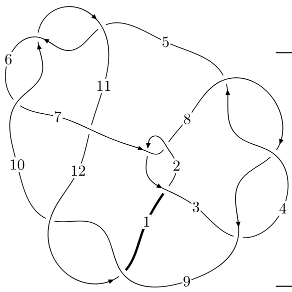
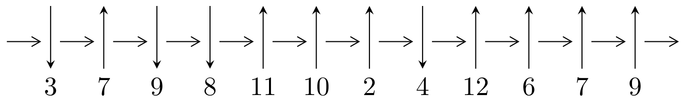
$12n_{0566}$ ($K12n_{0566}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -4.65742 \times 10^{21} u^{31} - 2.20023 \times 10^{22} u^{30} + \cdots + 9.36708 \times 10^{23} b + 5.12230 \times 10^{23},$$
$$2.94856 \times 10^{25} u^{31} - 3.10386 \times 10^{25} u^{30} + \cdots + 2.99747 \times 10^{25} a - 2.87196 \times 10^{25},\ u^{32} - u^{31} + \cdots - 2u + 1\rangle$$
$$I_2^u = \langle b - u,\ a^5 - a^4 + 2a^3 - a^2 + a - 1,\ u^2 + 1\rangle$$
$$I_3^u = \langle b - u,\ a,\ u^6 - u^5 + 2u^4 - 2u^3 + 2u^2 - 2u + 1\rangle$$
$$I_4^u = \langle b - u,\ a,\ u^3 + u^2 + 2u + 1\rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 51 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.

$\boldsymbol{I_1^u = \langle -4.66\times10^{21}u^{31} - 2.20\times10^{22}u^{30} + \cdots + 9.37\times10^{23}b + 5.12\times10^{23},\ 2.95\times10^{25}u^{31} - 3.10\times10^{25}u^{30} + \cdots + 3.00\times10^{25}a - 2.87\times10^{25},\ u^{32} - u^{31} + \cdots - 2u + 1\rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.983683u^{31} + 1.03549u^{30} + \cdots + 42.1633u + 0.958130 \\ 0.00497211u^{31} + 0.0234890u^{30} + \cdots + 1.12532u - 0.546841 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.495029u^{31} - 0.483684u^{30} + \cdots + 26.1222u - 0.952046 \\ -0.0284611u^{31} + 0.0288036u^{30} + \cdots + 0.536896u - 0.995028 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.466568u^{31} - 0.454881u^{30} + \cdots + 26.6591u - 1.94707 \\ -0.0284611u^{31} + 0.0288036u^{30} + \cdots + 0.536896u - 0.995028 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.466568u^{31} - 0.454881u^{30} + \cdots + 26.6591u - 1.94707 \\ -0.0000739509u^{31} + 0.00179294u^{30} + \cdots + 0.0937032u - 1.00672 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.935244u^{31} - 1.05640u^{30} + \cdots - 35.9185u + 0.318643 \\ -0.00328364u^{31} - 0.0312396u^{30} + \cdots + 1.93055u + 0.535840 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.357364u^{31} + 0.452611u^{30} + \cdots - 8.86369u + 3.30364 \\ 0.136131u^{31} - 0.134930u^{30} + \cdots - 6.56253u + 0.588091 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.465451u^{31} - 0.514663u^{30} + \cdots - 8.17487u + 4.78562 \\ 0.151172u^{31} - 0.159734u^{30} + \cdots - 2.72954u - 0.0680096 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{1674544166583428940712685}{3746832618160827210734692}u^{31} - \frac{3228763469657253763874131}{7493665236321654421469384}u^{30} + \cdots + \frac{11509064998472675141633680 1}{7493665236321654421469384}u - \frac{4624345191860318935353055}{9367081545402068026836 73}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{32} + 3u^{31} + \cdots - 20u + 1$
c_2, c_7	$u^{32} + u^{31} + \cdots - 10u^2 + 1$
c_3, c_4, c_8	$u^{32} + u^{31} + \cdots + 2u + 1$
c_5, c_6, c_{10}	$u^{32} + 2u^{31} + \cdots + 5u + 2$
c_9, c_{12}	$u^{32} + 8u^{31} + \cdots + 837u + 136$
c_{11}	$u^{32} - 2u^{31} + \cdots - 96u + 16$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{32} + 63y^{31} + \cdots - 48y + 1$
c_2, c_7	$y^{32} + 3y^{31} + \cdots - 20y + 1$
c_3, c_4, c_8	$y^{32} + 47y^{31} + \cdots - 84y + 1$
c_5, c_6, c_{10}	$y^{32} + 28y^{31} + \cdots + 19y + 4$
c_9, c_{12}	$y^{32} + 44y^{30} + \cdots - 169353y + 18496$
c_{11}	$y^{32} - 4y^{31} + \cdots - 256y + 256$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.149637 + 1.036980I$ $a = -0.417547 + 0.954803I$ $b = 0.302187 - 0.006644I$	$1.43807 - 1.50420I$	$9.22727 + 3.53831I$
$u = -0.149637 - 1.036980I$ $a = -0.417547 - 0.954803I$ $b = 0.302187 + 0.006644I$	$1.43807 + 1.50420I$	$9.22727 - 3.53831I$
$u = 0.570569 + 0.926273I$ $a = 0.652139 + 0.672144I$ $b = -0.729100 + 0.429975I$	$0.356823 - 1.078380I$	$5.98174 + 1.89501I$
$u = 0.570569 - 0.926273I$ $a = 0.652139 - 0.672144I$ $b = -0.729100 - 0.429975I$	$0.356823 + 1.078380I$	$5.98174 - 1.89501I$
$u = -0.759558 + 0.797956I$ $a = -0.669157 + 0.706117I$ $b = 0.806103 + 0.667276I$	$2.84076 + 4.52561I$	$7.98035 - 6.47723I$
$u = -0.759558 - 0.797956I$ $a = -0.669157 - 0.706117I$ $b = 0.806103 - 0.667276I$	$2.84076 - 4.52561I$	$7.98035 + 6.47723I$
$u = 0.080786 + 1.113860I$ $a = 0.450290 + 1.273100I$ $b = -0.240058 - 0.218923I$	$-4.20210 + 4.53860I$	$4.95050 - 3.52289I$
$u = 0.080786 - 1.113860I$ $a = 0.450290 - 1.273100I$ $b = -0.240058 + 0.218923I$	$-4.20210 - 4.53860I$	$4.95050 + 3.52289I$
$u = 0.856979 + 0.733531I$ $a = 0.658177 + 0.744370I$ $b = -0.839448 + 0.780469I$	$-2.06044 - 8.15993I$	$2.47068 + 7.37481I$
$u = 0.856979 - 0.733531I$ $a = 0.658177 - 0.744370I$ $b = -0.839448 - 0.780469I$	$-2.06044 + 8.15993I$	$2.47068 - 7.37481I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.388206 + 0.750499I$ $a = 0.618021 + 0.553690I$ $b = -0.445761 + 0.493038I$	$0.37663 - 1.40948I$	$4.16499 + 4.71779I$
$u = 0.388206 - 0.750499I$ $a = 0.618021 - 0.553690I$ $b = -0.445761 - 0.493038I$	$0.37663 + 1.40948I$	$4.16499 - 4.71779I$
$u = -0.564144 + 0.368266I$ $a = -1.072100 + 0.757048I$ $b = 0.426872 + 0.891946I$	$-4.95649 + 1.03511I$	$-2.62837 - 3.37474I$
$u = -0.564144 - 0.368266I$ $a = -1.072100 - 0.757048I$ $b = 0.426872 - 0.891946I$	$-4.95649 - 1.03511I$	$-2.62837 + 3.37474I$
$u = -0.14043 + 1.61047I$ $a = 1.344160 + 0.225189I$ $b = -0.909776 - 0.978319I$	$1.96786 + 3.39058I$	0
$u = -0.14043 - 1.61047I$ $a = 1.344160 - 0.225189I$ $b = -0.909776 + 0.978319I$	$1.96786 - 3.39058I$	0
$u = 0.31474 + 1.69085I$ $a = -1.283680 - 0.037904I$ $b = 0.93918 - 1.20942I$	$6.02211 - 12.78960I$	0
$u = 0.31474 - 1.69085I$ $a = -1.283680 + 0.037904I$ $b = 0.93918 + 1.20942I$	$6.02211 + 12.78960I$	0
$u = 0.20411 + 1.72625I$ $a = -1.226140 + 0.091965I$ $b = 1.02007 - 1.09862I$	$9.50782 - 4.34458I$	0
$u = 0.20411 - 1.72625I$ $a = -1.226140 - 0.091965I$ $b = 1.02007 + 1.09862I$	$9.50782 + 4.34458I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.27493 + 1.71725I$ $a = 1.249820 + 0.010579I$ $b = -0.98277 - 1.17471I$	$11.3763 + 8.7540I$	0
$u = -0.27493 - 1.71725I$ $a = 1.249820 - 0.010579I$ $b = -0.98277 + 1.17471I$	$11.3763 - 8.7540I$	0
$u = 0.08047 + 1.76969I$ $a = -1.133210 + 0.199889I$ $b = 1.12271 - 0.97669I$	$9.94630 - 3.44071I$	0
$u = 0.08047 - 1.76969I$ $a = -1.133210 - 0.199889I$ $b = 1.12271 + 0.97669I$	$9.94630 + 3.44071I$	0
$u = -0.07166 + 1.77723I$ $a = -1.040780 + 0.308237I$ $b = 1.20703 - 0.80705I$	$7.36926 + 5.04799I$	0
$u = -0.07166 - 1.77723I$ $a = -1.040780 - 0.308237I$ $b = 1.20703 + 0.80705I$	$7.36926 - 5.04799I$	0
$u = 0.00485 + 1.78607I$ $a = 1.074930 + 0.259134I$ $b = -1.18249 - 0.88752I$	$12.35040 - 0.91754I$	0
$u = 0.00485 - 1.78607I$ $a = 1.074930 - 0.259134I$ $b = -1.18249 + 0.88752I$	$12.35040 + 0.91754I$	0
$u = -0.156144 + 0.076843I$ $a = -4.97166 - 4.58572I$ $b = 0.069135 - 1.045370I$	$-7.55319 - 4.33239I$	$-6.63531 + 3.69864I$
$u = -0.156144 - 0.076843I$ $a = -4.97166 + 4.58572I$ $b = 0.069135 + 1.045370I$	$-7.55319 + 4.33239I$	$-6.63531 - 3.69864I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.1157890 + 0.0692134I$ $a = 6.26675 - 1.88119I$ $b = -0.063886 + 0.968637I$	$-2.01181 - 1.57269I$	$-2.90508 + 4.76814I$
$u = 0.1157890 - 0.0692134I$ $a = 6.26675 + 1.88119I$ $b = -0.063886 - 0.968637I$	$-2.01181 + 1.57269I$	$-2.90508 - 4.76814I$

II. $\boldsymbol{I_2^u = \langle b - u,\ a^5 - a^4 + 2a^3 - a^2 + a - 1,\ u^2 + 1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} a \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} au + 1 \\ -1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} au \\ -1 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} au \\ -au - 1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -a^2u \\ a^2u + a + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} a^4 - a^3 + a^2 + 1 \\ a^4u - a^4 + a^2u - a^2 + u - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} a^3u + au \\ -a^2 - au - 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 4a^3 - 4a^2 + 4a$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^{10}$
c_2, c_3, c_4 c_7, c_8	$(u^2+1)^5$
c_5, c_6, c_{10}	$u^{10}+5u^8+8u^6+3u^4-u^2+1$
c_9	$(u^5-u^4+2u^3-u^2+u-1)^2$
c_{11}	$u^{10}+u^8+8u^6+3u^4+3u^2+1$
c_{12}	$(u^5+u^4+2u^3+u^2+u+1)^2$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.339110 + 0.822375I$ $b = 1.000000I$	$-0.32910 - 1.53058I$	$3.48489 + 4.43065I$
$u = 1.000000I$ $a = -0.339110 - 0.822375I$ $b = 1.000000I$	$-0.32910 + 1.53058I$	$3.48489 - 4.43065I$
$u = 1.000000I$ $a = 0.766826$ $b = 1.000000I$	-2.40108	2.51890
$u = 1.000000I$ $a = 0.455697 + 1.200150I$ $b = 1.000000I$	$-5.87256 + 4.40083I$	$-0.74431 - 3.49859I$
$u = 1.000000I$ $a = 0.455697 - 1.200150I$ $b = 1.000000I$	$-5.87256 - 4.40083I$	$-0.74431 + 3.49859I$
$u = -1.000000I$ $a = -0.339110 + 0.822375I$ $b = -1.000000I$	$-0.32910 - 1.53058I$	$3.48489 + 4.43065I$
$u = -1.000000I$ $a = -0.339110 - 0.822375I$ $b = -1.000000I$	$-0.32910 + 1.53058I$	$3.48489 - 4.43065I$
$u = -1.000000I$ $a = 0.766826$ $b = -1.000000I$	-2.40108	2.51890
$u = -1.000000I$ $a = 0.455697 + 1.200150I$ $b = -1.000000I$	$-5.87256 + 4.40083I$	$-0.74431 - 3.49859I$
$u = -1.000000I$ $a = 0.455697 - 1.200150I$ $b = -1.000000I$	$-5.87256 - 4.40083I$	$-0.74431 + 3.49859I$

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

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_9 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_4 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_7 = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_1 = \begin{pmatrix}u^2+1\\u^2\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u\\u^3+u\end{pmatrix}$$
$$a_5 = \begin{pmatrix}u^2+1\\u^4+2u^2\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u^2+1\\u^4+2u^2\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}u^5+2u^3+u\\2u^5+2u^3+2u-1\end{pmatrix}$$
$$a_6 = \begin{pmatrix}-2u^5+u^4-4u^3+3u^2-3u+3\\-3u^5+2u^4-4u^3+3u^2-u+3\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}u^2+1\\2u^4+3u^2\end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^6+3u^5+4u^4+2u^3+1$
c_2, c_3, c_4 c_7, c_8	$u^6+u^5+2u^4+2u^3+2u^2+2u+1$
c_5, c_6, c_{10}	$(u^3-u^2+2u-1)^2$
c_9, c_{11}, c_{12}	$(u^3+u^2-1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^6 - y^5 + 4y^4 - 2y^3 + 8y^2 + 1$
c_2, c_3, c_4 c_7, c_8	$y^6 + 3y^5 + 4y^4 + 2y^3 + 1$
c_5, c_6, c_{10}	$(y^3 + 3y^2 + 2y - 1)^2$
c_9, c_{11}, c_{12}	$(y^3 - y^2 + 2y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.498832 + 1.001300I$ $a = 0$ $b = -0.498832 + 1.001300I$	$-3.02413 + 2.82812I$	$2.49024 - 2.97945I$
$u = -0.498832 - 1.001300I$ $a = 0$ $b = -0.498832 - 1.001300I$	$-3.02413 - 2.82812I$	$2.49024 + 2.97945I$
$u = 0.284920 + 1.115140I$ $a = 0$ $b = 0.284920 + 1.115140I$	1.11345	$9.01951 + 0.I$
$u = 0.284920 - 1.115140I$ $a = 0$ $b = 0.284920 - 1.115140I$	1.11345	$9.01951 + 0.I$
$u = 0.713912 + 0.305839I$ $a = 0$ $b = 0.713912 + 0.305839I$	$-3.02413 + 2.82812I$	$2.49024 - 2.97945I$
$u = 0.713912 - 0.305839I$ $a = 0$ $b = 0.713912 - 0.305839I$	$-3.02413 - 2.82812I$	$2.49024 + 2.97945I$

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

(i) Arc colorings

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

(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	$u^3 + 3u^2 + 2u - 1$
c_2, c_3, c_4 c_5, c_6, c_7 c_8, c_{10}	$u^3 - u^2 + 2u - 1$
c_9, c_{11}, c_{12}	$u^3 + u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^3 - 5y^2 + 10y - 1$
c_2, c_3, c_4 c_5, c_6, c_7 c_8, c_{10}	$y^3 + 3y^2 + 2y - 1$
c_9, c_{11}, c_{12}	$y^3 - y^2 + 2y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.215080 + 1.307140I$ $a = 0$ $b = -0.215080 + 1.307140I$	$-3.02413 - 2.82812I$	$2.49024 + 2.97945I$
$u = -0.215080 - 1.307140I$ $a = 0$ $b = -0.215080 - 1.307140I$	$-3.02413 + 2.82812I$	$2.49024 - 2.97945I$
$u = -0.569840$ $a = 0$ $b = -0.569840$	1.11345	9.01950

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u-1)^{10}(u^3+3u^2+2u-1)(u^6+3u^5+4u^4+2u^3+1)$ $\cdot(u^{32}+3u^{31}+\cdots-20u+1)$
c_2, c_7	$(u^2+1)^5(u^3-u^2+2u-1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{32}+u^{31}+\cdots-10u^2+1)$
c_3, c_4, c_8	$(u^2+1)^5(u^3-u^2+2u-1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{32}+u^{31}+\cdots+2u+1)$
c_5, c_6, c_{10}	$(u^3-u^2+2u-1)^3(u^{10}+5u^8+8u^6+3u^4-u^2+1)$ $\cdot(u^{32}+2u^{31}+\cdots+5u+2)$
c_9	$(u^3+u^2-1)^3(u^5-u^4+2u^3-u^2+u-1)^2$ $\cdot(u^{32}+8u^{31}+\cdots+837u+136)$
c_{11}	$(u^3+u^2-1)^3(u^{10}+u^8+8u^6+3u^4+3u^2+1)$ $\cdot(u^{32}-2u^{31}+\cdots-96u+16)$
c_{12}	$(u^3+u^2-1)^3(u^5+u^4+2u^3+u^2+u+1)^2$ $\cdot(u^{32}+8u^{31}+\cdots+837u+136)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)^{10}(y^3-5y^2+10y-1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{32}+63y^{31}+\cdots-48y+1)$
c_2, c_7	$(y+1)^{10}(y^3+3y^2+2y-1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{32}+3y^{31}+\cdots-20y+1)$
c_3, c_4, c_8	$(y+1)^{10}(y^3+3y^2+2y-1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{32}+47y^{31}+\cdots-84y+1)$
c_5, c_6, c_{10}	$(y^3+3y^2+2y-1)^3(y^5+5y^4+8y^3+3y^2-y+1)^2$ $\cdot(y^{32}+28y^{31}+\cdots+19y+4)$
c_9, c_{12}	$(y^3-y^2+2y-1)^3(y^5+3y^4+4y^3+y^2-y-1)^2$ $\cdot(y^{32}+44y^{30}+\cdots-169353y+18496)$
c_{11}	$(y^3-y^2+2y-1)^3(y^5+y^4+8y^3+3y^2+3y+1)^2$ $\cdot(y^{32}-4y^{31}+\cdots-256y+256)$