - 1.88222I$ $a = 0.117388 + 0.861621I$ $b = -0.882612 + 0.861621I$	$8.47233 - 2.68142I$	0
$u = 0.61560 + 1.91074I$ $a = 0.092836 + 1.092150I$ $b = -0.90716 + 1.09215I$	$8.46080 - 11.17390I$	0
$u = 0.61560 - 1.91074I$ $a = 0.092836 - 1.092150I$ $b = -0.90716 - 1.09215I$	$8.46080 + 11.17390I$	0
$u = 0.88007 + 1.80431I$ $a = 0.154018 + 0.915742I$ $b = -0.845982 + 0.915742I$	$6.17371 - 9.49223I$	0
$u = 0.88007 - 1.80431I$ $a = 0.154018 - 0.915742I$ $b = -0.845982 - 0.915742I$	$6.17371 + 9.49223I$	0

II.

$$\boldsymbol{I_2^u = \langle -1.05\times10^{27}u^{29}+6.40\times10^{26}u^{28}+\cdots+7.21\times10^{25}b-2.21\times10^{27},\ -1.05\times10^{27}u^{29}+6.40\times10^{26}u^{28}+\cdots+7.21\times10^{25}a-2.14\times10^{27},\ u^{30}+u^{28}+\cdots+2u+1\rangle}$$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 14.5199u^{29} - 8.88201u^{28} + \cdots + 8.39444u + 29.6427 \\ 14.5199u^{29} - 8.88201u^{28} + \cdots + 8.39444u + 30.6427 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1 \\ 14.5199u^{29} - 8.88201u^{28} + \cdots + 8.39444u + 30.6427 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -4.06825u^{29} + 4.09990u^{28} + \cdots - 9.54483u - 14.8631 \\ 10.4516u^{29} - 4.78211u^{28} + \cdots - 1.15039u + 14.7796 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 7.78523u^{29} - 6.01099u^{28} + \cdots + 15.7391u + 19.5443 \\ 20.7671u^{29} - 10.4401u^{28} + \cdots + 7.40959u + 38.1324 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -11.5035u^{29} + 9.71998u^{28} + \cdots - 22.2318u - 32.1347 \\ -17.0902u^{29} + 9.54834u^{28} + \cdots - 10.8920u - 36.3401 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -4.06825u^{29} + 4.09990u^{28} + \cdots - 9.54483u - 14.8631 \\ 9.84035u^{29} - 3.57850u^{28} + \cdots - 5.28194u + 10.6797 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.746741u^{29} - 2.39409u^{28} + \cdots + 16.9625u + 9.48042 \\ -13.0525u^{29} + 6.82801u^{28} + \cdots + 0.265643u - 20.2601 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -5.91549u^{29} - 0.395824u^{28} + \cdots + 17.1709u + 0.984383 \\ -29.7670u^{29} + 14.4764u^{28} + \cdots + 2.95769u - 47.2696 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{5442943404112663257393818411}{720754792220651555423836 21}u^{29} + \frac{2290494485521047290127820068}{72075479222065155542383621}u^{28} + \cdots + \frac{2199058764523746184678942173}{72075479222065155542383621}u - \frac{903579226552601480659425567 2}{72075479222065155542383621}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{30} - 20u^{29} + \cdots - 157u + 9$
c_2	$u^{30} - 10u^{28} + \cdots - u + 3$
c_3, c_9	$u^{30} + u^{29} + \cdots - 4u + 1$
c_4	$u^{30} - u^{29} + \cdots + 32u + 52$
c_5	$u^{30} + u^{28} + \cdots - 2u + 1$
c_6	$u^{30} + 18u^{29} + \cdots - u^2 + 1$
c_7	$u^{30} - 10u^{28} + \cdots + u + 3$
c_8	$u^{30} + 11u^{29} + \cdots + 5u + 1$
c_{10}	$u^{30} - 4u^{28} + \cdots + 5u + 3$
c_{11}	$u^{30} - 11u^{29} + \cdots - 5u + 1$
c_{12}	$u^{30} + u^{28} + \cdots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{30} - 4y^{29} + \cdots - 817y + 81$
c_2, c_7	$y^{30} - 20y^{29} + \cdots - 157y + 9$
c_3, c_9	$y^{30} - 9y^{29} + \cdots + 10y + 1$
c_4	$y^{30} - 9y^{29} + \cdots + 952y + 2704$
c_5, c_{12}	$y^{30} + 2y^{29} + \cdots - 14y + 1$
c_6	$y^{30} - 10y^{29} + \cdots - 2y + 1$
c_8, c_{11}	$y^{30} + 11y^{29} + \cdots + 27y + 1$
c_{10}	$y^{30} - 8y^{29} + \cdots - 43y + 9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.192553 + 1.043410I$ $a = -0.186549 + 1.226810I$ $b = 0.81345 + 1.22681I$	$-0.33621 + 6.09015I$	$-3.88862 - 7.39365I$
$u = -0.192553 - 1.043410I$ $a = -0.186549 - 1.226810I$ $b = 0.81345 - 1.22681I$	$-0.33621 - 6.09015I$	$-3.88862 + 7.39365I$
$u = -0.275781 + 0.879549I$ $a = 0.223505 + 0.732747I$ $b = 1.22350 + 0.73275I$	$2.85792 + 3.57779I$	$4.92513 - 8.66685I$
$u = -0.275781 - 0.879549I$ $a = 0.223505 - 0.732747I$ $b = 1.22350 - 0.73275I$	$2.85792 - 3.57779I$	$4.92513 + 8.66685I$
$u = 0.499454 + 0.690994I$ $a = -1.210630 - 0.663508I$ $b = -0.210632 - 0.663508I$	$-3.77754 - 2.97804I$	$-4.88613 + 5.33573I$
$u = 0.499454 - 0.690994I$ $a = -1.210630 + 0.663508I$ $b = -0.210632 + 0.663508I$	$-3.77754 + 2.97804I$	$-4.88613 - 5.33573I$
$u = 0.617119 + 0.976797I$ $a = -0.011660 - 1.138620I$ $b = 0.98834 - 1.13862I$	$1.65191 - 4.24761I$	$3.36736 + 1.91762I$
$u = 0.617119 - 0.976797I$ $a = -0.011660 + 1.138620I$ $b = 0.98834 + 1.13862I$	$1.65191 + 4.24761I$	$3.36736 - 1.91762I$
$u = 0.755859 + 0.951225I$ $a = -0.088028 - 0.491277I$ $b = 0.911972 - 0.491277I$	$1.88263 - 0.42999I$	$0.216000 + 0.636863I$
$u = 0.755859 - 0.951225I$ $a = -0.088028 + 0.491277I$ $b = 0.911972 + 0.491277I$	$1.88263 + 0.42999I$	$0.216000 - 0.636863I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.605699 + 0.450661I$ $a = -1.57115 + 0.40450I$ $b = -0.571149 + 0.404502I$	$-2.94832 - 4.03310I$	$-3.08569 - 0.46145I$
$u = -0.605699 - 0.450661I$ $a = -1.57115 - 0.40450I$ $b = -0.571149 - 0.404502I$	$-2.94832 + 4.03310I$	$-3.08569 + 0.46145I$
$u = 0.738105 + 0.100363I$ $a = -0.685141 - 1.115870I$ $b = 0.314859 - 1.115870I$	$-2.11126 - 3.24044I$	$-8.53743 + 3.11023I$
$u = 0.738105 - 0.100363I$ $a = -0.685141 + 1.115870I$ $b = 0.314859 + 1.115870I$	$-2.11126 + 3.24044I$	$-8.53743 - 3.11023I$
$u = 1.335800 + 0.011955I$ $a = -0.802388 - 0.480325I$ $b = 0.197612 - 0.480325I$	$0.403793 + 0.548900I$	$-2.92133 - 2.10151I$
$u = 1.335800 - 0.011955I$ $a = -0.802388 + 0.480325I$ $b = 0.197612 + 0.480325I$	$0.403793 - 0.548900I$	$-2.92133 + 2.10151I$
$u = 0.642239 + 0.139313I$ $a = -1.51104 - 0.81141I$ $b = -0.511044 - 0.811406I$	$-4.13100 + 6.13004I$	$-10.9996 - 9.9739I$
$u = 0.642239 - 0.139313I$ $a = -1.51104 + 0.81141I$ $b = -0.511044 + 0.811406I$	$-4.13100 - 6.13004I$	$-10.9996 + 9.9739I$
$u = -1.372170 + 0.319453I$ $a = -1.011380 + 0.367883I$ $b = -0.011383 + 0.367883I$	$0.40035 - 6.49171I$	$-5.66132 + 6.20888I$
$u = -1.372170 - 0.319453I$ $a = -1.011380 - 0.367883I$ $b = -0.011383 - 0.367883I$	$0.40035 + 6.49171I$	$-5.66132 - 6.20888I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.538379+0.006202I$ $a=-0.66784+1.45649I$ $b=\ \ 0.33216+1.45649I$	$-4.63983+8.15895I$	$-14.9285-6.3499I$
$u=-0.538379-0.006202I$ $a=-0.66784-1.45649I$ $b=\ \ 0.33216-1.45649I$	$-4.63983-8.15895I$	$-14.9285+6.3499I$
$u=-0.410661+0.302060I$ $a=-1.29493+1.22348I$ $b=-0.294926+1.223480I$	$-5.87855+0.33581I$	$-10.20797-1.77628I$
$u=-0.410661-0.302060I$ $a=-1.29493-1.22348I$ $b=-0.294926-1.223480I$	$-5.87855-0.33581I$	$-10.20797+1.77628I$
$u=-1.51392+0.29861I$ $a=-0.650786+0.746403I$ $b=\ \ 0.349214+0.746403I$	$-9.10945+1.47002I$	$-4.0000-56.0927I$
$u=-1.51392-0.29861I$ $a=-0.650786-0.746403I$ $b=\ \ 0.349214-0.746403I$	$-9.10945-1.47002I$	$-4.0000+56.0927I$
$u=-0.14376+1.63552I$ $a=\ \ 0.001371+0.952810I$ $b=\ \ 1.001370+0.952810I$	$5.51706+0.72621I$	0
$u=-0.14376-1.63552I$ $a=\ \ 0.001371-0.952810I$ $b=\ \ 1.001370-0.952810I$	$5.51706-0.72621I$	0
$u=\ \ 0.46435+1.70410I$ $a=-0.033350-0.978342I$ $b=\ \ 0.966650-0.978342I$	$5.41410-6.42832I$	0
$u=\ \ 0.46435-1.70410I$ $a=-0.033350+0.978342I$ $b=\ \ 0.966650+0.978342I$	$5.41410+6.42832I$	0

III. $I_3^u = \langle -8.10 \times 10^{37}u^{23} - 8.29 \times 10^{37}u^{22} + \cdots + 3.73 \times 10^{40}b + 3.35 \times 10^{39},\ -4.68 \times 10^{43}u^{23} - 5.81 \times 10^{43}u^{22} + \cdots + 3.64 \times 10^{45}a + 6.70 \times 10^{45},\ u^{24} + u^{23} + \cdots - 72u + 389\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.0128512u^{23} + 0.0159603u^{22} + \cdots - 14.5752u - 1.84088 \\ 0.00217206u^{23} + 0.00222384u^{22} + \cdots - 2.33706u - 0.0897290 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.0106791u^{23} + 0.0137365u^{22} + \cdots - 12.2382u - 1.75115 \\ 0.00217206u^{23} + 0.00222384u^{22} + \cdots - 2.33706u - 0.0897290 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -0.00298677u^{23} - 0.00907284u^{22} + \cdots - 0.491641u + 4.86694 \\ -0.00167288u^{23} - 0.00194185u^{22} + \cdots + 2.00850u - 0.281410 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} -0.00374148u^{23} + 0.000694410u^{22} + \cdots + 9.49017u - 4.64825 \\ 0.0000211845u^{23} + 0.000246509u^{22} + \cdots + 0.539375u + 0.850723 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.00166354u^{23} - 0.00661729u^{22} + \cdots - 7.23299u + 9.14342 \\ -0.00359698u^{23} - 0.00568733u^{22} + \cdots + 2.35046u + 0.996357 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.00298677u^{23} - 0.00907284u^{22} + \cdots - 0.491641u + 4.86694 \\ -0.00346718u^{23} - 0.00578265u^{22} + \cdots + 2.73215u + 2.08607 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.00195405u^{23} + 0.00977649u^{22} + \cdots + 3.63919u - 6.91853 \\ 0.00531328u^{23} + 0.00782872u^{22} + \cdots - 3.79070u - 0.818042 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 0.0102467u^{23} + 0.0128559u^{22} + \cdots - 10.6412u + 1.34843 \\ 0.00311597u^{23} + 0.00391760u^{22} + \cdots - 2.20109u + 0.0846023 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0560152u^{23} + 0.0569676u^{22} + \cdots - 65.8499u - 1.78467$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^3+u^2+2u+1)^8$
c_2, c_7	$(u^3+u^2-1)^8$
c_3, c_9	$u^{24}+u^{23}+\cdots+264u+59$
c_4	$u^{24}-2u^{23}+\cdots+17490u+21275$
c_5, c_{12}	$u^{24}-u^{23}+\cdots+72u+389$
c_6	$(u^4+u^3+u^2-u+1)^6$
c_8, c_{11}	$(u^4-u^3+u^2+u+1)^6$
c_{10}	$u^{24}+2u^{23}+\cdots+1360u+2423$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^3 + 3y^2 + 2y - 1)^8$
c_2, c_7	$(y^3 - y^2 + 2y - 1)^8$
c_3, c_9	$y^{24} - 9y^{23} + \cdots - 26862y + 3481$
c_4	$y^{24} - 36y^{23} + \cdots - 770163150y + 452625625$
c_5, c_{12}	$y^{24} + 3y^{23} + \cdots - 1491942y + 151321$
c_6, c_8, c_{11}	$(y^4 + y^3 + 5y^2 + y + 1)^6$
c_{10}	$y^{24} - 12y^{23} + \cdots - 19290354y + 5870929$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.600947+0.848047I$ $a=-0.242385+1.316620I$ $b=\;\;0.93338+1.13249I$	$1.12763+4.68603I$	$-7.72892-10.27938I$
$u=-0.600947-0.848047I$ $a=-0.242385-1.316620I$ $b=\;\;0.93338-1.13249I$	$1.12763-4.68603I$	$-7.72892+10.27938I$
$u=\;\;0.742465+0.295225I$ $a=\;\;2.13643+0.44294I$ $b=-0.433380+0.525827I$	$0.78305-1.85791I$	$-3.78084+7.29993I$
$u=\;\;0.742465-0.295225I$ $a=\;\;2.13643-0.44294I$ $b=-0.433380-0.525827I$	$0.78305+1.85791I$	$-3.78084-7.29993I$
$u=\;\;0.550416+1.107760I$ $a=\;\;0.103231-1.002480I$ $b=\;\;0.93338-1.13249I$	$1.12763-4.68603I$	$-7.72892+10.27938I$
$u=\;\;0.550416-1.107760I$ $a=\;\;0.103231+1.002480I$ $b=\;\;0.93338+1.13249I$	$1.12763+4.68603I$	$-7.72892-10.27938I$
$u=\;\;0.654636+0.170247I$ $a=-1.32048+2.33671I$ $b=-0.433380+0.525827I$	$-3.35454-4.68603I$	$-10.3101+10.2794I$
$u=\;\;0.654636-0.170247I$ $a=-1.32048-2.33671I$ $b=-0.433380-0.525827I$	$-3.35454+4.68603I$	$-10.3101-10.2794I$
$u=-0.889025+1.034440I$ $a=-0.651543+0.080481I$ $b=-0.433380+0.525827I$	$-3.35454-4.68603I$	$-10.3101+10.2794I$
$u=-0.889025-1.034440I$ $a=-0.651543-0.080481I$ $b=-0.433380-0.525827I$	$-3.35454+4.68603I$	$-10.3101-10.2794I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.525945 + 0.044493I$ $a = 3.93720 + 1.13790I$ $b = -0.433380 + 0.525827I$	$0.78305 - 7.51416I$	$-3.78084 + 13.25883I$
$u = -0.525945 - 0.044493I$ $a = 3.93720 - 1.13790I$ $b = -0.433380 - 0.525827I$	$0.78305 + 7.51416I$	$-3.78084 - 13.25883I$
$u = 0.09099 + 1.49396I$ $a = -0.185870 + 0.739217I$ $b = 0.93338 + 1.13249I$	$5.26521 + 1.85791I$	$-1.19965 - 7.29993I$
$u = 0.09099 - 1.49396I$ $a = -0.185870 - 0.739217I$ $b = 0.93338 - 1.13249I$	$5.26521 - 1.85791I$	$-1.19965 + 7.29993I$
$u = 0.20404 + 1.65325I$ $a = -0.122484 - 0.767493I$ $b = 0.93338 - 1.13249I$	$5.26521 - 7.51416I$	$-1.19965 + 13.25883I$
$u = 0.20404 - 1.65325I$ $a = -0.122484 + 0.767493I$ $b = 0.93338 + 1.13249I$	$5.26521 + 7.51416I$	$-1.19965 - 13.25883I$
$u = 0.48569 + 1.70790I$ $a = 0.13811 - 1.41192I$ $b = 0.93338 - 1.13249I$	$5.26521 - 1.85791I$	$-1.19965 + 7.29993I$
$u = 0.48569 - 1.70790I$ $a = 0.13811 + 1.41192I$ $b = 0.93338 + 1.13249I$	$5.26521 + 1.85791I$	$-1.19965 - 7.29993I$
$u = -0.81886 + 1.67114I$ $a = 0.08738 + 1.42493I$ $b = 0.93338 + 1.13249I$	$5.26521 + 7.51416I$	$-1.19965 - 13.25883I$
$u = -0.81886 - 1.67114I$ $a = 0.08738 - 1.42493I$ $b = 0.93338 - 1.13249I$	$5.26521 - 7.51416I$	$-1.19965 + 13.25883I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.93247 + 0.69713I$ $a = -0.044651 + 0.538366I$ $b = -0.433380 + 0.525827I$	$0.78305 - 1.85791I$	$-3.78084 + 7.29993I$
$u = 1.93247 - 0.69713I$ $a = -0.044651 - 0.538366I$ $b = -0.433380 - 0.525827I$	$0.78305 + 1.85791I$	$-3.78084 - 7.29993I$
$u = -2.32592 + 0.12746I$ $a = -0.208979 - 0.494401I$ $b = -0.433380 - 0.525827I$	$0.78305 + 7.51416I$	$-4.00000 - 13.25883I$
$u = -2.32592 - 0.12746I$ $a = -0.208979 + 0.494401I$ $b = -0.433380 + 0.525827I$	$0.78305 - 7.51416I$	$-4.00000 + 13.25883I$

IV. $\boldsymbol{I^u_4 = \langle -7.06 \times 10^{36}u^{23} + 1.02 \times 10^{37}u^{22} + \cdots + 1.33 \times 10^{40}b - 9.51 \times 10^{39},\ -4.57 \times 10^{42}u^{23} + 4.24 \times 10^{42}u^{22} + \cdots + 2.64 \times 10^{45}a - 1.17 \times 10^{45},\ u^{24} + 12u^{22} + \cdots + 1224u + 631\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00172987u^{23} - 0.00160232u^{22} + \cdots + 1.02017u + 0.444120 \\ 0.000529102u^{23} - 0.000764052u^{22} + \cdots - 0.0148259u + 0.712663 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00120077u^{23} - 0.000838266u^{22} + \cdots + 1.03499u - 0.268543 \\ 0.000529102u^{23} - 0.000764052u^{22} + \cdots - 0.0148259u + 0.712663 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.00206826u^{23} + 0.000834451u^{22} + \cdots - 1.24002u - 2.01979 \\ -0.000338403u^{23} - 0.000759834u^{22} + \cdots - 1.08992u - 0.895038 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.000455367u^{23} - 0.000529102u^{22} + \cdots + 0.871751u - 0.542543 \\ 0.000129944u^{23} - 0.00137802u^{22} + \cdots - 0.661740u - 0.202850 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.00209250u^{23} + 0.00139661u^{22} + \cdots - 2.38274u - 1.50095 \\ -0.00103460u^{23} + 0.00104292u^{22} + \cdots - 0.196129u - 1.35059 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00206826u^{23} + 0.000834451u^{22} + \cdots - 1.24002u - 2.01979 \\ -0.00103287u^{23} + 0.000438081u^{22} + \cdots - 0.806214u - 1.42158 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.00235883u^{23} - 0.00154095u^{22} + \cdots + 2.18979u + 1.97028 \\ 0.000806262u^{23} - 0.000712088u^{22} + \cdots + 0.204750u + 1.44167 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.00128858u^{23} - 0.00116685u^{22} + \cdots + 0.751812u + 1.91517 \\ 0.000810721u^{23} + 0.000179541u^{22} + \cdots + 0.331946u + 0.919998 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.00703358u^{23} + 0.00486786u^{22} + \cdots + 3.00965u - 13.0147$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^3 + u^2 + 2u + 1)^8$
c_2, c_7	$(u^3 + u^2 - 1)^8$
c_3, c_9	$u^{24} - 7u^{21} + \cdots - 30u + 19$
c_4	$u^{24} + u^{23} + \cdots + 70u + 7$
c_5, c_{12}	$u^{24} + 12u^{22} + \cdots - 1224u + 631$
c_6	$(u^4 + 2u^3 + 2u^2 + u + 1)^6$
c_8, c_{11}	$(u^4 - 2u^3 + 2u^2 - u + 1)^6$
c_{10}	$u^{24} - u^{23} + \cdots + 606u + 157$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^3+3y^2+2y-1)^8$
c_2, c_7	$(y^3-y^2+2y-1)^8$
c_3, c_9	$y^{24}+46y^{22}+\cdots+2862y+361$
c_4	$y^{24}+3y^{23}+\cdots+1722y+49$
c_5, c_{12}	$y^{24}+24y^{23}+\cdots-585750y+398161$
c_6, c_8, c_{11}	$(y^4+2y^2+3y+1)^6$
c_{10}	$y^{24}-9y^{23}+\cdots-34710y+24649$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.928233 + 0.439911I$ $a = 0.74033 - 2.04422I$ $b = -0.070696 - 0.758745I$	$-0.367792 + 0.232734I$	$-10.02977 - 2.06053I$
$u = 0.928233 - 0.439911I$ $a = 0.74033 + 2.04422I$ $b = -0.070696 + 0.758745I$	$-0.367792 - 0.232734I$	$-10.02977 + 2.06053I$
$u = 0.245486 + 0.911245I$ $a = -0.081489 - 0.442862I$ $b = 1.070700 - 0.758745I$	$2.27847 - 2.59539I$	$-1.47999 + 0.91892I$
$u = 0.245486 - 0.911245I$ $a = -0.081489 + 0.442862I$ $b = 1.070700 + 0.758745I$	$2.27847 + 2.59539I$	$-1.47999 - 0.91892I$
$u = -0.570691 + 0.972378I$ $a = 0.263455 + 0.980058I$ $b = 1.070700 + 0.758745I$	$2.27847 + 2.59539I$	$-1.47999 - 0.91892I$
$u = -0.570691 - 0.972378I$ $a = 0.263455 - 0.980058I$ $b = 1.070700 - 0.758745I$	$2.27847 - 2.59539I$	$-1.47999 + 0.91892I$
$u = -1.118820 + 0.403382I$ $a = 0.19970 + 2.19588I$ $b = -0.070696 + 0.758745I$	$-0.36779 + 5.42351I$	$-10.02977 - 3.89837I$
$u = -1.118820 - 0.403382I$ $a = 0.19970 - 2.19588I$ $b = -0.070696 - 0.758745I$	$-0.36779 - 5.42351I$	$-10.02977 + 3.89837I$
$u = -0.161538 + 1.325950I$ $a = -0.442722 + 1.019620I$ $b = 1.070700 + 0.758745I$	$6.41605 - 0.23273I$	$5.04928 + 2.06053I$
$u = -0.161538 - 1.325950I$ $a = -0.442722 - 1.019620I$ $b = 1.070700 - 0.758745I$	$6.41605 + 0.23273I$	$5.04928 - 2.06053I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.592456 + 0.139203I$ $a = -1.93886 + 2.11751I$ $b = -0.070696 + 0.758745I$	$-4.50538 + 2.59539I$	$-16.5590 - 0.9189I$
$u = -0.592456 - 0.139203I$ $a = -1.93886 - 2.11751I$ $b = -0.070696 - 0.758745I$	$-4.50538 - 2.59539I$	$-16.5590 + 0.9189I$
$u = 0.917662 + 1.065060I$ $a = -0.420784 - 0.504118I$ $b = -0.070696 - 0.758745I$	$-4.50538 - 2.59539I$	$-16.5590 + 0.9189I$
$u = 0.917662 - 1.065060I$ $a = -0.420784 + 0.504118I$ $b = -0.070696 + 0.758745I$	$-4.50538 + 2.59539I$	$-16.5590 - 0.9189I$
$u = 0.386661 + 1.354340I$ $a = -0.450944 - 0.920583I$ $b = 1.070700 - 0.758745I$	$6.41605 - 5.42351I$	$5.04928 + 3.89837I$
$u = 0.386661 - 1.354340I$ $a = -0.450944 + 0.920583I$ $b = 1.070700 + 0.758745I$	$6.41605 + 5.42351I$	$5.04928 - 3.89837I$
$u = 1.31832 + 0.83644I$ $a = 0.280368 + 0.202313I$ $b = -0.070696 + 0.758745I$	$-0.367792 - 0.232734I$	$-10.02977 + 2.06053I$
$u = 1.31832 - 0.83644I$ $a = 0.280368 - 0.202313I$ $b = -0.070696 - 0.758745I$	$-0.367792 + 0.232734I$	$-10.02977 - 2.06053I$
$u = -0.88224 + 1.49882I$ $a = 0.0557491 - 0.0867063I$ $b = -0.070696 - 0.758745I$	$-0.36779 - 5.42351I$	$-10.02977 + 3.89837I$
$u = -0.88224 - 1.49882I$ $a = 0.0557491 + 0.0867063I$ $b = -0.070696 + 0.758745I$	$-0.36779 + 5.42351I$	$-10.02977 - 3.89837I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.10144 + 2.04885I$ $a = 0.429007 - 0.648132I$ $b = 1.070700 - 0.758745I$	$6.41605 + 0.23273I$	$5.04928 - 2.06053I$
$u = -0.10144 - 2.04885I$ $a = 0.429007 + 0.648132I$ $b = 1.070700 + 0.758745I$	$6.41605 - 0.23273I$	$5.04928 + 2.06053I$
$u = -0.36918 + 2.12340I$ $a = 0.420861 + 0.689630I$ $b = 1.070700 + 0.758745I$	$6.41605 + 5.42351I$	$5.04928 - 3.89837I$
$u = -0.36918 - 2.12340I$ $a = 0.420861 - 0.689630I$ $b = 1.070700 - 0.758745I$	$6.41605 - 5.42351I$	$5.04928 + 3.89837I$

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

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -4u^2+4u-10$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I^u_5	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.215080 + 1.307140I$		
$a =$	1.00000	$3.02413 - 2.82812I$	$-2.49024 + 2.97945I$
$b =$	0		
$u =$	$0.215080 - 1.307140I$		
$a =$	1.00000	$3.02413 + 2.82812I$	$-2.49024 - 2.97945I$
$b =$	0		
$u =$	0.569840		
$a =$	1.00000	-1.11345	-9.01950
$b =$	0		

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^3+u^2+2u+1)^{17})(u^{30}-20u^{29}+\cdots-157u+9)$ $\cdot(u^{38}+20u^{37}+\cdots+65536u+65536)$
c_2	$(u^3-u^2+1)(u^3+u^2-1)^{16}(u^{30}-10u^{28}+\cdots-u+3)$ $\cdot(u^{38}-16u^{37}+\cdots-2560u+256)$
c_3, c_9	$(u^3+u^2+2u+1)(u^{24}-7u^{21}+\cdots-30u+19)$ $\cdot(u^{24}+u^{23}+\cdots+264u+59)(u^{30}+u^{29}+\cdots-4u+1)$ $\cdot(u^{38}-2u^{37}+\cdots-8u+1)$
c_4	$(u^3+u^2+2u+1)(u^{24}-2u^{23}+\cdots+17490u+21275)$ $\cdot(u^{24}+u^{23}+\cdots+70u+7)(u^{30}-u^{29}+\cdots+32u+52)$ $\cdot(u^{38}-22u^{36}+\cdots-1528u+1456)$
c_5	$(u^3+u^2+2u+1)(u^{24}+12u^{22}+\cdots-1224u+631)$ $\cdot(u^{24}-u^{23}+\cdots+72u+389)(u^{30}+u^{28}+\cdots-2u+1)$ $\cdot(u^{38}-u^{37}+\cdots+2u+1)$
c_6	$u^3(u^4+u^3+u^2-u+1)^6(u^4+2u^3+2u^2+u+1)^6$ $\cdot(u^{30}+18u^{29}+\cdots-u^2+1)(u^{38}-19u^{37}+\cdots-3108u+245)$
c_7	$(u^3-u^2+1)(u^3+u^2-1)^{16}(u^{30}-10u^{28}+\cdots+u+3)$ $\cdot(u^{38}-16u^{37}+\cdots-2560u+256)$
c_8	$u^3(u^4-2u^3+2u^2-u+1)^6(u^4-u^3+u^2+u+1)^6$ $\cdot(u^{30}+11u^{29}+\cdots+5u+1)(u^{38}+12u^{37}+\cdots+1309u+245)$
c_{10}	$(u^3+u^2+2u+1)(u^{24}-u^{23}+\cdots+606u+157)$ $\cdot(u^{24}+2u^{23}+\cdots+1360u+2423)(u^{30}-4u^{28}+\cdots+5u+3)$ $\cdot(u^{38}-u^{37}+\cdots-189u+61)$
c_{11}	$u^3(u^4-2u^3+2u^2-u+1)^6(u^4-u^3+u^2+u+1)^6$ $\cdot(u^{30}-11u^{29}+\cdots-5u+1)(u^{38}+12u^{37}+\cdots+1309u+245)$
c_{12}	$(u^3+u^2+2u+1)(u^{24}+12u^{22}+\cdots-1224u+631)$ $\cdot(u^{24}-u^{23}+\cdots+72u+389)(u^{30}+u^{28}+\cdots+2u+1)$ $\cdot(u^{38}-u^{37}+\cdots+2u+1)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^3+3y^2+2y-1)^{17})(y^{30}-4y^{29}+\cdots-817y+81)$ $\cdot(y^{38}-4y^{37}+\cdots-15032385536y+4294967296)$
c_2, c_7	$((y^3-y^2+2y-1)^{17})(y^{30}-20y^{29}+\cdots-157y+9)$ $\cdot(y^{38}-20y^{37}+\cdots-65536y+65536)$
c_3, c_9	$(y^3+3y^2+2y-1)(y^{24}+46y^{22}+\cdots+2862y+361)$ $\cdot(y^{24}-9y^{23}+\cdots-26862y+3481)(y^{30}-9y^{29}+\cdots+10y+1)$ $\cdot(y^{38}+20y^{37}+\cdots+38y+1)$
c_4	$(y^3+3y^2+2y-1)(y^{24}-36y^{23}+\cdots-7.70163\times10^8y+4.52626\times10^8)$ $\cdot(y^{24}+3y^{23}+\cdots+1722y+49)(y^{30}-9y^{29}+\cdots+952y+2704)$ $\cdot(y^{38}-44y^{37}+\cdots-18656544y+2119936)$
c_5, c_{12}	$(y^3+3y^2+2y-1)(y^{24}+3y^{23}+\cdots-1491942y+151321)$ $\cdot(y^{24}+24y^{23}+\cdots-585750y+398161)(y^{30}+2y^{29}+\cdots-14y+1)$ $\cdot(y^{38}+51y^{37}+\cdots+14y+1)$
c_6	$y^3(y^4+2y^2+3y+1)^6(y^4+y^3+5y^2+y+1)^6$ $\cdot(y^{30}-10y^{29}+\cdots-2y+1)(y^{38}-9y^{37}+\cdots+500486y+60025)$
c_8, c_{11}	$y^3(y^4+2y^2+3y+1)^6(y^4+y^3+5y^2+y+1)^6$ $\cdot(y^{30}+11y^{29}+\cdots+27y+1)(y^{38}+12y^{37}+\cdots+698299y+60025)$
c_{10}	$(y^3+3y^2+2y-1)(y^{24}-12y^{23}+\cdots-1.92904\times10^7y+5870929)$ $\cdot(y^{24}-9y^{23}+\cdots-34710y+24649)(y^{30}-8y^{29}+\cdots-43y+9)$ $\cdot(y^{38}-27y^{37}+\cdots-45603y+3721)$