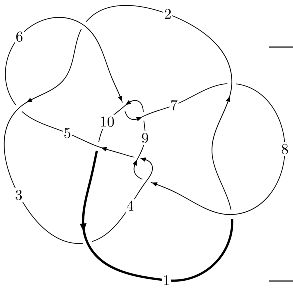
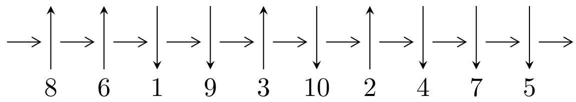
10_{110} $(K10a_{100})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I^u_1 = \langle &-3.94814 \times 10^{60} u^{50} + 1.33577 \times 10^{61} u^{49} + \cdots + 7.13614 \times 10^{60} b + 1.16812 \times 10^{61}, \\ &4.97115 \times 10^{60} u^{50} - 4.93286 \times 10^{59} u^{49} + \cdots + 7.13614 \times 10^{60} a + 1.37929 \times 10^{62},\ u^{51} - 3u^{50} + \cdots - 3u + 1 \\ I^u_2 = \langle &-u^9 + 3u^8 - 8u^7 + 11u^6 - 14u^5 + 10u^4 - 9u^3 + 5u^2 + b - 4u + 1, \\ &-2u^9 + 4u^8 - 12u^7 + 12u^6 - 20u^5 + 10u^4 - 17u^3 + 3u^2 + a - 7u - 1, \\ &u^{10} - 2u^9 + 6u^8 - 6u^7 + 10u^6 - 5u^5 + 9u^4 - 2u^3 + 5u^2 + 1\rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 61 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.

$$\boldsymbol{I^u_1 = \langle -3.95\times 10^{60}u^{50}+1.34\times 10^{61}u^{49}+\cdots+7.14\times 10^{60}b+1.17\times 10^{61},\ 4.97\times 10^{60}u^{50}-4.93\times 10^{59}u^{49}+\cdots+7.14\times 10^{60}a+1.38\times 10^{62},\ u^{51}-3u^{50}+\cdots-3u+1\rangle}$$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-0.696616u^{50}+0.0691250u^{49}+\cdots+26.3979u-19.3282\\0.553261u^{50}-1.87184u^{49}+\cdots+6.93494u-1.63690\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-1.24988u^{50}+1.94096u^{49}+\cdots+19.4629u-17.6913\\0.553261u^{50}-1.87184u^{49}+\cdots+6.93494u-1.63690\end{pmatrix}$$
$$a_8 = \begin{pmatrix}5.62576u^{50}-16.6964u^{49}+\cdots+84.9147u-14.4475\\1.31452u^{50}-3.25740u^{49}+\cdots+7.88805u+0.493476\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-5.07269u^{50}+14.7750u^{49}+\cdots-63.8914u+8.27803\\-0.685403u^{50}+1.65384u^{49}+\cdots-3.62278u-0.452805\end{pmatrix}$$
$$a_1 = \begin{pmatrix}2.36727u^{50}-7.12893u^{49}+\cdots+76.0899u-9.67668\\-1.36131u^{50}+4.21987u^{49}+\cdots-3.74774u+3.48147\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}-5.82333u^{50}+16.7794u^{49}+\cdots-68.9333u+8.68998\\-1.34927u^{50}+3.56133u^{49}+\cdots-8.65673u+0.206715\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.603997u^{50}-6.94205u^{49}+\cdots+39.9158u-23.3331$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{51} - u^{50} + \cdots + 559u + 143$
c_2, c_5	$u^{51} + 3u^{50} + \cdots + 97u + 17$
c_3	$u^{51} - 3u^{50} + \cdots + 2441u - 1003$
c_4, c_8	$u^{51} - u^{50} + \cdots + 20u + 23$
c_6, c_9	$u^{51} - 3u^{50} + \cdots - 3u + 1$
c_{10}	$u^{51} + u^{50} + \cdots + 118u + 47$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{51} + 41y^{50} + \cdots - 137683y - 20449$
c_2, c_5	$y^{51} + 33y^{50} + \cdots - 4701y - 289$
c_3	$y^{51} - 23y^{50} + \cdots + 17745737y - 1006009$
c_4, c_8	$y^{51} - 35y^{50} + \cdots + 3022y - 529$
c_6, c_9	$y^{51} + 27y^{50} + \cdots - 45y - 1$
c_{10}	$y^{51} - 9y^{50} + \cdots + 9976y - 2209$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.994943 + 0.185745I$ $a = 0.422541 - 1.311700I$ $b = 0.266229 - 1.334950I$	$-5.72149 - 2.82797I$	$-6.95847 + 2.49384I$
$u = -0.994943 - 0.185745I$ $a = 0.422541 + 1.311700I$ $b = 0.266229 + 1.334950I$	$-5.72149 + 2.82797I$	$-6.95847 - 2.49384I$
$u = 0.390188 + 0.947913I$ $a = -1.03830 - 1.40939I$ $b = 0.516208 - 1.186450I$	$0.72717 - 4.12473I$	$0.68433 + 2.44113I$
$u = 0.390188 - 0.947913I$ $a = -1.03830 + 1.40939I$ $b = 0.516208 + 1.186450I$	$0.72717 + 4.12473I$	$0.68433 - 2.44113I$
$u = -0.375762 + 0.890024I$ $a = -0.426976 + 0.241699I$ $b = 1.350530 - 0.349643I$	$0.99311 + 1.57122I$	$-7.65217 - 5.55090I$
$u = -0.375762 - 0.890024I$ $a = -0.426976 - 0.241699I$ $b = 1.350530 + 0.349643I$	$0.99311 - 1.57122I$	$-7.65217 + 5.55090I$
$u = 0.019775 + 1.071160I$ $a = -0.261242 - 0.274009I$ $b = 0.863662 + 0.336843I$	$3.46242 + 0.95472I$	$4.42129 - 1.75327I$
$u = 0.019775 - 1.071160I$ $a = -0.261242 + 0.274009I$ $b = 0.863662 - 0.336843I$	$3.46242 - 0.95472I$	$4.42129 + 1.75327I$
$u = 0.420839 + 1.017200I$ $a = -1.97618 - 0.11378I$ $b = 0.108632 - 1.103460I$	$-6.80830 - 3.96373I$	$-9.29905 + 4.39229I$
$u = 0.420839 - 1.017200I$ $a = -1.97618 + 0.11378I$ $b = 0.108632 + 1.103460I$	$-6.80830 + 3.96373I$	$-9.29905 - 4.39229I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.526532 + 0.993852I$ $a = 1.216580 + 0.601262I$ $b = -0.68843 + 1.24828I$	$-7.65143 - 1.97817I$	$-7.82727 + 2.61940I$
$u = 0.526532 - 0.993852I$ $a = 1.216580 - 0.601262I$ $b = -0.68843 - 1.24828I$	$-7.65143 + 1.97817I$	$-7.82727 - 2.61940I$
$u = 0.506288 + 0.633852I$ $a = -0.296136 - 0.899365I$ $b = -0.37733 - 1.57824I$	$-8.80240 - 2.26810I$	$-9.50846 + 5.46846I$
$u = 0.506288 - 0.633852I$ $a = -0.296136 + 0.899365I$ $b = -0.37733 + 1.57824I$	$-8.80240 + 2.26810I$	$-9.50846 - 5.46846I$
$u = 0.557126 + 1.094830I$ $a = 0.113684 + 0.264643I$ $b = -1.213990 - 0.101030I$	$-3.13564 - 8.43581I$	0
$u = 0.557126 - 1.094830I$ $a = 0.113684 - 0.264643I$ $b = -1.213990 + 0.101030I$	$-3.13564 + 8.43581I$	0
$u = -0.113572 + 1.239660I$ $a = 0.242019 + 0.693111I$ $b = -0.450396 + 0.753572I$	$-0.289715 + 0.727443I$	0
$u = -0.113572 - 1.239660I$ $a = 0.242019 - 0.693111I$ $b = -0.450396 - 0.753572I$	$-0.289715 - 0.727443I$	0
$u = -0.520426 + 1.134500I$ $a = 1.06013 - 1.60375I$ $b = -0.390004 - 1.272450I$	$-2.08580 + 7.78838I$	0
$u = -0.520426 - 1.134500I$ $a = 1.06013 + 1.60375I$ $b = -0.390004 + 1.272450I$	$-2.08580 - 7.78838I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.332771 + 0.672789I$ $a = -0.20644 + 2.43715I$ $b = 0.02668 + 1.44197I$	$-8.06580 + 0.63479I$	$-8.35698 + 2.72496I$
$u = 0.332771 - 0.672789I$ $a = -0.20644 - 2.43715I$ $b = 0.02668 - 1.44197I$	$-8.06580 - 0.63479I$	$-8.35698 - 2.72496I$
$u = -0.314342 + 1.210610I$ $a = 0.219903 - 0.392050I$ $b = -0.672500 + 0.034322I$	$1.72349 + 3.73342I$	0
$u = -0.314342 - 1.210610I$ $a = 0.219903 + 0.392050I$ $b = -0.672500 - 0.034322I$	$1.72349 - 3.73342I$	0
$u = -0.741826 + 1.022810I$ $a = -0.261173 + 1.316850I$ $b = 0.149560 + 1.061710I$	$-1.24787 + 2.87055I$	0
$u = -0.741826 - 1.022810I$ $a = -0.261173 - 1.316850I$ $b = 0.149560 - 1.061710I$	$-1.24787 - 2.87055I$	0
$u = -0.724864$ $a = -0.327919$ $b = -0.557789$	-2.02066	-3.93810
$u = 0.098596 + 0.711899I$ $a = 1.069920 + 0.850725I$ $b = -0.054343 + 0.710997I$	$-0.177529 + 1.103040I$	$-2.91668 - 3.58562I$
$u = 0.098596 - 0.711899I$ $a = 1.069920 - 0.850725I$ $b = -0.054343 - 0.710997I$	$-0.177529 - 1.103040I$	$-2.91668 + 3.58562I$
$u = 0.657571 + 1.111660I$ $a = 0.137365 + 0.376163I$ $b = 0.663637 + 0.521850I$	$-1.42681 - 1.13458I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.657571 - 1.111660I$ $a = 0.137365 - 0.376163I$ $b = 0.663637 - 0.521850I$	$-1.42681 + 1.13458I$	0
$u = 0.610559 + 0.310111I$ $a = 0.21593 + 1.41416I$ $b = -0.723237 - 0.300626I$	$-5.30063 + 3.74184I$	$-6.50172 - 2.38693I$
$u = 0.610559 - 0.310111I$ $a = 0.21593 - 1.41416I$ $b = -0.723237 + 0.300626I$	$-5.30063 - 3.74184I$	$-6.50172 + 2.38693I$
$u = -0.681382 + 0.037993I$ $a = 0.18190 + 2.70537I$ $b = -0.349930 + 1.034050I$	$-4.86621 - 3.30300I$	$-8.47560 + 3.00422I$
$u = -0.681382 - 0.037993I$ $a = 0.18190 - 2.70537I$ $b = -0.349930 - 1.034050I$	$-4.86621 + 3.30300I$	$-8.47560 - 3.00422I$
$u = -0.611419 + 1.218010I$ $a = -0.827531 + 0.976005I$ $b = 0.63737 + 1.37202I$	$-2.65938 + 8.52301I$	0
$u = -0.611419 - 1.218010I$ $a = -0.827531 - 0.976005I$ $b = 0.63737 - 1.37202I$	$-2.65938 - 8.52301I$	0
$u = 1.283370 + 0.473849I$ $a = -0.337325 - 1.255760I$ $b = -0.381442 - 1.278540I$	$-9.75856 + 7.66724I$	0
$u = 1.283370 - 0.473849I$ $a = -0.337325 + 1.255760I$ $b = -0.381442 + 1.278540I$	$-9.75856 - 7.66724I$	0
$u = -0.732019 + 1.169240I$ $a = 0.788213 - 0.967707I$ $b = -0.299489 - 0.952219I$	$-0.86031 + 3.69765I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.732019-1.169240I$ $a=\ 0.788213+0.967707I$ $b=-0.299489+0.952219I$	$-0.86031-3.69765I$	0
$u=\ 1.03951+0.98801I$ $a=-0.44530-1.37365I$ $b=\ 0.511570-0.950776I$	$-2.64694-5.68594I$	0
$u=\ 1.03951-0.98801I$ $a=-0.44530+1.37365I$ $b=\ 0.511570+0.950776I$	$-2.64694+5.68594I$	0
$u=\ 0.75895+1.26498I$ $a=\ 0.81447+1.23333I$ $b=-0.60063+1.36529I$	$-7.1442-14.7775I$	0
$u=\ 0.75895-1.26498I$ $a=\ 0.81447-1.23333I$ $b=-0.60063-1.36529I$	$-7.1442+14.7775I$	0
$u=\ 0.004627+0.461649I$ $a=\ 1.30111+0.61627I$ $b=\ 0.111178+0.551129I$	$-0.190582+1.119640I$	$-2.80508-5.30984I$
$u=\ 0.004627-0.461649I$ $a=\ 1.30111-0.61627I$ $b=\ 0.111178-0.551129I$	$-0.190582-1.119640I$	$-2.80508+5.30984I$
$u=-0.30097+1.62417I$ $a=\ 0.295438-0.306674I$ $b=-0.047348-0.927946I$	$-0.09818+2.57183I$	0
$u=-0.30097-1.62417I$ $a=\ 0.295438+0.306674I$ $b=-0.047348+0.927946I$	$-0.09818-2.57183I$	0
$u=\ 0.042401+0.263814I$ $a=-7.33865+1.88245I$ $b=-0.177299+0.708964I$	$-5.09251-3.48313I$	$-7.71213+0.11617I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.042401 - 0.263814I$ $a = -7.33865 - 1.88245I$ $b = -0.177299 - 0.708964I$	$-5.09251 + 3.48313I$	$-7.71213 - 0.11617I$

II.

$$I_2^u = \langle -u^9+3u^8+\cdots+b+1,\ -2u^9+4u^8+\cdots+a-1,\ u^{10}-2u^9+\cdots+5u^2+1\rangle$$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 2u^9 - 4u^8 + 12u^7 - 12u^6 + 20u^5 - 10u^4 + 17u^3 - 3u^2 + 7u + 1 \\ u^9 - 3u^8 + 8u^7 - 11u^6 + 14u^5 - 10u^4 + 9u^3 - 5u^2 + 4u - 1 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} u^9 - u^8 + 4u^7 - u^6 + 6u^5 + 8u^3 + 2u^2 + 3u + 2 \\ u^9 - 3u^8 + 8u^7 - 11u^6 + 14u^5 - 10u^4 + 9u^3 - 5u^2 + 4u - 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2u^9 + 5u^8 - 13u^7 + 16u^6 - 21u^5 + 16u^4 - 18u^3 + 12u^2 - 8u + 4 \\ u^9 - u^8 + 3u^7 + 2u^6 - u^5 + 9u^4 - u^3 + 8u^2 + 4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^9 - 4u^8 + 10u^7 - 17u^6 + 20u^5 - 19u^4 + 13u^3 - 11u^2 + 5u - 4 \\ -2u^9 + 3u^8 - 9u^7 + 5u^6 - 10u^5 - u^4 - 8u^3 - 4u^2 - 3u - 3 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -3u^9 + 5u^8 - 15u^7 + 10u^6 - 18u^5 - u^4 - 12u^3 - 8u^2 - 5u - 6 \\ -3u^9 + 6u^8 - 17u^7 + 16u^6 - 24u^5 + 9u^4 - 18u^3 + 2u^2 - 8u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2u^9 - 6u^8 + 16u^7 - 23u^6 + 30u^5 - 24u^4 + 21u^3 - 12u^2 + 8u - 4 \\ -u^9 + u^8 - 3u^7 - u^6 - u^5 - 5u^4 - 2u^3 - 5u^2 - u - 3 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -3u^9 + 2u^8 - 10u^7 - 4u^6 - 9u^5 - 12u^4 - 17u^3 - 7u^2 - 11u - 6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{10} + 5u^8 - 2u^7 + 9u^6 - 5u^5 + 10u^4 - 6u^3 + 6u^2 - 2u + 1$
c_2	$u^{10} + 2u^9 + 5u^8 + 8u^7 + 10u^6 + 11u^5 + 9u^4 + 7u^3 + 5u^2 + 2u + 1$
c_3	$u^{10} + 4u^9 + 7u^8 + 7u^7 + 4u^6 - u^5 - 4u^4 - 2u^3 + 4u^2 + 4u + 1$
c_4	$u^{10} - 3u^8 - u^7 + 2u^6 + u^5 + 2u^4 + u^3 - 2u^2 - u + 1$
c_5	$u^{10} - 2u^9 + 5u^8 - 8u^7 + 10u^6 - 11u^5 + 9u^4 - 7u^3 + 5u^2 - 2u + 1$
c_6	$u^{10} - 2u^9 + 6u^8 - 6u^7 + 10u^6 - 5u^5 + 9u^4 - 2u^3 + 5u^2 + 1$
c_7	$u^{10} + 5u^8 + 2u^7 + 9u^6 + 5u^5 + 10u^4 + 6u^3 + 6u^2 + 2u + 1$
c_8	$u^{10} - 3u^8 + u^7 + 2u^6 - u^5 + 2u^4 - u^3 - 2u^2 + u + 1$
c_9	$u^{10} + 2u^9 + 6u^8 + 6u^7 + 10u^6 + 5u^5 + 9u^4 + 2u^3 + 5u^2 + 1$
c_{10}	$u^{10} + 4u^7 + u^5 + 4u^4 - 4u^3 + 5u^2 - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{10} + 10y^9 + \cdots + 8y + 1$
c_2, c_5	$y^{10} + 6y^9 + 13y^8 + 10y^7 - 4y^6 - 9y^5 + 5y^4 + 17y^3 + 15y^2 + 6y + 1$
c_3	$y^{10} - 2y^9 + y^8 + 7y^7 - 2y^6 + 21y^5 + 2y^4 - 20y^3 + 24y^2 - 8y + 1$
c_4, c_8	$y^{10} - 6y^9 + 13y^8 - 9y^7 - 10y^6 + 23y^5 - 14y^4 - 3y^3 + 10y^2 - 5y + 1$
c_6, c_9	$y^{10} + 8y^9 + \cdots + 10y + 1$
c_{10}	$y^{10} - 8y^7 + 2y^6 + 33y^5 + 32y^4 + 26y^3 + 25y^2 + 9y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.257364 + 0.963884I$ $a = -0.451800 + 0.245327I$ $b = 1.002200 + 0.257851I$	$1.64272 - 1.01431I$	$1.027334 - 0.251330I$
$u = 0.257364 - 0.963884I$ $a = -0.451800 - 0.245327I$ $b = 1.002200 - 0.257851I$	$1.64272 + 1.01431I$	$1.027334 + 0.251330I$
$u = -0.423126 + 0.723833I$ $a = 2.53899 - 0.73422I$ $b = -0.381869 - 0.772776I$	$-4.89025 + 4.25923I$	$-4.77549 - 8.60184I$
$u = -0.423126 - 0.723833I$ $a = 2.53899 + 0.73422I$ $b = -0.381869 + 0.772776I$	$-4.89025 - 4.25923I$	$-4.77549 + 8.60184I$
$u = 0.844499 + 1.066090I$ $a = -0.59283 - 1.31422I$ $b = 0.381449 - 1.077890I$	$-1.18159 - 4.79064I$	$-4.32006 + 6.72204I$
$u = 0.844499 - 1.066090I$ $a = -0.59283 + 1.31422I$ $b = 0.381449 + 1.077890I$	$-1.18159 + 4.79064I$	$-4.32006 - 6.72204I$
$u = -0.091508 + 0.559363I$ $a = 1.45456 + 1.86280I$ $b = -0.16645 + 1.44928I$	$-7.81345 + 1.55721I$	$-4.98634 - 3.60342I$
$u = -0.091508 - 0.559363I$ $a = 1.45456 - 1.86280I$ $b = -0.16645 - 1.44928I$	$-7.81345 - 1.55721I$	$-4.98634 + 3.60342I$
$u = 0.41277 + 1.49491I$ $a = 0.051075 + 0.569145I$ $b = 0.164670 + 0.651622I$	$0.72803 - 2.02366I$	$1.55456 + 1.03859I$
$u = 0.41277 - 1.49491I$ $a = 0.051075 - 0.569145I$ $b = 0.164670 - 0.651622I$	$0.72803 + 2.02366I$	$1.55456 - 1.03859I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{10}+5u^8-2u^7+9u^6-5u^5+10u^4-6u^3+6u^2-2u+1)$ $\cdot(u^{51}-u^{50}+\cdots+559u+143)$
c_2	$(u^{10}+2u^9+5u^8+8u^7+10u^6+11u^5+9u^4+7u^3+5u^2+2u+1)$ $\cdot(u^{51}+3u^{50}+\cdots+97u+17)$
c_3	$(u^{10}+4u^9+7u^8+7u^7+4u^6-u^5-4u^4-2u^3+4u^2+4u+1)$ $\cdot(u^{51}-3u^{50}+\cdots+2441u-1003)$
c_4	$(u^{10}-3u^8-u^7+2u^6+u^5+2u^4+u^3-2u^2-u+1)$ $\cdot(u^{51}-u^{50}+\cdots+20u+23)$
c_5	$(u^{10}-2u^9+5u^8-8u^7+10u^6-11u^5+9u^4-7u^3+5u^2-2u+1)$ $\cdot(u^{51}+3u^{50}+\cdots+97u+17)$
c_6	$(u^{10}-2u^9+6u^8-6u^7+10u^6-5u^5+9u^4-2u^3+5u^2+1)$ $\cdot(u^{51}-3u^{50}+\cdots-3u+1)$
c_7	$(u^{10}+5u^8+2u^7+9u^6+5u^5+10u^4+6u^3+6u^2+2u+1)$ $\cdot(u^{51}-u^{50}+\cdots+559u+143)$
c_8	$(u^{10}-3u^8+u^7+2u^6-u^5+2u^4-u^3-2u^2+u+1)$ $\cdot(u^{51}-u^{50}+\cdots+20u+23)$
c_9	$(u^{10}+2u^9+6u^8+6u^7+10u^6+5u^5+9u^4+2u^3+5u^2+1)$ $\cdot(u^{51}-3u^{50}+\cdots-3u+1)$
c_{10}	$(u^{10}+4u^7+\cdots-u+1)(u^{51}+u^{50}+\cdots+118u+47)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^{10} + 10y^9 + \cdots + 8y + 1)(y^{51} + 41y^{50} + \cdots - 137683y - 20449)$
c_2, c_5	$(y^{10} + 6y^9 + 13y^8 + 10y^7 - 4y^6 - 9y^5 + 5y^4 + 17y^3 + 15y^2 + 6y + 1)$ $\cdot (y^{51} + 33y^{50} + \cdots - 4701y - 289)$
c_3	$(y^{10} - 2y^9 + y^8 + 7y^7 - 2y^6 + 21y^5 + 2y^4 - 20y^3 + 24y^2 - 8y + 1)$ $\cdot (y^{51} - 23y^{50} + \cdots + 17745737y - 1006009)$
c_4, c_8	$(y^{10} - 6y^9 + 13y^8 - 9y^7 - 10y^6 + 23y^5 - 14y^4 - 3y^3 + 10y^2 - 5y + 1)$ $\cdot (y^{51} - 35y^{50} + \cdots + 3022y - 529)$
c_6, c_9	$(y^{10} + 8y^9 + \cdots + 10y + 1)(y^{51} + 27y^{50} + \cdots - 45y - 1)$
c_{10}	$(y^{10} - 8y^7 + 2y^6 + 33y^5 + 32y^4 + 26y^3 + 25y^2 + 9y + 1)$ $\cdot (y^{51} - 9y^{50} + \cdots + 9976y - 2209)$