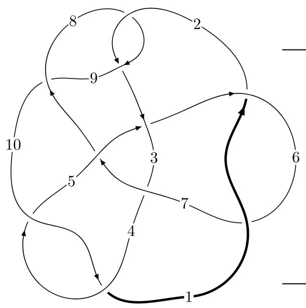
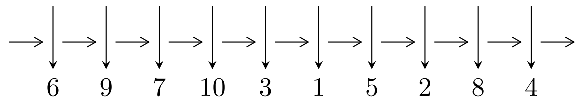
10_{101} ($K10a_{45}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 7u^{16} - 32u^{15} + \cdots + 2b + 12,\ 9u^{16} - 51u^{15} + \cdots + 2a + 43,\ u^{17} - 6u^{16} + \cdots + 26u - 4\rangle$$
$$I_2^u = \langle 170u^7a^3 - 173u^7a^2 + \cdots - 479a + 513,\ 2u^7a^3 - 11u^7a^2 + \cdots - 38a + 27,$$
$$u^8 + u^7 - u^6 - 2u^5 + u^4 + 2u^3 - 2u - 1\rangle$$
$$I_3^u = \langle u^6 - 2u^4 + 2u^2 + b + u - 1,\ u^6 - u^5 - u^4 + 3u^2 + a - 1,\ u^7 - u^6 - u^5 + u^4 + 2u^3 - u^2 - u + 1\rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 56 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. $I^u_1 = \langle 7u^{16}-32u^{15}+\cdots+2b+12,\ 9u^{16}-51u^{15}+\cdots+2a+43,\ u^{17}-6u^{16}+\cdots+26u-4\rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\-u^2\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-\frac{9}{2}u^{16}+\frac{51}{2}u^{15}+\cdots+127u-\frac{43}{2}\\ -\frac{7}{2}u^{16}+16u^{15}+\cdots+\frac{87}{2}u-6\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-\frac{9}{4}u^{16}+10u^{15}+\cdots+\frac{95}{4}u-3\\ \frac{3}{2}u^{16}-8u^{15}+\cdots-\frac{79}{2}u+7\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-8u^{16}+\frac{83}{2}u^{15}+\cdots+\frac{341}{2}u-\frac{55}{2}\\ -\frac{7}{2}u^{16}+16u^{15}+\cdots+\frac{87}{2}u-6\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u\\-u^3+u\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}-u^3\\u^5-u^3+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-u^{16}+\frac{9}{2}u^{15}+\cdots+\frac{53}{2}u-\frac{7}{2}\\ \frac{1}{2}u^{16}-2u^{15}+\cdots+\frac{7}{2}u^2+\frac{1}{2}u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}-\frac{11}{4}u^{16}+15u^{15}+\cdots+\frac{293}{4}u-12\\ -\frac{3}{2}u^{16}+8u^{15}+\cdots+\frac{65}{2}u-5\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -15u^{16}+81u^{15}-169u^{14}+62u^{13}+429u^{12}-933u^{11}+562u^{10}+878u^9-2024u^8+1325u^7+679u^6-1802u^5+1076u^4+221u^3-663u^2+360u-78$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$u^{17} + 7u^{15} + \cdots + u + 1$
c_2, c_8	$u^{17} + 6u^{16} + \cdots + 26u + 4$
c_3	$u^{17} + 18u^{16} + \cdots + 2816u + 256$
c_5, c_7	$u^{17} + u^{16} + \cdots + 6u + 1$
c_9	$u^{17} + 6u^{16} + \cdots + 188u + 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$y^{17} + 14y^{16} + \cdots + 7y - 1$
c_2, c_8	$y^{17} - 6y^{16} + \cdots + 188y - 16$
c_3	$y^{17} + 2y^{16} + \cdots + 524288y - 65536$
c_5, c_7	$y^{17} + 3y^{16} + \cdots + 6y - 1$
c_9	$y^{17} + 10y^{16} + \cdots + 14704y - 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.902416 + 0.208075I$ $a = -1.79366 - 0.59487I$ $b = 1.199630 + 0.242688I$	$-3.24705 + 0.67841I$	$-12.7998 - 8.2767I$
$u = -0.902416 - 0.208075I$ $a = -1.79366 + 0.59487I$ $b = 1.199630 - 0.242688I$	$-3.24705 - 0.67841I$	$-12.7998 + 8.2767I$
$u = 0.938877 + 0.582285I$ $a = -1.134880 + 0.826949I$ $b = 0.715526 + 0.898293I$	$-0.99442 - 4.22945I$	$-12.33800 + 5.21456I$
$u = 0.938877 - 0.582285I$ $a = -1.134880 - 0.826949I$ $b = 0.715526 - 0.898293I$	$-0.99442 + 4.22945I$	$-12.33800 - 5.21456I$
$u = 0.739806 + 0.493958I$ $a = 0.794662 - 0.257822I$ $b = 0.240261 - 0.634801I$	$-0.323057 - 0.236182I$	$-11.08521 - 0.74956I$
$u = 0.739806 - 0.493958I$ $a = 0.794662 + 0.257822I$ $b = 0.240261 + 0.634801I$	$-0.323057 + 0.236182I$	$-11.08521 + 0.74956I$
$u = 0.602874 + 0.959066I$ $a = -0.051648 - 0.335588I$ $b = -0.85046 + 1.32525I$	$9.54876 + 8.47221I$	$-3.97806 - 4.13044I$
$u = 0.602874 - 0.959066I$ $a = -0.051648 + 0.335588I$ $b = -0.85046 - 1.32525I$	$9.54876 - 8.47221I$	$-3.97806 + 4.13044I$
$u = 0.465319 + 1.172900I$ $a = -0.076760 + 0.308019I$ $b = 0.134443 - 0.808764I$	$7.94985 - 2.22960I$	$2.70903 + 2.09494I$
$u = 0.465319 - 1.172900I$ $a = -0.076760 - 0.308019I$ $b = 0.134443 + 0.808764I$	$7.94985 + 2.22960I$	$2.70903 - 2.09494I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.101610 + 0.741547I$ $a = 1.82798 - 0.24157I$ $b = -1.09788 - 1.34726I$	$7.9938 - 14.6875I$	$-6.10908 + 8.19550I$
$u = 1.101610 - 0.741547I$ $a = 1.82798 + 0.24157I$ $b = -1.09788 + 1.34726I$	$7.9938 + 14.6875I$	$-6.10908 - 8.19550I$
$u = -1.311020 + 0.221936I$ $a = 0.907067 - 0.771746I$ $b = -0.650500 + 0.629679I$	$1.56788 + 6.73537I$	$-9.26043 - 8.18250I$
$u = -1.311020 - 0.221936I$ $a = 0.907067 + 0.771746I$ $b = -0.650500 - 0.629679I$	$1.56788 - 6.73537I$	$-9.26043 + 8.18250I$
$u = 1.18518 + 0.83889I$ $a = -0.962583 + 0.017371I$ $b = 0.662446 + 0.685312I$	$5.79881 - 4.87487I$	$-3.72990 + 6.85875I$
$u = 1.18518 - 0.83889I$ $a = -0.962583 - 0.017371I$ $b = 0.662446 - 0.685312I$	$5.79881 + 4.87487I$	$-3.72990 - 6.85875I$
$u = 0.359530$ $a = 0.979665$ $b = 0.293070$	-0.661408	-14.8170

II. $\boldsymbol{I^u_2 = \langle 170u^7a^3 - 173u^7a^2 + \cdots - 479a + 513,\ 2u^7a^3 - 11u^7a^2 + \cdots - 38a + 27,\ u^8 + u^7 - u^6 - 2u^5 + u^4 + 2u^3 - 2u - 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} a \\ -3.95349a^3u^7 + 4.02326a^2u^7 + \cdots + 11.1395a - 11.9302 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.97674a^3u^7 - 3.02326a^2u^7 + \cdots - 13.0698a + 16.9302 \\ 1.02326a^2u^7 - 0.511628u^7 + \cdots - 0.139535a^2 + 1.06977 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -3.95349a^3u^7 + 4.02326a^2u^7 + \cdots + 12.1395a - 11.9302 \\ -3.95349a^3u^7 + 4.02326a^2u^7 + \cdots + 11.1395a - 11.9302 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^3 \\ u^5 - u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -3u^7a^3 + 3u^7a^2 + \cdots + 12a - 13 \\ -2.04651a^3u^7 + 1.97674a^2u^7 + \cdots + 6.86047a - 8.06977 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3.06977a^3u^7 - 2.95349a^2u^7 + \cdots - 4.79070a + 4.13953 \\ 2.04651a^3u^7 - 1.97674a^2u^7 + \cdots - 6.86047a + 7.06977 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{352}{43}u^7a^3 + \frac{340}{43}u^7a^2 + \cdots + \frac{1180}{43}a - \frac{1818}{43}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$u^{32} + u^{31} + \cdots - 10u + 1$
c_2, c_8	$(u^8 - u^7 - u^6 + 2u^5 + u^4 - 2u^3 + 2u - 1)^4$
c_3	$(u^2 - u + 1)^{16}$
c_5, c_7	$u^{32} - 9u^{31} + \cdots - 602u + 73$
c_9	$(u^8 + 3u^7 + 7u^6 + 10u^5 + 11u^4 + 10u^3 + 6u^2 + 4u + 1)^4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$y^{32} + 27y^{31} + \cdots + 72y + 1$
c_2, c_8	$(y^8 - 3y^7 + 7y^6 - 10y^5 + 11y^4 - 10y^3 + 6y^2 - 4y + 1)^4$
c_3	$(y^2 + y + 1)^{16}$
c_5, c_7	$y^{32} + 11y^{31} + \cdots + 23912y + 5329$
c_9	$(y^8 + 5y^7 + 11y^6 + 6y^5 - 17y^4 - 34y^3 - 22y^2 - 4y + 1)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.570868 + 0.730671I$ $a = 0.506748 + 0.672291I$ $b = -0.652472 + 0.678771I$	$3.89415 + 0.89865I$	$-5.41522 - 2.95331I$
$u = -0.570868 + 0.730671I$ $a = -0.193541 - 0.783831I$ $b = -0.485561 - 0.705520I$	$3.89415 - 3.16112I$	$-5.41522 + 3.97489I$
$u = -0.570868 + 0.730671I$ $a = 0.503876 - 0.375809I$ $b = 0.69485 + 1.61093I$	$3.89415 - 3.16112I$	$-5.41522 + 3.97489I$
$u = -0.570868 + 0.730671I$ $a = 0.342363 + 0.176286I$ $b = -0.236280 - 0.950229I$	$3.89415 + 0.89865I$	$-5.41522 - 2.95331I$
$u = -0.570868 - 0.730671I$ $a = 0.506748 - 0.672291I$ $b = -0.652472 - 0.678771I$	$3.89415 - 0.89865I$	$-5.41522 + 2.95331I$
$u = -0.570868 - 0.730671I$ $a = -0.193541 + 0.783831I$ $b = -0.485561 + 0.705520I$	$3.89415 + 3.16112I$	$-5.41522 - 3.97489I$
$u = -0.570868 - 0.730671I$ $a = 0.503876 + 0.375809I$ $b = 0.69485 - 1.61093I$	$3.89415 + 3.16112I$	$-5.41522 - 3.97489I$
$u = -0.570868 - 0.730671I$ $a = 0.342363 - 0.176286I$ $b = -0.236280 + 0.950229I$	$3.89415 - 0.89865I$	$-5.41522 + 2.95331I$
$u = 0.855237 + 0.665892I$ $a = -0.524115 - 0.290681I$ $b = 0.407531 - 1.001570I$	$7.09422 - 0.54861I$	$-2.27708 + 0.10386I$
$u = 0.855237 + 0.665892I$ $a = 0.10958 - 1.41649I$ $b = -1.60671 + 1.59050I$	$7.09422 - 4.60838I$	$-2.27708 + 7.03206I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.855237 + 0.665892I$ $a = -2.13751 + 0.52423I$ $b = 0.473109 + 0.696143I$	$7.09422 - 4.60838I$	$-2.27708 + 7.03206I$
$u = 0.855237 + 0.665892I$ $a = 2.31080 - 1.01943I$ $b = -1.82102 - 1.12347I$	$7.09422 - 0.54861I$	$-2.27708 + 0.10386I$
$u = 0.855237 - 0.665892I$ $a = -0.524115 + 0.290681I$ $b = 0.407531 + 1.001570I$	$7.09422 + 0.54861I$	$-2.27708 - 0.10386I$
$u = 0.855237 - 0.665892I$ $a = 0.10958 + 1.41649I$ $b = -1.60671 - 1.59050I$	$7.09422 + 4.60838I$	$-2.27708 - 7.03206I$
$u = 0.855237 - 0.665892I$ $a = -2.13751 - 0.52423I$ $b = 0.473109 - 0.696143I$	$7.09422 + 4.60838I$	$-2.27708 - 7.03206I$
$u = 0.855237 - 0.665892I$ $a = 2.31080 + 1.01943I$ $b = -1.82102 + 1.12347I$	$7.09422 + 0.54861I$	$-2.27708 - 0.10386I$
$u = 1.09818$ $a = 1.40909 + 0.27112I$ $b = -0.797129 - 0.510365I$	$-1.56793 - 2.02988I$	$-11.86404 + 3.46410I$
$u = 1.09818$ $a = 1.40909 - 0.27112I$ $b = -0.797129 + 0.510365I$	$-1.56793 + 2.02988I$	$-11.86404 - 3.46410I$
$u = 1.09818$ $a = -0.79078 + 1.34206I$ $b = 0.736952 - 0.614594I$	$-1.56793 + 2.02988I$	$-11.86404 - 3.46410I$
$u = 1.09818$ $a = -0.79078 - 1.34206I$ $b = 0.736952 + 0.614594I$	$-1.56793 - 2.02988I$	$-11.86404 + 3.46410I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.031810 + 0.655470I$ $a = \quad 1.42398 + 0.08840I$ $b = -0.594791 + 0.693288I$	$2.55512 + 4.41365I$	$-7.42845 - 1.83007I$
$u = -1.031810 + 0.655470I$ $a = \quad 1.24001 + 0.82764I$ $b = -0.595404 + 0.907218I$	$2.55512 + 8.47342I$	$-7.42845 - 8.75827I$
$u = -1.031810 + 0.655470I$ $a = -0.350327 + 0.360263I$ $b = -0.302783 - 0.841128I$	$2.55512 + 4.41365I$	$-7.42845 - 1.83007I$
$u = -1.031810 + 0.655470I$ $a = -2.16539 - 0.12217I$ $b = \quad 1.17222 - 1.61062I$	$2.55512 + 8.47342I$	$-7.42845 - 8.75827I$
$u = -1.031810 - 0.655470I$ $a = \quad 1.42398 - 0.08840I$ $b = -0.594791 - 0.693288I$	$2.55512 - 4.41365I$	$-7.42845 + 1.83007I$
$u = -1.031810 - 0.655470I$ $a = \quad 1.24001 - 0.82764I$ $b = -0.595404 - 0.907218I$	$2.55512 - 8.47342I$	$-7.42845 + 8.75827I$
$u = -1.031810 - 0.655470I$ $a = -0.350327 - 0.360263I$ $b = -0.302783 + 0.841128I$	$2.55512 - 4.41365I$	$-7.42845 + 1.83007I$
$u = -1.031810 - 0.655470I$ $a = -2.16539 + 0.12217I$ $b = \quad 1.17222 + 1.61062I$	$2.55512 - 8.47342I$	$-7.42845 + 8.75827I$
$u = -0.603304$ $a = \quad 1.41265 + 0.18976I$ $b = -0.287361 + 1.327250I$	$4.08977 - 2.02988I$	$-9.89446 + 3.46410I$
$u = -0.603304$ $a = \quad 1.41265 - 0.18976I$ $b = -0.287361 - 1.327250I$	$4.08977 + 2.02988I$	$-9.89446 - 3.46410I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.603304$ $a=\quad 0.40258+3.33383I$ $b=-0.605158-0.218634I$	$4.08977+2.02988I$	$-9.89446-3.46410I$
$u=-0.603304$ $a=\quad 0.40258-3.33383I$ $b=-0.605158+0.218634I$	$4.08977-2.02988I$	$-9.89446+3.46410I$

III. $\boldsymbol{I_3^u = \langle u^6 - 2u^4 + 2u^2 + b + u - 1,\ u^6 - u^5 - u^4 + 3u^2 + a - 1,\ u^7 - u^6 - u^5 + u^4 + 2u^3 - u^2 - u + 1\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -2u^6 + 4u^5 + u^4 - u^3 - 2u^2 + 4u - 4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^7 + 4u^5 + u^4 + 6u^3 + 2u^2 + 4u + 1$
c_2	$u^7 - u^6 - u^5 + u^4 + 2u^3 - u^2 - u + 1$
c_3	$u^7 + u^6 + u^5 + u^4 - u^2 - u - 1$
c_5, c_7	$u^7 - u^6 + u^5 - u^3 + u^2 - u + 1$
c_6, c_{10}	$u^7 + 4u^5 - u^4 + 6u^3 - 2u^2 + 4u - 1$
c_8	$u^7 + u^6 - u^5 - u^4 + 2u^3 + u^2 - u - 1$
c_9	$u^7 + 3u^6 + 7u^5 + 9u^4 + 10u^3 + 7u^2 + 3u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$y^7 + 8y^6 + 28y^5 + 55y^4 + 64y^3 + 42y^2 + 12y - 1$
c_2, c_8	$y^7 - 3y^6 + 7y^5 - 9y^4 + 10y^3 - 7y^2 + 3y - 1$
c_3	$y^7 + y^6 - y^5 - y^4 + 2y^3 + y^2 - y - 1$
c_5, c_7	$y^7 + y^6 - y^5 - 2y^4 + y^3 + y^2 - y - 1$
c_9	$y^7 + 5y^6 + 15y^5 + 23y^4 + 10y^3 - 7y^2 - 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.793128+0.750889I$ $a=\quad 0.905690+0.804408I$ $b=-0.888952-0.354053I$	$6.43224+2.89342I$	$-4.05142-2.86813I$
$u=-0.793128-0.750889I$ $a=\quad 0.905690-0.804408I$ $b=-0.888952+0.354053I$	$6.43224-2.89342I$	$-4.05142+2.86813I$
$u=-0.879508$ $a=-1.71136$ $b=\quad 1.06630$	-3.03629	-10.8170
$u=\quad 0.610619+0.459179I$ $a=\quad 0.114923-1.389810I$ $b=-0.362477-1.085130I$	$5.06800+1.30245I$	$-2.75170+0.65887I$
$u=\quad 0.610619-0.459179I$ $a=\quad 0.114923+1.389810I$ $b=-0.362477+1.085130I$	$5.06800-1.30245I$	$-2.75170-0.65887I$
$u=\quad 1.122260+0.611121I$ $a=-1.164940-0.276203I$ $b=\quad 0.218278+0.857268I$	$3.17738-5.75449I$	$-4.78830+6.98275I$
$u=\quad 1.122260-0.611121I$ $a=-1.164940+0.276203I$ $b=\quad 0.218278-0.857268I$	$3.17738+5.75449I$	$-4.78830-6.98275I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_4	$(u^7+4u^5+u^4+6u^3+2u^2+4u+1)(u^{17}+7u^{15}+\cdots+u+1)$ $\cdot(u^{32}+u^{31}+\cdots-10u+1)$
c_2	$(u^7-u^6-u^5+u^4+2u^3-u^2-u+1)$ $\cdot((u^8-u^7+\cdots+2u-1)^4)(u^{17}+6u^{16}+\cdots+26u+4)$
c_3	$(u^2-u+1)^{16}(u^7+u^6+u^5+u^4-u^2-u-1)$ $\cdot(u^{17}+18u^{16}+\cdots+2816u+256)$
c_5, c_7	$(u^7-u^6+u^5-u^3+u^2-u+1)(u^{17}+u^{16}+\cdots+6u+1)$ $\cdot(u^{32}-9u^{31}+\cdots-602u+73)$
c_6, c_{10}	$(u^7+4u^5-u^4+6u^3-2u^2+4u-1)(u^{17}+7u^{15}+\cdots+u+1)$ $\cdot(u^{32}+u^{31}+\cdots-10u+1)$
c_8	$(u^7+u^6-u^5-u^4+2u^3+u^2-u-1)$ $\cdot((u^8-u^7+\cdots+2u-1)^4)(u^{17}+6u^{16}+\cdots+26u+4)$
c_9	$(u^7+3u^6+7u^5+9u^4+10u^3+7u^2+3u+1)$ $\cdot(u^8+3u^7+7u^6+10u^5+11u^4+10u^3+6u^2+4u+1)^4$ $\cdot(u^{17}+6u^{16}+\cdots+188u+16)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_6 c_{10}	$(y^7+8y^6+28y^5+55y^4+64y^3+42y^2+12y-1)$ $\cdot(y^{17}+14y^{16}+\cdots+7y-1)(y^{32}+27y^{31}+\cdots+72y+1)$
c_2, c_8	$(y^7-3y^6+7y^5-9y^4+10y^3-7y^2+3y-1)$ $\cdot(y^8-3y^7+7y^6-10y^5+11y^4-10y^3+6y^2-4y+1)^4$ $\cdot(y^{17}-6y^{16}+\cdots+188y-16)$
c_3	$(y^2+y+1)^{16}(y^7+y^6-y^5-y^4+2y^3+y^2-y-1)$ $\cdot(y^{17}+2y^{16}+\cdots+524288y-65536)$
c_5, c_7	$(y^7+y^6+\cdots-y-1)(y^{17}+3y^{16}+\cdots+6y-1)$ $\cdot(y^{32}+11y^{31}+\cdots+23912y+5329)$
c_9	$(y^7+5y^6+15y^5+23y^4+10y^3-7y^2-5y-1)$ $\cdot(y^8+5y^7+11y^6+6y^5-17y^4-34y^3-22y^2-4y+1)^4$ $\cdot(y^{17}+10y^{16}+\cdots+14704y-256)$