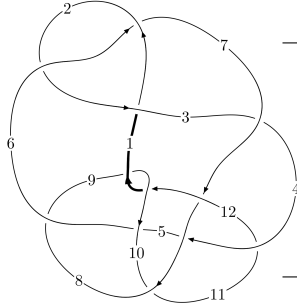
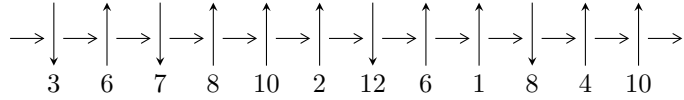


12n₀₂₈₂ (K12n₀₂₈₂)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle u^{13} + 3u^{12} + 9u^{11} + 16u^{10} + 26u^9 + 32u^8 + 33u^7 + 28u^6 + 17u^5 + 9u^4 + u^3 + u^2 + b + 1, \\ u^{15} + 5u^{14} + \dots + 2a + 4, u^{16} + 5u^{15} + \dots + 4u + 2 \rangle$$

$$I_2^u = \langle u^{11} - 2u^{10} + 5u^9 - 7u^8 + 9u^7 - 11u^6 + 10u^5 - 10u^4 + 6u^3 - 4u^2 + b + 3u - 1, \\ u^{11} + 2u^9 + 2u^8 - u^7 + 4u^6 - 6u^5 + 5u^4 - 8u^3 + 3u^2 + 2a - 2u + 3, \\ u^{12} - 2u^{11} + 6u^{10} - 8u^9 + 13u^8 - 14u^7 + 16u^6 - 15u^5 + 12u^4 - 9u^3 + 6u^2 - 3u + 2 \rangle$$

$$I_3^u = \langle -au - u^2 + b + u - 1, u^2a + a^2 + 5u^2 + a - 2u + 7, u^3 - u^2 + 2u - 1 \rangle$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 34 representations.

¹The 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>).

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

$$I_1^u = \langle u^{13} + 3u^{12} + \dots + b + 1, u^{15} + 5u^{14} + \dots + 2a + 4, u^{16} + 5u^{15} + \dots + 4u + 2 \rangle \quad \text{I.}$$

(i) Arc colorings

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

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

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

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -\frac{1}{2}u^{15} - \frac{5}{2}u^{14} + \dots - \frac{5}{2}u - 2 \\ -u^{13} - 3u^{12} + \dots - u^2 - 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{1}{2}u^{15} - \frac{3}{2}u^{14} + \dots - u^2 - \frac{1}{2}u \\ -u^{15} - 4u^{14} + \dots - u - 1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{2}u^{15} + \frac{5}{2}u^{14} + \dots + \frac{1}{2}u + 1 \\ u^{14} + 4u^{13} + \dots + 2u + 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{2}u^{15} + \frac{5}{2}u^{14} + \dots + \frac{1}{2}u + 1 \\ -u^{14} - u^{13} + \dots + u + 1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -\frac{1}{2}u^{15} - \frac{5}{2}u^{14} + \dots - 2u^2 - \frac{3}{2}u \\ -u^{13} - 3u^{12} + \dots - u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{5}{2}u^{15} - \frac{25}{2}u^{14} + \dots - \frac{15}{2}u - 5 \\ u^{14} - 4u^{13} + \dots - 3u - 5 \end{pmatrix}$$

(ii) Obstruction class = -1

$$\text{(iii) Cusp Shapes} = 3u^{15} + 14u^{14} + 49u^{13} + 118u^{12} + 232u^{11} + 373u^{10} + 501u^9 + 574u^8 + 544u^7 + 435u^6 + 280u^5 + 141u^4 + 62u^3 + 25u^2 + 20u + 14$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} + 11u^{15} + \dots + 12u + 4$
c_2, c_6	$u^{16} - 5u^{15} + \dots - 4u + 2$
c_3	$u^{16} + 5u^{15} + \dots - 4u + 10$
c_4, c_5, c_{11}	$u^{16} + 13u^{14} + \dots - u + 1$
c_7	$u^{16} + 9u^{15} + \dots + 24u + 8$
c_8	$u^{16} + u^{15} + \dots - 487u + 889$
c_9, c_{12}	$u^{16} - 2u^{15} + \dots - 17u + 1$
c_{10}	$u^{16} - 17u^{15} + \dots - 52u + 10$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} - 9y^{15} + \dots + 632y + 16$
c_2, c_6	$y^{16} + 11y^{15} + \dots + 12y + 4$
c_3	$y^{16} - 41y^{15} + \dots + 764y + 100$
c_4, c_5, c_{11}	$y^{16} + 26y^{15} + \dots + 7y + 1$
c_7	$y^{16} + 3y^{15} + \dots + 288y + 64$
c_8	$y^{16} + 109y^{15} + \dots - 11168313y + 790321$
c_9, c_{12}	$y^{16} + 34y^{15} + \dots - 47y + 1$
c_{10}	$y^{16} - 49y^{15} + \dots + 36y + 100$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.478305 + 1.028310I$		
$a = 0.050929 + 0.582193I$	$-0.64871 - 3.08703I$	$2.33099 + 0.59290I$
$b = 0.623036 + 0.226095I$		
$u = -0.478305 - 1.028310I$		
$a = 0.050929 - 0.582193I$	$-0.64871 + 3.08703I$	$2.33099 - 0.59290I$
$b = 0.623036 - 0.226095I$		
$u = -1.136630 + 0.036859I$		
$a = 0.25201 - 1.80758I$	$-19.1158 - 4.5602I$	$1.43322 + 1.94202I$
$b = 0.21982 - 2.06384I$		
$u = -1.136630 - 0.036859I$		
$a = 0.25201 + 1.80758I$	$-19.1158 + 4.5602I$	$1.43322 - 1.94202I$
$b = 0.21982 + 2.06384I$		
$u = 0.065300 + 1.174500I$		
$a = 0.511213 + 0.476614I$	$-3.55568 - 0.83919I$	$-1.52217 + 2.21836I$
$b = 0.526402 - 0.631543I$		
$u = 0.065300 - 1.174500I$		
$a = 0.511213 - 0.476614I$	$-3.55568 + 0.83919I$	$-1.52217 - 2.21836I$
$b = 0.526402 + 0.631543I$		
$u = 0.284247 + 1.175830I$		
$a = -0.458912 - 0.456538I$	$-1.92269 + 4.32175I$	$-1.05745 - 3.72733I$
$b = -0.406366 + 0.669372I$		
$u = 0.284247 - 1.175830I$		
$a = -0.458912 + 0.456538I$	$-1.92269 - 4.32175I$	$-1.05745 + 3.72733I$
$b = -0.406366 - 0.669372I$		
$u = -0.462160 + 0.504593I$		
$a = -0.810441 - 0.051513I$	$0.900558 - 0.884001I$	$7.79246 + 5.53646I$
$b = -0.400547 + 0.385135I$		
$u = -0.462160 - 0.504593I$		
$a = -0.810441 + 0.051513I$	$0.900558 + 0.884001I$	$7.79246 - 5.53646I$
$b = -0.400547 - 0.385135I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.59084 + 1.38518I$ $a = 1.216170 - 0.591623I$ $b = -0.10095 - 2.03417I$	$16.1808 - 1.5728I$	$-0.910122 + 0.801977I$
$u = -0.59084 - 1.38518I$ $a = 1.216170 + 0.591623I$ $b = -0.10095 + 2.03417I$	$16.1808 + 1.5728I$	$-0.910122 - 0.801977I$
$u = 0.364622 + 0.333050I$ $a = -0.375430 - 0.860631I$ $b = -0.149743 + 0.438842I$	$0.56988 - 1.44730I$	$4.97392 + 6.26939I$
$u = 0.364622 - 0.333050I$ $a = -0.375430 + 0.860631I$ $b = -0.149743 - 0.438842I$	$0.56988 + 1.44730I$	$4.97392 - 6.26939I$
$u = -0.54623 + 1.41233I$ $a = -1.38554 + 0.31520I$ $b = -0.31165 + 2.12901I$	$15.8163 - 10.5372I$	$-1.04085 + 4.44511I$
$u = -0.54623 - 1.41233I$ $a = -1.38554 - 0.31520I$ $b = -0.31165 - 2.12901I$	$15.8163 + 10.5372I$	$-1.04085 - 4.44511I$

II.

$$I_2^u = \langle u^{11} - 2u^{10} + \dots + b - 1, u^{11} + 2u^9 + \dots + 2a + 3, u^{12} - 2u^{11} + \dots - 3u + 2 \rangle$$

(i) Arc colorings

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

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

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

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -\frac{1}{2}u^{11} - u^9 + \dots + u - \frac{3}{2} \\ -u^{11} + 2u^{10} + \dots - 3u + 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -\frac{3}{2}u^{11} + 3u^{10} + \dots - 5u + \frac{5}{2} \\ u^{10} - 2u^9 + 5u^8 - 6u^7 + 8u^6 - 8u^5 + 8u^4 - 7u^3 + 4u^2 - u + 3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -\frac{1}{2}u^{11} - u^9 + \dots + \frac{1}{2}u^2 - \frac{1}{2} \\ -u^{11} + 2u^{10} + \dots - 3u + 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -\frac{1}{2}u^{11} - u^9 + \dots + \frac{1}{2}u^2 - \frac{1}{2} \\ -u^{11} + 3u^{10} + \dots - 5u + 3 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} \frac{1}{2}u^{11} + u^9 + \dots + \frac{1}{2}u^2 + \frac{3}{2} \\ u^{11} - 2u^{10} + 5u^9 - 6u^8 + 8u^7 - 8u^6 + 8u^5 - 7u^4 + 4u^3 - 2u^2 + 2u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} \frac{1}{2}u^{11} + u^9 + \dots - \frac{1}{2}u^2 + \frac{1}{2} \\ u^{11} - 3u^{10} + \dots + 3u - 3 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes

$$= u^{11} - 5u^{10} + 10u^9 - 21u^8 + 24u^7 - 31u^6 + 28u^5 - 25u^4 + 22u^3 - 12u^2 + 8u - 4$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{12} - 8u^{11} + \dots - 15u + 4$
c_2	$u^{12} - 2u^{11} + \dots - 3u + 2$
c_3	$u^{12} + 2u^{11} - 2u^9 + 6u^8 + 10u^7 + 5u^6 + 2u^5 + 11u^4 + u^3 + 4u^2 + 5u + 2$
c_4, c_{11}	$u^{12} + 8u^{10} + \dots - 2u + 1$
c_5	$u^{12} + 8u^{10} + \dots + 2u + 1$
c_6	$u^{12} + 2u^{11} + \dots + 3u + 2$
c_7	$u^{12} + 2u^{11} + \dots + 2u + 1$
c_8	$u^{12} + 5u^{11} + \dots - 7u^2 + 1$
c_9	$u^{12} - 2u^{11} + \dots - 2u + 1$
c_{10}	$u^{12} + 14u^{11} + \dots + 495u + 80$
c_{12}	$u^{12} + 2u^{11} + \dots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{12} - 4y^{11} + \dots + 15y + 16$
c_2, c_6	$y^{12} + 8y^{11} + \dots + 15y + 4$
c_3	$y^{12} - 4y^{11} + \dots - 9y + 4$
c_4, c_5, c_{11}	$y^{12} + 16y^{11} + \dots + 2y + 1$
c_7	$y^{12} + 4y^{11} + \dots + 8y + 1$
c_8	$y^{12} - 13y^{11} + \dots - 14y + 1$
c_9, c_{12}	$y^{12} + 8y^{11} + \dots + 4y + 1$
c_{10}	$y^{12} - 8y^{11} + \dots + 3615y + 6400$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.249672 + 0.959195I$ $a = -1.68135 - 0.45806I$ $b = 0.01959 - 1.72711I$	$-7.94302 + 1.00045I$	$-2.72933 - 0.10711I$
$u = 0.249672 - 0.959195I$ $a = -1.68135 + 0.45806I$ $b = 0.01959 + 1.72711I$	$-7.94302 - 1.00045I$	$-2.72933 + 0.10711I$
$u = -0.429646 + 0.953539I$ $a = -0.073134 - 0.459239I$ $b = 0.469324 + 0.127574I$	$-0.45876 - 4.18304I$	$4.58234 + 6.10453I$
$u = -0.429646 - 0.953539I$ $a = -0.073134 + 0.459239I$ $b = 0.469324 - 0.127574I$	$-0.45876 + 4.18304I$	$4.58234 - 6.10453I$
$u = 0.839161 + 0.302874I$ $a = 0.461054 + 1.306310I$ $b = -0.008748 + 1.235850I$	$-2.36446 - 1.00466I$	$2.85304 + 0.63873I$
$u = 0.839161 - 0.302874I$ $a = 0.461054 - 1.306310I$ $b = -0.008748 - 1.235850I$	$-2.36446 + 1.00466I$	$2.85304 - 0.63873I$
$u = -0.484489 + 0.716111I$ $a = 0.556723 - 0.092910I$ $b = -0.203192 + 0.443689I$	$0.268555 + 0.420031I$	$1.039574 + 0.824157I$
$u = -0.484489 - 0.716111I$ $a = 0.556723 + 0.092910I$ $b = -0.203192 - 0.443689I$	$0.268555 - 0.420031I$	$1.039574 - 0.824157I$
$u = 0.581682 + 1.140840I$ $a = 1.010720 + 0.383459I$ $b = 0.150456 + 1.376120I$	$-4.83530 + 6.22925I$	$0.60260 - 5.56850I$
$u = 0.581682 - 1.140840I$ $a = 1.010720 - 0.383459I$ $b = 0.150456 - 1.376120I$	$-4.83530 - 6.22925I$	$0.60260 + 5.56850I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.243620 + 1.359490I$		
$a = -1.024010 + 0.130899I$	$-7.69609 + 2.59197I$	$-0.34822 - 1.94419I$
$b = -0.42743 - 1.36024I$		
$u = 0.243620 - 1.359490I$		
$a = -1.024010 - 0.130899I$	$-7.69609 - 2.59197I$	$-0.34822 + 1.94419I$
$b = -0.42743 + 1.36024I$		

III.

$$I_3^u = \langle -au - u^2 + b + u - 1, u^2a + a^2 + 5u^2 + a - 2u + 7, u^3 - u^2 + 2u - 1 \rangle$$

(i) Arc colorings

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

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

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

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

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

$$a_{10} = \begin{pmatrix} a \\ au + u^2 - u + 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^2a - au + 3u^2 + a - 3u + 5 \\ 3 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -au - u^2 + a - 1 \\ -au + a - u + 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -u + 2 \\ u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -au - u^2 + a - u - 1 \\ au - u^2 + u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^2a - 3au - u^2 + a - u - 1 \\ -u^2a + au - u^2 + u - 1 \end{pmatrix}$$

(ii) Obstruction class = -1

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

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^3 + 3u^2 + 2u - 1)^2$
c_2, c_6	$(u^3 + u^2 + 2u + 1)^2$
c_3	$(u^3 - u^2 + 1)^2$
c_4, c_5, c_{11}	$u^6 - u^5 + 8u^4 - 2u^3 + 24u^2 + 23$
c_7	$(u - 1)^6$
c_8	$u^6 - 5u^5 - 6u^4 + 30u^3 + 78u^2 + 70u + 23$
c_9, c_{12}	$u^6 + 5u^5 + 18u^4 + 28u^3 + 42u^2 + 30u + 25$
c_{10}	$(u^3 + 5u^2 + 10u + 7)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^3 - 5y^2 + 10y - 1)^2$
c_2, c_6	$(y^3 + 3y^2 + 2y - 1)^2$
c_3	$(y^3 - y^2 + 2y - 1)^2$
c_4, c_5, c_{11}	$y^6 + 15y^5 + 108y^4 + 426y^3 + 944y^2 + 1104y + 529$
c_7	$(y - 1)^6$
c_8	$y^6 - 37y^5 + 492y^4 - 1090y^3 + 1608y^2 - 1312y + 529$
c_9, c_{12}	$y^6 + 11y^5 + 128y^4 + 478y^3 + 984y^2 + 1200y + 625$
c_{10}	$(y^3 - 5y^2 + 30y - 49)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.215080 + 1.307140I$ $a = -1.007880 - 0.138006I$ $b = -0.91382 - 2.09199I$	$-9.60386 + 2.82812I$	$-5.50976 - 2.97945I$
$u = 0.215080 + 1.307140I$ $a = 1.67024 - 0.42427I$ $b = 0.036382 + 1.347130I$	$-9.60386 + 2.82812I$	$-5.50976 - 2.97945I$
$u = 0.215080 - 1.307140I$ $a = -1.007880 + 0.138006I$ $b = -0.91382 + 2.09199I$	$-9.60386 - 2.82812I$	$-5.50976 + 2.97945I$
$u = 0.215080 - 1.307140I$ $a = 1.67024 + 0.42427I$ $b = 0.036382 - 1.347130I$	$-9.60386 - 2.82812I$	$-5.50976 + 2.97945I$
$u = 0.569840$ $a = -0.66236 + 2.65428I$ $b = 0.37744 + 1.51251I$	-5.46628	1.01950
$u = 0.569840$ $a = -0.66236 - 2.65428I$ $b = 0.37744 - 1.51251I$	-5.46628	1.01950

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^3 + 3u^2 + 2u - 1)^2)(u^{12} - 8u^{11} + \dots - 15u + 4)$ $\cdot (u^{16} + 11u^{15} + \dots + 12u + 4)$
c_2	$((u^3 + u^2 + 2u + 1)^2)(u^{12} - 2u^{11} + \dots - 3u + 2)$ $\cdot (u^{16} - 5u^{15} + \dots - 4u + 2)$
c_3	$(u^3 - u^2 + 1)^2$ $\cdot (u^{12} + 2u^{11} - 2u^9 + 6u^8 + 10u^7 + 5u^6 + 2u^5 + 11u^4 + u^3 + 4u^2 + 5u + 2)$ $\cdot (u^{16} + 5u^{15} + \dots - 4u + 10)$
c_4, c_{11}	$(u^6 - u^5 + 8u^4 - 2u^3 + 24u^2 + 23)(u^{12} + 8u^{10} + \dots - 2u + 1)$ $\cdot (u^{16} + 13u^{14} + \dots - u + 1)$
c_5	$(u^6 - u^5 + 8u^4 - 2u^3 + 24u^2 + 23)(u^{12} + 8u^{10} + \dots + 2u + 1)$ $\cdot (u^{16} + 13u^{14} + \dots - u + 1)$
c_6	$((u^3 + u^2 + 2u + 1)^2)(u^{12} + 2u^{11} + \dots + 3u + 2)$ $\cdot (u^{16} - 5u^{15} + \dots - 4u + 2)$
c_7	$((u - 1)^6)(u^{12} + 2u^{11} + \dots + 2u + 1)(u^{16} + 9u^{15} + \dots + 24u + 8)$
c_8	$(u^6 - 5u^5 + \dots + 70u + 23)(u^{12} + 5u^{11} + \dots - 7u^2 + 1)$ $\cdot (u^{16} + u^{15} + \dots - 487u + 889)$
c_9	$(u^6 + 5u^5 + \dots + 30u + 25)(u^{12} - 2u^{11} + \dots - 2u + 1)$ $\cdot (u^{16} - 2u^{15} + \dots - 17u + 1)$
c_{10}	$((u^3 + 5u^2 + 10u + 7)^2)(u^{12} + 14u^{11} + \dots + 495u + 80)$ $\cdot (u^{16} - 17u^{15} + \dots - 52u + 10)$
c_{12}	$(u^6 + 5u^5 + \dots + 30u + 25)(u^{12} + 2u^{11} + \dots + 2u + 1)$ $\cdot (u^{16} - 2u^{15} + \dots - 17u + 1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^3 - 5y^2 + 10y - 1)^2)(y^{12} - 4y^{11} + \dots + 15y + 16)$ $\cdot (y^{16} - 9y^{15} + \dots + 632y + 16)$
c_2, c_6	$((y^3 + 3y^2 + 2y - 1)^2)(y^{12} + 8y^{11} + \dots + 15y + 4)$ $\cdot (y^{16} + 11y^{15} + \dots + 12y + 4)$
c_3	$((y^3 - y^2 + 2y - 1)^2)(y^{12} - 4y^{11} + \dots - 9y + 4)$ $\cdot (y^{16} - 41y^{15} + \dots + 764y + 100)$
c_4, c_5, c_{11}	$(y^6 + 15y^5 + 108y^4 + 426y^3 + 944y^2 + 1104y + 529)$ $\cdot (y^{12} + 16y^{11} + \dots + 2y + 1)(y^{16} + 26y^{15} + \dots + 7y + 1)$
c_7	$((y - 1)^6)(y^{12} + 4y^{11} + \dots + 8y + 1)(y^{16} + 3y^{15} + \dots + 288y + 64)$
c_8	$(y^6 - 37y^5 + 492y^4 - 1090y^3 + 1608y^2 - 1312y + 529)$ $\cdot (y^{12} - 13y^{11} + \dots - 14y + 1)$ $\cdot (y^{16} + 109y^{15} + \dots - 11168313y + 790321)$
c_9, c_{12}	$(y^6 + 11y^5 + 128y^4 + 478y^3 + 984y^2 + 1200y + 625)$ $\cdot (y^{12} + 8y^{11} + \dots + 4y + 1)(y^{16} + 34y^{15} + \dots - 47y + 1)$
c_{10}	$((y^3 - 5y^2 + 30y - 49)^2)(y^{12} - 8y^{11} + \dots + 3615y + 6400)$ $\cdot (y^{16} - 49y^{15} + \dots + 36y + 100)$