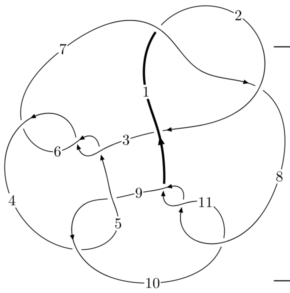
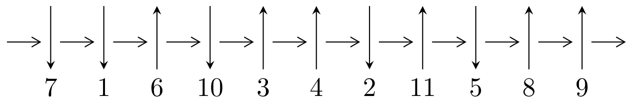
$11a_{231}$ ($K11a_{231}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

[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`).

$$
\begin{aligned}
I_1^u = \langle & 49503754u^{16} - 103286795u^{15} + \cdots + 3447876362d - 235456666,\\
& 58457271u^{16} - 270451180u^{15} + \cdots + 13791505448c - 14346071104,\\
& 31318034u^{16} - 423514703u^{15} + \cdots + 6895752724b - 2520805844,\\
& 630201461u^{16} - 1197766854u^{15} + \cdots + 13791505448a - 18642484192,\ u^{17} - 2u^{16} + \cdots - 4u^2 + 8\rangle\\
I_2^u = \langle & 4u^6a + 14u^5a - 3u^6 + 26u^4a - 3u^5 + 26u^3a - 2u^4 + 8u^2a + 3u^3 - 12au + 9u^2 + 10d - 14a + 9u + 8,\\
& 3u^6a + 3u^5a - u^6 + 2u^4a + 4u^5 - 3u^3a + 11u^4 - 9u^2a + 21u^3 - 9au + 18u^2 + 10c - 8a + 8u + 1,\\
& -u^5 - 2u^4 - 3u^3 + au - 2u^2 + b - u,\\
& -4u^6 - 2u^4a - 9u^5 - 4u^3a - 15u^4 - 6u^2a - 10u^3 + 2a^2 - 4au - 3u^2 - 2a + 7u + 7,\\
& u^7 + 3u^6 + 6u^5 + 7u^4 + 5u^3 + u^2 - 2u - 2\rangle\\
I_3^u = \langle & u^3 + d + u,\ c + u,\ u^4 - 2u^2a - u^3 + au + u^2 + b - 2a - 1,\\
& -u^4a + 2u^3a - 3u^2a + u^3 + a^2 + 2au - u^2 - a + 2u - 1,\ u^5 - u^4 + 2u^3 - u^2 + u - 1\rangle\\
I_4^u = \langle & -6u^4a + u^3a + 2u^4 - 15u^2a - 8u^3 + 5au + 5u^2 + 23d + 2a - 17u + 7,\\
& -2u^4a - 15u^3a - 7u^4 - 5u^2a + 5u^3 - 6au - 6u^2 + 23c - 7a - 21u + 10,\\
& -4u^4a + 16u^3a + 9u^4 - 10u^2a - 13u^3 + 11au + 11u^2 + 23b - 14a + 4u - 3,\\
& -u^4a + 2u^4 - u^2a + u^3 + a^2 - 2au + u^2 - a + 4u + 1,\ u^5 - u^4 + 2u^3 - u^2 + u - 1\rangle\\
I_5^u = \langle & u^3 + d + u,\ c + u,\ -u^4 + u^3 - u^2 + b - 1,\ -u^4 - u^2 + a - 1,\ u^5 - u^4 + 2u^3 - u^2 + u - 1\rangle
\end{aligned}
$$

$$
\begin{aligned}
I_1^v &= \langle a,\ d + 1,\ c + a,\ b - 1,\ v + 1\rangle\\
I_2^v &= \langle a,\ d,\ c - 1,\ b + 1,\ v - 1\rangle\\
I_3^v &= \langle a,\ d + 1,\ c + a - 1,\ b - 1,\ v - 1\rangle\\
I_4^v &= \langle c,\ d + 1,\ cb + a - 1,\ cv + av - c - v,\ bv - v + 1\rangle
\end{aligned}
$$

* 8 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 59 representations.
* 1 irreducible components of $\dim_{\mathbb{C}} = 1$

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

I. $\boldsymbol{I_1^u = \langle 4.95 \times 10^7 u^{16} - 1.03 \times 10^8 u^{15} + \cdots + 3.45 \times 10^9 d - 2.35 \times 10^8,\ 5.85 \times 10^7 u^{16} - 2.70 \times 10^8 u^{15} + \cdots + 1.38 \times 10^{10} c - 1.43 \times 10^{10},\ 3.13 \times 10^7 u^{16} - 4.24 \times 10^8 u^{15} + \cdots + 6.90 \times 10^9 b - 2.52 \times 10^9,\ 6.30 \times 10^8 u^{16} - 1.20 \times 10^9 u^{15} + \cdots + 1.38 \times 10^{10} a - 1.86 \times 10^{10},\ u^{17} - 2u^{16} + \cdots - 4u^2 + 8\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -0.0456949u^{16} + 0.0868482u^{15} + \cdots + 0.0108537u + 1.35174 \\ -0.00454164u^{16} + 0.0614167u^{15} + \cdots + 1.35174u + 0.365559 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -0.00423864u^{16} + 0.0196100u^{15} + \cdots - 0.366884u + 1.04021 \\ -0.0143578u^{16} + 0.0299566u^{15} + \cdots - 0.201558u + 0.0682903 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.00853629u^{16} - 0.00271483u^{15} + \cdots - 0.843158u + 0.201558 \\ -0.0111327u^{16} + 0.00527464u^{15} + \cdots - 1.04021u - 0.0339091 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0196690u^{16} - 0.00798947u^{15} + \cdots + 0.197053u + 0.235467 \\ 0.00442501u^{16} + 0.0219877u^{15} + \cdots + 0.882859u - 0.216879 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0101191u^{16} - 0.0103467u^{15} + \cdots - 0.165326u + 0.971920 \\ -0.0143578u^{16} + 0.0299566u^{15} + \cdots - 0.201558u + 0.0682903 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.0101191u^{16} - 0.0103467u^{15} + \cdots - 0.165326u + 0.971920 \\ 0.0191724u^{16} - 0.0450506u^{15} + \cdots + 0.120605u - 0.147423 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} 0.0184279u^{16} - 0.0176833u^{15} + \cdots + 0.128762u + 0.120605 \\ 0.00318587u^{16} - 0.0118199u^{15} + \cdots + 0.824498u - 0.234332 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0184279u^{16} - 0.0176833u^{15} + \cdots + 0.128762u + 0.120605 \\ 0.00318587u^{16} - 0.0118199u^{15} + \cdots + 0.824498u - 0.234332 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= \frac{975451789}{3447876362}u^{16} - \frac{210120269}{3447876362}u^{15} + \cdots + \frac{8037027246}{1723938181}u - \frac{2146878348}{1723938181}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$u^{17} - 2u^{16} + \cdots - 8u + 4$
c_2	$u^{17} + 6u^{16} + \cdots + 88u + 16$
c_3, c_5, c_6 c_8, c_{10}, c_{11}	$u^{17} + 2u^{16} + \cdots + 3u + 1$
c_4, c_9	$u^{17} - 2u^{16} + \cdots - 4u^2 + 8$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y^{17} - 6y^{16} + \cdots + 88y - 16$
c_2	$y^{17} + 10y^{16} + \cdots + 288y - 256$
c_3, c_5, c_6 c_8, c_{10}, c_{11}	$y^{17} - 20y^{16} + \cdots + 27y - 1$
c_4, c_9	$y^{17} + 6y^{16} + \cdots + 64y - 64$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.679716 + 0.561358I$ $a = 0.75464 + 1.62593I$ $b = -0.39979 + 1.52879I$ $c = 0.849883 + 1.063640I$ $d = 0.073472 + 0.578699I$	$-3.14388 + 1.09865I$	$-5.52136 - 1.09882I$
$u = 0.679716 - 0.561358I$ $a = 0.75464 - 1.62593I$ $b = -0.39979 - 1.52879I$ $c = 0.849883 - 1.063640I$ $d = 0.073472 - 0.578699I$	$-3.14388 - 1.09865I$	$-5.52136 + 1.09882I$
$u = 0.555749 + 1.023030I$ $a = -1.22318 - 0.96405I$ $b = 0.30647 - 1.78712I$ $c = 0.306715 + 1.153640I$ $d = -0.260592 + 0.795594I$	$-1.71782 - 5.90288I$	$-0.75718 + 7.23695I$
$u = 0.555749 - 1.023030I$ $a = -1.22318 + 0.96405I$ $b = 0.30647 + 1.78712I$ $c = 0.306715 - 1.153640I$ $d = -0.260592 - 0.795594I$	$-1.71782 + 5.90288I$	$-0.75718 - 7.23695I$
$u = -1.247530 + 0.318357I$ $a = -0.254428 + 0.248211I$ $b = 0.238386 - 0.390648I$ $c = -1.033850 + 0.177824I$ $d = -1.44180 + 0.15237I$	$8.60033 - 1.91429I$	$8.38805 + 0.33236I$
$u = -1.247530 - 0.318357I$ $a = -0.254428 - 0.248211I$ $b = 0.238386 + 0.390648I$ $c = -1.033850 - 0.177824I$ $d = -1.44180 - 0.15237I$	$8.60033 + 1.91429I$	$8.38805 - 0.33236I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.022849+0.695780I$ $a=\ 0.596447-0.521515I$ $b=\ 0.349231+0.426912I$ $c=\ 0.070481-0.342332I$ $d=-0.556553-0.244029I$	$0.88275+1.29794I$	$5.86581-6.22804I$
$u=-0.022849-0.695780I$ $a=\ 0.596447+0.521515I$ $b=\ 0.349231-0.426912I$ $c=\ 0.070481+0.342332I$ $d=-0.556553+0.244029I$	$0.88275-1.29794I$	$5.86581+6.22804I$
$u=\ 1.235140+0.560024I$ $a=-1.37636-0.88777I$ $b=-1.20283-1.86731I$ $c=-1.030900-0.315398I$ $d=-1.43635-0.27040I$	$6.85439+7.49245I$	$6.04980-5.00652I$
$u=\ 1.235140-0.560024I$ $a=-1.37636+0.88777I$ $b=-1.20283+1.86731I$ $c=-1.030900+0.315398I$ $d=-1.43635+0.27040I$	$6.85439-7.49245I$	$6.04980+5.00652I$
$u=-0.66454+1.33308I$ $a=-0.189517-0.255094I$ $b=\ 0.466001-0.083122I$ $c=\ 0.052946+1.267480I$ $d=\ 1.48587+0.32095I$	$11.9481+8.6770I$	$9.06927-4.38269I$
$u=-0.66454-1.33308I$ $a=-0.189517+0.255094I$ $b=\ 0.466001+0.083122I$ $c=\ 0.052946-1.267480I$ $d=\ 1.48587-0.32095I$	$11.9481-8.6770I$	$9.06927+4.38269I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.79652 + 1.26851I$ $a = 0.52130 + 1.70360I$ $b = -1.74580 + 2.01822I$ $c = 0.18365 - 1.46954I$ $d = 1.45618 - 0.38779I$	$9.1924 - 14.7354I$	$6.16899 + 8.15927I$
$u = 0.79652 - 1.26851I$ $a = 0.52130 - 1.70360I$ $b = -1.74580 - 2.01822I$ $c = 0.18365 + 1.46954I$ $d = 1.45618 + 0.38779I$	$9.1924 + 14.7354I$	$6.16899 - 8.15927I$
$u = -0.11728 + 1.54547I$ $a = -0.380984 + 0.529958I$ $b = -0.774348 - 0.650953I$ $c = -0.113527 + 0.217154I$ $d = 1.58385 + 0.05558I$	$15.7365 + 3.2760I$	$10.07807 - 2.58290I$
$u = -0.11728 - 1.54547I$ $a = -0.380984 - 0.529958I$ $b = -0.774348 + 0.650953I$ $c = -0.113527 - 0.217154I$ $d = 1.58385 - 0.05558I$	$15.7365 - 3.2760I$	$10.07807 + 2.58290I$
$u = -0.429856$ $a = 1.10419$ $b = -0.474641$ $c = 1.42921$ $d = 0.191836$	-1.29941	-8.68290

II. $I^u_2 = \langle 4u^6a - 3u^6 + \cdots - 14a + 8,\ 3u^6a - u^6 + \cdots - 8a + 1,\ -u^5 - 2u^4 + \cdots + b - u,\ -4u^6 - 9u^5 + \cdots - 2a + 7,\ u^7 + 3u^6 + \cdots - 2u - 2\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ u^5 + 2u^4 + 3u^3 - au + 2u^2 + u \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{3}{10}u^6a + \frac{1}{10}u^6 + \cdots + \frac{4}{5}a - \frac{1}{10} \\ -\frac{2}{5}u^6a + \frac{3}{10}u^6 + \cdots + \frac{7}{5}a - \frac{4}{5} \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{7}{10}u^6a + \frac{1}{10}u^6 + \cdots - \frac{1}{5}a - \frac{1}{10} \\ \frac{3}{5}u^6a + \frac{3}{10}u^6 + \cdots - \frac{3}{5}a - \frac{4}{5} \end{pmatrix}$$
$$a_1 = \begin{pmatrix} \frac{1}{10}u^6a - \frac{1}{5}u^6 + \cdots + \frac{2}{5}a + \frac{7}{10} \\ -\frac{1}{5}u^6a - \frac{1}{10}u^6 + \cdots + \frac{1}{5}a + \frac{3}{5} \end{pmatrix}$$
$$a_6 = \begin{pmatrix} \frac{1}{10}u^6a - \frac{1}{5}u^6 + \cdots - \frac{3}{5}a + \frac{7}{10} \\ -\frac{2}{5}u^6a + \frac{3}{10}u^6 + \cdots + \frac{7}{5}a - \frac{4}{5} \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{1}{10}u^6a - \frac{1}{5}u^6 + \cdots - \frac{3}{5}a + \frac{7}{10} \\ -\frac{1}{5}u^6a - \frac{1}{10}u^6 + \cdots + \frac{1}{5}a + \frac{3}{5} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{1}{10}u^6a + \frac{1}{5}u^6 + \cdots - \frac{2}{5}a - \frac{7}{10} \\ -\frac{1}{5}u^6a - \frac{1}{10}u^6 + \cdots + \frac{1}{5}a - \frac{2}{5} \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{1}{10}u^6a + \frac{1}{5}u^6 + \cdots - \frac{2}{5}a - \frac{7}{10} \\ -\frac{1}{5}u^6a - \frac{1}{10}u^6 + \cdots + \frac{1}{5}a - \frac{2}{5} \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 2u^6 + 8u^5 + 10u^4 + 10u^3 - 4u$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_7	$(u^7 - u^6 - u^5 + 2u^4 + u^3 - 2u^2 + u + 1)^2$
c_2	$(u^7 + 3u^6 + 7u^5 + 8u^4 + 9u^3 + 6u^2 + 5u + 1)^2$
c_3, c_5, c_6 c_8, c_{10}, c_{11}	$u^{14} + u^{13} + \cdots - 4u - 4$
c_4, c_9	$(u^7 + 3u^6 + 6u^5 + 7u^4 + 5u^3 + u^2 - 2u - 2)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7	$(y^7 - 3y^6 + 7y^5 - 8y^4 + 9y^3 - 6y^2 + 5y - 1)^2$
c_2	$(y^7 + 5y^6 + 19y^5 + 36y^4 + 49y^3 + 38y^2 + 13y - 1)^2$
c_3, c_5, c_6 c_8, c_{10}, c_{11}	$y^{14} - 11y^{13} + \cdots - 40y + 16$
c_4, c_9	$(y^7 + 3y^6 + 4y^5 + y^4 - y^3 + 7y^2 + 8y - 4)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.984140 + 0.426152I$ $a = -0.84548 + 1.17216I$ $b = -0.51690 + 2.36796I$ $c = -0.883662 + 0.240859I$ $d = -1.312740 + 0.203166I$	$1.19445 - 3.93070I$	$1.74059 + 4.87230I$
$u = -0.984140 + 0.426152I$ $a = 1.31968 - 1.83467I$ $b = 0.33256 - 1.51387I$ $c = 1.03098 - 1.45195I$ $d = 0.327402 - 0.709633I$	$1.19445 - 3.93070I$	$1.74059 + 4.87230I$
$u = -0.984140 - 0.426152I$ $a = -0.84548 - 1.17216I$ $b = -0.51690 - 2.36796I$ $c = -0.883662 - 0.240859I$ $d = -1.312740 - 0.203166I$	$1.19445 + 3.93070I$	$1.74059 - 4.87230I$
$u = -0.984140 - 0.426152I$ $a = 1.31968 + 1.83467I$ $b = 0.33256 + 1.51387I$ $c = 1.03098 + 1.45195I$ $d = 0.327402 + 0.709633I$	$1.19445 + 3.93070I$	$1.74059 - 4.87230I$
$u = -0.167785 + 1.218780I$ $a = -0.774541 - 0.827762I$ $b = 0.139458 + 0.651897I$ $c = -0.828730 + 0.501700I$ $d = 1.42814 + 0.08000I$	$7.14223 - 0.95540I$	$8.68929 + 2.37083I$
$u = -0.167785 + 1.218780I$ $a = 0.509470 - 0.184562I$ $b = 1.138810 - 0.805107I$ $c = -0.353234 + 0.874846I$ $d = -0.830837 + 0.693845I$	$7.14223 - 0.95540I$	$8.68929 + 2.37083I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.167785-1.218780I$ $a=-0.774541+0.827762I$ $b=0.139458-0.651897I$ $c=-0.828730-0.501700I$ $d=1.42814-0.08000I$	$7.14223+0.95540I$	$8.68929-2.37083I$
$u=-0.167785-1.218780I$ $a=0.509470+0.184562I$ $b=1.138810+0.805107I$ $c=-0.353234-0.874846I$ $d=-0.830837-0.693845I$	$7.14223+0.95540I$	$8.68929-2.37083I$
$u=-0.654547+1.202470I$ $a=1.13788-1.10109I$ $b=-1.38518-2.03898I$ $c=-0.09289+1.46019I$ $d=1.42086+0.31765I$	$3.65356+9.93065I$	$3.53972-7.33664I$
$u=-0.654547+1.202470I$ $a=-0.82436+1.60067I$ $b=0.57924+2.08898I$ $c=0.223021-1.320930I$ $d=-0.281398-0.947821I$	$3.65356+9.93065I$	$3.53972-7.33664I$
$u=-0.654547-1.202470I$ $a=1.13788+1.10109I$ $b=-1.38518+2.03898I$ $c=-0.09289-1.46019I$ $d=1.42086-0.31765I$	$3.65356-9.93065I$	$3.53972+7.33664I$
$u=-0.654547-1.202470I$ $a=-0.82436-1.60067I$ $b=0.57924-2.08898I$ $c=0.223021+1.320930I$ $d=-0.281398+0.947821I$	$3.65356-9.93065I$	$3.53972+7.33664I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.612945$ $a = 0.738956$ $b = 1.97108$ $c = -0.686858$ $d = -1.15162$	2.33847	2.06080
$u = 0.612945$ $a = 3.21576$ $b = 0.452939$ $c = 3.49590$ $d = 0.648769$	2.33847	2.06080

III. $\boldsymbol{I^u_3 = \langle u^3 + d + u,\ c + u,\ u^4 - u^3 + \cdots - 2a - 1,\ -u^4a + 2u^3a + \cdots - a - 1,\ u^5 - u^4 + 2u^3 - u^2 + u - 1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} a \\ -u^4 + 2u^2a + u^3 - au - u^2 + 2a + 1 \end{pmatrix}$$

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

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

$$a_8 = \begin{pmatrix} u^4 - u^2a - u^3 + au + u^2 - a - 1 \\ -u^4a + u^3a - 2u^2a + au - u^2 - 2a + u - 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^4a - u^3a + u^4 + u^2a - u^3 + 2u^2 + a - u \\ 2u^2a + 2a + 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} u^3 \\ -u^3 - u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^3 \\ u^4 - u^3 + u^2 + 1 \end{pmatrix}$$

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

$$a_{11} = \begin{pmatrix} a \\ -u^4 + 2u^2a + u^3 - au - u^2 + 2a + 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} a \\ -u^4 + 2u^2a + u^3 - au - u^2 + 2a + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_7, c_8 c_{10}, c_{11}	$y^{10} - 5y^9 + \cdots - 4y + 1$
c_2	$y^{10} - y^9 - 6y^7 + 22y^6 + 6y^5 + 45y^4 + 15y^3 + 22y^2 + 4y + 1$
c_3, c_5, c_6	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)^2$
c_4, c_9	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.339110 + 0.822375I$ $a = -1.058210 - 0.418624I$ $b = 0.107804 + 1.200570I$ $c = 0.339110 - 0.822375I$ $d = -0.309916 - 0.549911I$	$0.32910 + 1.53058I$	$2.51511 - 4.43065I$
$u = -0.339110 + 0.822375I$ $a = -0.24156 - 1.72831I$ $b = -1.43677 - 1.97522I$ $c = 0.339110 - 0.822375I$ $d = -0.309916 - 0.549911I$	$0.32910 + 1.53058I$	$2.51511 - 4.43065I$
$u = -0.339110 - 0.822375I$ $a = -1.058210 + 0.418624I$ $b = 0.107804 - 1.200570I$ $c = 0.339110 + 0.822375I$ $d = -0.309916 + 0.549911I$	$0.32910 - 1.53058I$	$2.51511 + 4.43065I$
$u = -0.339110 - 0.822375I$ $a = -0.24156 + 1.72831I$ $b = -1.43677 + 1.97522I$ $c = 0.339110 + 0.822375I$ $d = -0.309916 + 0.549911I$	$0.32910 - 1.53058I$	$2.51511 + 4.43065I$
$u = 0.766826$ $a = 0.337181 + 0.531835I$ $b = 1.32946 + 1.28131I$ $c = -0.766826$ $d = -1.21774$	2.40108	3.48110
$u = 0.766826$ $a = 0.337181 - 0.531835I$ $b = 1.32946 - 1.28131I$ $c = -0.766826$ $d = -1.21774$	2.40108	3.48110

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.455697 + 1.200150I$ $a = 1.128480 - 0.089327I$ $b = -0.91615 + 1.81852I$ $c = -0.455697 - 1.200150I$ $d = 1.41878 - 0.21917I$	$5.87256 - 4.40083I$	$6.74431 + 3.49859I$
$u = 0.455697 + 1.200150I$ $a = -0.665888 + 0.235737I$ $b = 0.415657 - 0.252788I$ $c = -0.455697 - 1.200150I$ $d = 1.41878 - 0.21917I$	$5.87256 - 4.40083I$	$6.74431 + 3.49859I$
$u = 0.455697 - 1.200150I$ $a = 1.128480 + 0.089327I$ $b = -0.91615 - 1.81852I$ $c = -0.455697 + 1.200150I$ $d = 1.41878 + 0.21917I$	$5.87256 + 4.40083I$	$6.74431 - 3.49859I$
$u = 0.455697 - 1.200150I$ $a = -0.665888 - 0.235737I$ $b = 0.415657 + 0.252788I$ $c = -0.455697 + 1.200150I$ $d = 1.41878 + 0.21917I$	$5.87256 + 4.40083I$	$6.74431 - 3.49859I$

IV. $I_4^u = \langle -6u^4a + 2u^4 + \cdots + 2a + 7,\ -2u^4a - 7u^4 + \cdots - 7a + 10,\ -4u^4a + 9u^4 + \cdots - 14a - 3,\ -u^4a + 2u^4 + \cdots - a + 1,\ u^5 - u^4 + 2u^3 - u^2 + u - 1\rangle$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} a \\ 0.173913au^4 - 0.391304u^4 + \cdots + 0.608696a + 0.130435 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0.0869565au^4 + 0.304348u^4 + \cdots + 0.304348a - 0.434783 \\ 0.260870au^4 - 0.0869565u^4 + \cdots - 0.0869565a - 0.304348 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.173913au^4 + 0.391304u^4 + \cdots + 0.391304a - 0.130435 \\ 0.260870au^4 - 0.0869565u^4 + \cdots - 0.0869565a - 0.304348 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.173913au^4 + 0.391304u^4 + \cdots + 0.391304a - 0.130435 \\ 0.173913au^4 - 0.391304u^4 + \cdots + 0.608696a + 0.130435 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 - u^3 + u^2 + 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 - u^3 + u^2 + 1 \end{pmatrix}$$

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_6, c_7	$y^{10} - 5y^9 + \cdots - 4y + 1$
c_2	$y^{10} - y^9 - 6y^7 + 22y^6 + 6y^5 + 45y^4 + 15y^3 + 22y^2 + 4y + 1$
c_4, c_9	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)^2$
c_8, c_{10}, c_{11}	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.339110 + 0.822375I$ $a = 1.201520 - 0.626542I$ $b = 0.703115 - 0.728284I$ $c = -0.427719 + 0.494930I$ $d = -0.926127 + 0.393188I$	$0.32910 + 1.53058I$	$2.51511 - 4.43065I$
$u = -0.339110 + 0.822375I$ $a = -1.43707 + 2.33968I$ $b = 1.50324 + 0.38743I$ $c = -1.70427 + 2.10897I$ $d = 1.236040 + 0.156723I$	$0.32910 + 1.53058I$	$2.51511 - 4.43065I$
$u = -0.339110 - 0.822375I$ $a = 1.201520 + 0.626542I$ $b = 0.703115 + 0.728284I$ $c = -0.427719 - 0.494930I$ $d = -0.926127 - 0.393188I$	$0.32910 - 1.53058I$	$2.51511 + 4.43065I$
$u = -0.339110 - 0.822375I$ $a = -1.43707 - 2.33968I$ $b = 1.50324 - 0.38743I$ $c = -1.70427 - 2.10897I$ $d = 1.236040 - 0.156723I$	$0.32910 - 1.53058I$	$2.51511 + 4.43065I$
$u = 0.766826$ $a = 1.73372 + 1.67092I$ $b = 0.258559 + 0.407825I$ $c = 2.08403 + 1.59800I$ $d = 0.608868 + 0.334904I$	2.40108	3.48110
$u = 0.766826$ $a = 1.73372 - 1.67092I$ $b = 0.258559 - 0.407825I$ $c = 2.08403 - 1.59800I$ $d = 0.608868 - 0.334904I$	2.40108	3.48110

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.455697 + 1.200150I$ $a = 1.07098 + 1.17002I$ $b = 0.62145 + 1.31364I$ $c = -0.568964 - 0.788513I$ $d = -1.018500 - 0.644891I$	$5.87256 - 4.40083I$	$6.74431 + 3.49859I$
$u = 0.455697 + 1.200150I$ $a = -0.069156 - 0.372595I$ $b = -0.586363 - 0.691742I$ $c = 0.116920 + 1.183200I$ $d = -0.400287 + 0.864056I$	$5.87256 - 4.40083I$	$6.74431 + 3.49859I$
$u = 0.455697 - 1.200150I$ $a = 1.07098 - 1.17002I$ $b = 0.62145 - 1.31364I$ $c = -0.568964 + 0.788513I$ $d = -1.018500 + 0.644891I$	$5.87256 + 4.40083I$	$6.74431 - 3.49859I$
$u = 0.455697 - 1.200150I$ $a = -0.069156 + 0.372595I$ $b = -0.586363 + 0.691742I$ $c = 0.116920 - 1.183200I$ $d = -0.400287 - 0.864056I$	$5.87256 + 4.40083I$	$6.74431 - 3.49859I$

V. $I_5^u =$
$\langle u^3+d+u,\ c+u,\ -u^4+u^3-u^2+b-1,\ -u^4-u^2+a-1,\ u^5-u^4+2u^3-u^2+u-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

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

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3, c_5 c_6, c_7, c_8 c_{10}, c_{11}	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_2	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_4, c_9	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.339110 + 0.822375I$ $a = 0.442672 + 0.068387I$ $b = -0.206354 + 0.340852I$ $c = 0.339110 - 0.822375I$ $d = -0.309916 - 0.549911I$	$0.32910 + 1.53058I$	$2.51511 - 4.43065I$
$u = -0.339110 - 0.822375I$ $a = 0.442672 - 0.068387I$ $b = -0.206354 - 0.340852I$ $c = 0.339110 + 0.822375I$ $d = -0.309916 + 0.549911I$	$0.32910 - 1.53058I$	$2.51511 + 4.43065I$
$u = 0.766826$ $a = 1.93379$ $b = 1.48288$ $c = -0.766826$ $d = -1.21774$	2.40108	3.48110
$u = 0.455697 + 1.200150I$ $a = 0.09043 - 1.60288I$ $b = 1.96491 - 0.62190I$ $c = -0.455697 - 1.200150I$ $d = 1.41878 - 0.21917I$	$5.87256 - 4.40083I$	$6.74431 + 3.49859I$
$u = 0.455697 - 1.200150I$ $a = 0.09043 + 1.60288I$ $b = 1.96491 + 0.62190I$ $c = -0.455697 + 1.200150I$ $d = 1.41878 + 0.21917I$	$5.87256 + 4.40083I$	$6.74431 - 3.49859I$

VI. $\boldsymbol{I_1^v = \langle a,\ d+1,\ c+a,\ b-1,\ v+1 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$		
$a = 0$		
$b = 1.00000$	3.28987	12.0000
$c = 0$		
$d = -1.00000$		

VII. $I_2^v = \langle a,\ d,\ c-1,\ b+1,\ v-1 \rangle$

(i) Arc colorings

$a_4 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_2 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_8 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$

$a_1 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$

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

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

$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$

$a_{11} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

$a_{11} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 1.00000$		
$a = 0$		
$b = -1.00000$	0	0
$c = 1.00000$		
$d = 0$		

VIII. $I_3^v = \langle a,\ d+1,\ c+a-1,\ b-1,\ v-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = 1.00000$		
$a = 0$		
$b = 1.00000$	0	0
$c = 1.00000$		
$d = -1.00000$		

IX. $I_4^v = \langle c,\ d+1,\ cb+a-1,\ cv+av-c-v,\ bv-v+1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= b^2 + v^2 - 2b + 5$

(iv) u-Polynomials at the component : It cannot be defined for a positive dimension component.

(v) Riley Polynomials at the component : It cannot be defined for a positive dimension component.

(iv) Complex Volumes and Cusp Shapes

Solution to I_4^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = \cdots$ $a = \cdots$ $b = \cdots$ $c = \cdots$ $d = \cdots$	1.64493	$3.74053 + 0.27852I$

X. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_7	$u(u-1)(u+1)(u^5+u^4-2u^3-u^2+u-1)$ $\cdot(u^7-u^6-u^5+2u^4+u^3-2u^2+u+1)^2$ $\cdot(u^{10}-u^9-2u^8+4u^7-4u^5+3u^4+u^3-2u^2+1)^2$ $\cdot(u^{17}-2u^{16}+\cdots-8u+4)$
c_2	$u(u+1)^2(u^5+5u^4+8u^3+3u^2-u+1)$ $\cdot(u^7+3u^6+7u^5+8u^4+9u^3+6u^2+5u+1)^2$ $\cdot((u^{10}+5u^9+\cdots+4u+1)^2)(u^{17}+6u^{16}+\cdots+88u+16)$
c_3, c_8	$u(u+1)^2(u^5+u^4-2u^3-u^2+u-1)^3$ $\cdot(u^{10}-u^9-2u^8+4u^7-4u^5+3u^4+u^3-2u^2+1)$ $\cdot(u^{14}+u^{13}+\cdots-4u-4)(u^{17}+2u^{16}+\cdots+3u+1)$
c_4, c_9	$u^3(u^5-u^4+2u^3-u^2+u-1)^5$ $\cdot((u^7+3u^6+\cdots-2u-2)^2)(u^{17}-2u^{16}+\cdots-4u^2+8)$
c_5, c_6, c_{10} c_{11}	$u(u-1)^2(u^5+u^4-2u^3-u^2+u-1)^3$ $\cdot(u^{10}-u^9-2u^8+4u^7-4u^5+3u^4+u^3-2u^2+1)$ $\cdot(u^{14}+u^{13}+\cdots-4u-4)(u^{17}+2u^{16}+\cdots+3u+1)$

XI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_7	$y(y-1)^2(y^5-5y^4+8y^3-3y^2-y-1)$ $\cdot(y^7-3y^6+7y^5-8y^4+9y^3-6y^2+5y-1)^2$ $\cdot((y^{10}-5y^9+\cdots-4y+1)^2)(y^{17}-6y^{16}+\cdots+88y-16)$
c_2	$y(y-1)^2(y^5-9y^4+32y^3-35y^2-5y-1)$ $\cdot(y^7+5y^6+19y^5+36y^4+49y^3+38y^2+13y-1)^2$ $\cdot(y^{10}-y^9-6y^7+22y^6+6y^5+45y^4+15y^3+22y^2+4y+1)^2$ $\cdot(y^{17}+10y^{16}+\cdots+288y-256)$
c_3, c_5, c_6 c_8, c_{10}, c_{11}	$y(y-1)^2(y^5-5y^4+\cdots-y-1)^3(y^{10}-5y^9+\cdots-4y+1)$ $\cdot(y^{14}-11y^{13}+\cdots-40y+16)(y^{17}-20y^{16}+\cdots+27y-1)$
c_4, c_9	$y^3(y^5+3y^4+4y^3+y^2-y-1)^5$ $\cdot(y^7+3y^6+4y^5+y^4-y^3+7y^2+8y-4)^2$ $\cdot(y^{17}+6y^{16}+\cdots+64y-64)$