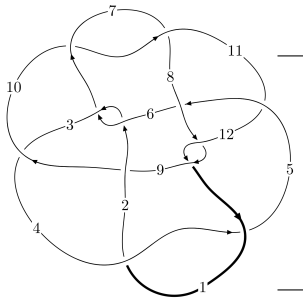
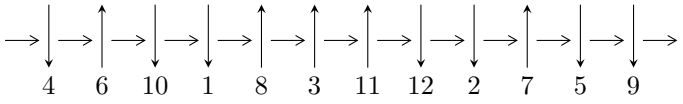
$12a_{0966}$ $(K12a_{0966})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -2.56009 \times 10^{774} u^{144} - 4.93211 \times 10^{774} u^{143} + \cdots + 1.27336 \times 10^{777} b - 7.55766 \times 10^{778}, \\ & 7.70525 \times 10^{778} u^{144} + 1.46879 \times 10^{779} u^{143} + \cdots + 2.51680 \times 10^{781} a + 2.16461 \times 10^{783}, \\ & u^{145} + 3u^{144} + \cdots + 45520u + 31624 \rangle \\ I_2^u = \langle & 2.15856 \times 10^{34} u^{36} - 4.92672 \times 10^{34} u^{35} + \cdots + 6.17494 \times 10^{32} b + 7.43093 \times 10^{34}, \\ & - 1.17912 \times 10^{35} u^{36} + 2.70674 \times 10^{35} u^{35} + \cdots + 6.17494 \times 10^{32} a - 3.94814 \times 10^{35}, \\ & u^{37} - 2u^{36} + \cdots + 10u + 1 \rangle \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 182 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. $\boldsymbol{I_1^u = \langle -2.56 \times 10^{774} u^{144} - 4.93 \times 10^{774} u^{143} + \cdots + 1.27 \times 10^{777} b - 7.56 \times 10^{778},\ 7.71 \times 10^{778} u^{144} + 1.47 \times 10^{779} u^{143} + \cdots + 2.52 \times 10^{781} a + 2.16 \times 10^{783},\ u^{145} + 3u^{144} + \cdots + 45520u + 31624 \rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.00306152u^{144} - 0.00583593u^{143} + \cdots - 54.0993u - 86.0064 \\ 0.00201049u^{144} + 0.00387329u^{143} + \cdots + 27.7562u + 59.3519 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -0.00456419u^{144} - 0.00868214u^{143} + \cdots - 78.8377u - 129.918 \\ 0.00349042u^{144} + 0.00666788u^{143} + \cdots + 48.4215u + 101.046 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.00105920u^{144} - 0.00215403u^{143} + \cdots - 11.3100u - 29.7437 \\ 0.00177943u^{144} + 0.00349630u^{143} + \cdots + 30.1124u + 55.7141 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.00251406u^{144} - 0.00483637u^{143} + \cdots - 43.5228u - 72.5143 \\ 0.000909316u^{144} + 0.00183026u^{143} + \cdots + 8.34863u + 28.1649 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.00500728u^{144} - 0.00958862u^{143} + \cdots - 81.4466u - 146.050 \\ 0.00703064u^{144} + 0.0135010u^{143} + \cdots + 106.729u + 203.503 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -0.00166098u^{144} - 0.00325291u^{143} + \cdots - 33.1480u - 48.3599 \\ 0.000609948u^{144} + 0.00129027u^{143} + \cdots + 6.80493u + 21.7054 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.00143737u^{144} - 0.00285119u^{143} + \cdots - 12.1245u - 38.8485 \\ 0.00199037u^{144} + 0.00385952u^{143} + \cdots + 30.0882u + 59.1760 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.00649305u^{144} + 0.0125521u^{143} + \cdots + 83.6514u + 190.049 \\ -0.00867309u^{144} - 0.0167045u^{143} + \cdots - 122.458u - 250.360 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.0461581u^{144} + 0.0859078u^{143} + \cdots + 728.816u + 1313.22$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4	$u^{145} - 10u^{144} + \cdots - 5940u + 449$
c_2, c_6	$u^{145} - 3u^{144} + \cdots + 467400u - 213397$
c_3	$u^{145} + u^{144} + \cdots - 1175510402u + 376846879$
c_5	$u^{145} + 13u^{144} + \cdots + 43u + 1$
c_7, c_{10}	$u^{145} - 3u^{144} + \cdots + 45520u - 31624$
c_8, c_{12}	$u^{145} - 47u^{143} + \cdots - 910u + 31$
c_9	$u^{145} - 3u^{144} + \cdots + 64828u + 97949$
c_{11}	$u^{145} + 2u^{144} + \cdots - 2298u + 229$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{145} + 108y^{144} + \cdots + 3274390y - 201601$
c_2, c_6	$y^{145} - 95y^{144} + \cdots + 820020367120y - 45538279609$
c_3	$y^{145} + 59y^{144} + \cdots - 6.17 \times 10^{18}y - 1.42 \times 10^{17}$
c_5	$y^{145} + 3y^{144} + \cdots + 517y - 1$
c_7, c_{10}	$y^{145} - 121y^{144} + \cdots + 10721993376y - 1000077376$
c_8, c_{12}	$y^{145} - 94y^{144} + \cdots + 537754y - 961$
c_9	$y^{145} + 9y^{144} + \cdots - 357137656050y - 9594006601$
c_{11}	$y^{145} + 28y^{144} + \cdots - 3337382y - 52441$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.432137 + 0.929071I$ $a = 0.247856 - 0.672877I$ $b = -0.607437 - 0.431087I$	$-1.50937 - 2.56558I$	0
$u = 0.432137 - 0.929071I$ $a = 0.247856 + 0.672877I$ $b = -0.607437 + 0.431087I$	$-1.50937 + 2.56558I$	0
$u = 0.991744 + 0.289105I$ $a = -0.592041 - 0.027853I$ $b = 0.634555 + 0.969010I$	$0.41359 + 3.40332I$	0
$u = 0.991744 - 0.289105I$ $a = -0.592041 + 0.027853I$ $b = 0.634555 - 0.969010I$	$0.41359 - 3.40332I$	0
$u = 1.03384$ $a = 1.47451$ $b = -0.587025$	-2.17833	0
$u = 0.149129 + 1.045970I$ $a = 0.276971 - 0.214020I$ $b = -1.271740 + 0.272259I$	$2.86533 - 2.84293I$	0
$u = 0.149129 - 1.045970I$ $a = 0.276971 + 0.214020I$ $b = -1.271740 - 0.272259I$	$2.86533 + 2.84293I$	0
$u = 0.402800 + 0.979557I$ $a = 0.537460 - 0.320233I$ $b = -1.087970 - 0.500347I$	$-3.43730 + 7.78539I$	0
$u = 0.402800 - 0.979557I$ $a = 0.537460 + 0.320233I$ $b = -1.087970 + 0.500347I$	$-3.43730 - 7.78539I$	0
$u = -1.039170 + 0.257462I$ $a = 0.187116 - 0.253724I$ $b = 0.138445 - 0.388984I$	$1.80222 - 1.09093I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.039170-0.257462I$ $a=\ \ 0.187116+0.253724I$ $b=\ \ 0.138445+0.388984I$	$1.80222+1.09093I$	0
$u=-0.381911+1.002350I$ $a=\ \ 0.238783+0.567284I$ $b=-1.232410-0.366256I$	$2.32411+4.31465I$	0
$u=-0.381911-1.002350I$ $a=\ \ 0.238783-0.567284I$ $b=-1.232410+0.366256I$	$2.32411-4.31465I$	0
$u=-1.080430+0.017548I$ $a=-0.456845-0.597509I$ $b=\ \ 0.37817+1.47138I$	$-1.37218+2.69986I$	0
$u=-1.080430-0.017548I$ $a=-0.456845+0.597509I$ $b=\ \ 0.37817-1.47138I$	$-1.37218-2.69986I$	0
$u=-0.732863+0.518690I$ $a=\ \ 1.199190-0.622697I$ $b=-0.177234+0.625707I$	$-1.034490+0.537752I$	0
$u=-0.732863-0.518690I$ $a=\ \ 1.199190+0.622697I$ $b=-0.177234-0.625707I$	$-1.034490-0.537752I$	0
$u=\ \ 0.886943+0.068598I$ $a=-2.26071+0.57400I$ $b=\ \ 1.021750-0.324888I$	$1.22023-3.51637I$	0
$u=\ \ 0.886943-0.068598I$ $a=-2.26071-0.57400I$ $b=\ \ 1.021750+0.324888I$	$1.22023+3.51637I$	0
$u=-1.13193$ $a=-3.43344$ $b=\ \ 1.13104$	3.81621	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.273319 + 0.811271I$ $a = 0.896255 + 1.017420I$ $b = -0.839346 + 0.550520I$	$-1.00479 - 6.66392I$	0
$u = 0.273319 - 0.811271I$ $a = 0.896255 - 1.017420I$ $b = -0.839346 - 0.550520I$	$-1.00479 + 6.66392I$	0
$u = -0.347323 + 1.094070I$ $a = 0.538236 + 0.260578I$ $b = -1.041790 + 0.280004I$	$1.20505 - 3.57769I$	0
$u = -0.347323 - 1.094070I$ $a = 0.538236 - 0.260578I$ $b = -1.041790 - 0.280004I$	$1.20505 + 3.57769I$	0
$u = 0.292275 + 0.792638I$ $a = 0.320226 + 0.396084I$ $b = 0.920455 + 0.417485I$	$-2.99660 + 1.39102I$	0
$u = 0.292275 - 0.792638I$ $a = 0.320226 - 0.396084I$ $b = 0.920455 - 0.417485I$	$-2.99660 - 1.39102I$	0
$u = -1.168920 + 0.064116I$ $a = -2.87834 + 0.11170I$ $b = 1.102830 + 0.016813I$	$3.71741 - 0.14086I$	0
$u = -1.168920 - 0.064116I$ $a = -2.87834 - 0.11170I$ $b = 1.102830 - 0.016813I$	$3.71741 + 0.14086I$	0
$u = -0.149563 + 0.802553I$ $a = -0.933196 + 0.879312I$ $b = 0.217325 + 0.403873I$	$2.66849 - 2.92410I$	0
$u = -0.149563 - 0.802553I$ $a = -0.933196 - 0.879312I$ $b = 0.217325 - 0.403873I$	$2.66849 + 2.92410I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.194598+1.169750I$ $a=-0.373847+0.251540I$ $b=\ \ 1.169130-0.018165I$	$3.29951-2.40492I$	0
$u=-0.194598-1.169750I$ $a=-0.373847-0.251540I$ $b=\ \ 1.169130+0.018165I$	$3.29951+2.40492I$	0
$u=-0.799508+0.132155I$ $a=\ \ 1.037660+0.001514I$ $b=\ \ 0.723394-0.126628I$	$2.31491-0.53337I$	0
$u=-0.799508-0.132155I$ $a=\ \ 1.037660-0.001514I$ $b=\ \ 0.723394+0.126628I$	$2.31491+0.53337I$	0
$u=\ \ 1.181860+0.154851I$ $a=\ \ 0.596951+0.002605I$ $b=-0.82914-1.15633I$	$0.46658+3.93656I$	0
$u=\ \ 1.181860-0.154851I$ $a=\ \ 0.596951-0.002605I$ $b=-0.82914+1.15633I$	$0.46658-3.93656I$	0
$u=-0.951518+0.725435I$ $a=\ \ 0.020359-0.422169I$ $b=-0.688451-0.422754I$	$3.88447-1.34262I$	0
$u=-0.951518-0.725435I$ $a=\ \ 0.020359+0.422169I$ $b=-0.688451+0.422754I$	$3.88447+1.34262I$	0
$u=\ \ 0.111251+0.784602I$ $a=-1.191210-0.562088I$ $b=\ \ 0.298123-0.717683I$	$-1.57095+8.78124I$	0
$u=\ \ 0.111251-0.784602I$ $a=-1.191210+0.562088I$ $b=\ \ 0.298123+0.717683I$	$-1.57095-8.78124I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.088150 + 0.566831I$ $a = -0.120615 + 0.608113I$ $b = 0.761839 + 0.016293I$	$-0.69185 + 3.63054I$	0
$u = 1.088150 - 0.566831I$ $a = -0.120615 - 0.608113I$ $b = 0.761839 - 0.016293I$	$-0.69185 - 3.63054I$	0
$u = 1.219060 + 0.162674I$ $a = -0.138189 - 0.470608I$ $b = 0.073557 + 1.204540I$	$2.00915 + 3.11835I$	0
$u = 1.219060 - 0.162674I$ $a = -0.138189 + 0.470608I$ $b = 0.073557 - 1.204540I$	$2.00915 - 3.11835I$	0
$u = 0.611605 + 0.457951I$ $a = 0.30112 - 1.62200I$ $b = -0.597573 + 0.431575I$	$-1.45105 - 1.92208I$	0
$u = 0.611605 - 0.457951I$ $a = 0.30112 + 1.62200I$ $b = -0.597573 - 0.431575I$	$-1.45105 + 1.92208I$	0
$u = -1.240890 + 0.066673I$ $a = -2.14499 - 0.72682I$ $b = 1.42229 - 0.26765I$	$5.11259 + 0.43687I$	0
$u = -1.240890 - 0.066673I$ $a = -2.14499 + 0.72682I$ $b = 1.42229 + 0.26765I$	$5.11259 - 0.43687I$	0
$u = 1.074680 + 0.629418I$ $a = -0.220650 - 0.203125I$ $b = -0.532007 + 0.390425I$	$0.48860 + 8.13399I$	0
$u = 1.074680 - 0.629418I$ $a = -0.220650 + 0.203125I$ $b = -0.532007 - 0.390425I$	$0.48860 - 8.13399I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.25636$ $a = 1.61669$ $b = -0.809048$	-2.14218	0
$u = 0.972639 + 0.809961I$ $a = 0.706308 - 0.545033I$ $b = -0.842407 + 0.184630I$	$-1.89215 - 1.74159I$	0
$u = 0.972639 - 0.809961I$ $a = 0.706308 + 0.545033I$ $b = -0.842407 - 0.184630I$	$-1.89215 + 1.74159I$	0
$u = -1.253380 + 0.201642I$ $a = 1.45086 + 1.08106I$ $b = -1.249390 + 0.495735I$	$9.78521 - 4.73385I$	0
$u = -1.253380 - 0.201642I$ $a = 1.45086 - 1.08106I$ $b = -1.249390 - 0.495735I$	$9.78521 + 4.73385I$	0
$u = -1.186680 + 0.465651I$ $a = 1.61366 + 0.58709I$ $b = -1.56132 + 0.55391I$	$4.94868 - 9.60654I$	0
$u = -1.186680 - 0.465651I$ $a = 1.61366 - 0.58709I$ $b = -1.56132 - 0.55391I$	$4.94868 + 9.60654I$	0
$u = 1.245260 + 0.300384I$ $a = 2.52820 - 0.27465I$ $b = -1.083010 - 0.202793I$	$2.14223 + 10.50550I$	0
$u = 1.245260 - 0.300384I$ $a = 2.52820 + 0.27465I$ $b = -1.083010 + 0.202793I$	$2.14223 - 10.50550I$	0
$u = -1.288440 + 0.164268I$ $a = -0.290308 + 0.074632I$ $b = -0.199417 + 0.815441I$	$6.54945 - 0.16529I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.288440-0.164268I$ $a=-0.290308-0.074632I$ $b=-0.199417-0.815441I$	$6.54945+0.16529I$	0
$u=\ \ 0.423131+0.558136I$ $a=\ \ 1.023360+0.451687I$ $b=\ \ 0.123736-0.552332I$	$-1.282110+0.180959I$	0
$u=\ \ 0.423131-0.558136I$ $a=\ \ 1.023360-0.451687I$ $b=\ \ 0.123736+0.552332I$	$-1.282110-0.180959I$	0
$u=-1.238570+0.396683I$ $a=\ \ 2.04521+0.74013I$ $b=-1.044750+0.176164I$	$4.89618-3.90342I$	0
$u=-1.238570-0.396683I$ $a=\ \ 2.04521-0.74013I$ $b=-1.044750-0.176164I$	$4.89618+3.90342I$	0
$u=\ \ 1.309130+0.130866I$ $a=-2.37394-0.54205I$ $b=\ \ 1.073950+0.077491I$	$0.47115+4.19298I$	0
$u=\ \ 1.309130-0.130866I$ $a=-2.37394+0.54205I$ $b=\ \ 1.073950-0.077491I$	$0.47115-4.19298I$	0
$u=-1.322570+0.032054I$ $a=\ \ 1.78071+0.35786I$ $b=-1.61570+0.41951I$	$8.93479+6.21741I$	0
$u=-1.322570-0.032054I$ $a=\ \ 1.78071-0.35786I$ $b=-1.61570-0.41951I$	$8.93479-6.21741I$	0
$u=\ \ 1.320640+0.166718I$ $a=-1.80669+0.43155I$ $b=\ \ 1.43776+0.49720I$	$6.68031+3.11471I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.320640 - 0.166718I$ $a = -1.80669 - 0.43155I$ $b = 1.43776 - 0.49720I$	$6.68031 - 3.11471I$	0
$u = -1.322050 + 0.234961I$ $a = 0.130530 + 0.684390I$ $b = -0.189014 - 1.333740I$	$-1.34551 - 5.96775I$	0
$u = -1.322050 - 0.234961I$ $a = 0.130530 - 0.684390I$ $b = -0.189014 + 1.333740I$	$-1.34551 + 5.96775I$	0
$u = -1.317320 + 0.291863I$ $a = -1.49882 - 0.27319I$ $b = 1.36059 - 0.72046I$	$1.93253 - 4.97336I$	0
$u = -1.317320 - 0.291863I$ $a = -1.49882 + 0.27319I$ $b = 1.36059 + 0.72046I$	$1.93253 + 4.97336I$	0
$u = -1.315820 + 0.333200I$ $a = -0.009504 + 0.303187I$ $b = 0.231689 + 0.693846I$	$4.07611 - 0.56137I$	0
$u = -1.315820 - 0.333200I$ $a = -0.009504 - 0.303187I$ $b = 0.231689 - 0.693846I$	$4.07611 + 0.56137I$	0
$u = 1.340660 + 0.239843I$ $a = 1.79440 - 0.84942I$ $b = -1.40158 - 0.46257I$	$9.16611 + 9.90378I$	0
$u = 1.340660 - 0.239843I$ $a = 1.79440 + 0.84942I$ $b = -1.40158 + 0.46257I$	$9.16611 - 9.90378I$	0
$u = 0.044295 + 0.633256I$ $a = 0.956492 + 0.411775I$ $b = -0.397134 + 0.845440I$	$-5.62423 + 2.85523I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.044295 - 0.633256I$ $a = 0.956492 - 0.411775I$ $b = -0.397134 - 0.845440I$	$-5.62423 - 2.85523I$	0
$u = 1.384370 + 0.034051I$ $a = -0.556285 + 0.408484I$ $b = 0.248856 - 1.094270I$	$4.07202 - 4.55213I$	0
$u = 1.384370 - 0.034051I$ $a = -0.556285 - 0.408484I$ $b = 0.248856 + 1.094270I$	$4.07202 + 4.55213I$	0
$u = 0.430440 + 1.324000I$ $a = -0.523914 + 0.278125I$ $b = 1.171860 + 0.414606I$	$1.17364 + 13.05360I$	0
$u = 0.430440 - 1.324000I$ $a = -0.523914 - 0.278125I$ $b = 1.171860 - 0.414606I$	$1.17364 - 13.05360I$	0
$u = -0.600855 + 0.038418I$ $a = -1.31020 + 1.79200I$ $b = 0.809579 - 1.013760I$	$-2.91292 - 3.38530I$	$-9.26974 + 8.26425I$
$u = -0.600855 - 0.038418I$ $a = -1.31020 - 1.79200I$ $b = 0.809579 + 1.013760I$	$-2.91292 + 3.38530I$	$-9.26974 - 8.26425I$
$u = -1.369100 + 0.329860I$ $a = 0.020293 - 0.413861I$ $b = 0.095722 + 1.295860I$	$3.16925 - 12.78880I$	0
$u = -1.369100 - 0.329860I$ $a = 0.020293 + 0.413861I$ $b = 0.095722 - 1.295860I$	$3.16925 + 12.78880I$	0
$u = 0.579973 + 0.070200I$ $a = -0.781754 + 0.060310I$ $b = 0.905376 + 0.829679I$	$0.55942 + 3.12092I$	$6.15818 - 7.11948I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.579973 - 0.070200I$ $a = -0.781754 - 0.060310I$ $b = 0.905376 - 0.829679I$	$0.55942 - 3.12092I$	$6.15818 + 7.11948I$
$u = 1.38642 + 0.32349I$ $a = 0.058091 + 0.191128I$ $b = 0.087256 - 1.097540I$	$7.65844 + 6.95339I$	0
$u = 1.38642 - 0.32349I$ $a = 0.058091 - 0.191128I$ $b = 0.087256 + 1.097540I$	$7.65844 - 6.95339I$	0
$u = 1.42622 + 0.03310I$ $a = 1.57260 - 0.30998I$ $b = -1.42383 - 0.46057I$	$12.51670 - 1.37041I$	0
$u = 1.42622 - 0.03310I$ $a = 1.57260 + 0.30998I$ $b = -1.42383 + 0.46057I$	$12.51670 + 1.37041I$	0
$u = 1.35792 + 0.49954I$ $a = 1.64429 - 0.58403I$ $b = -1.49592 - 0.43611I$	$6.81907 + 8.41116I$	0
$u = 1.35792 - 0.49954I$ $a = 1.64429 + 0.58403I$ $b = -1.49592 + 0.43611I$	$6.81907 - 8.41116I$	0
$u = 0.546114 + 0.061781I$ $a = -1.262060 - 0.442290I$ $b = 0.637608 + 0.715268I$	$0.85329 + 2.27952I$	$-4.05928 - 1.94360I$
$u = 0.546114 - 0.061781I$ $a = -1.262060 + 0.442290I$ $b = 0.637608 - 0.715268I$	$0.85329 - 2.27952I$	$-4.05928 + 1.94360I$
$u = 0.203415 + 0.494746I$ $a = 1.104620 - 0.378266I$ $b = -0.230332 - 0.453612I$	$-1.026120 - 0.579671I$	$-8.11952 + 2.62937I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.203415 - 0.494746I$ $a = 1.104620 + 0.378266I$ $b = -0.230332 + 0.453612I$	$-1.026120 + 0.579671I$	$-8.11952 - 2.62937I$
$u = -0.394101 + 0.352701I$ $a = -0.414129 - 0.418438I$ $b = 0.301682 - 0.964513I$	$-1.55548 - 3.86108I$	$-5.10180 + 9.95738I$
$u = -0.394101 - 0.352701I$ $a = -0.414129 + 0.418438I$ $b = 0.301682 + 0.964513I$	$-1.55548 + 3.86108I$	$-5.10180 - 9.95738I$
$u = 1.11791 + 0.95957I$ $a = -1.41776 + 0.23408I$ $b = 0.764331 + 0.004996I$	$1.86519 - 3.71403I$	0
$u = 1.11791 - 0.95957I$ $a = -1.41776 - 0.23408I$ $b = 0.764331 - 0.004996I$	$1.86519 + 3.71403I$	0
$u = 1.49242 + 0.11575I$ $a = -1.85567 - 0.01618I$ $b = 1.52095 + 0.64527I$	$7.74896 + 2.46766I$	0
$u = 1.49242 - 0.11575I$ $a = -1.85567 + 0.01618I$ $b = 1.52095 - 0.64527I$	$7.74896 - 2.46766I$	0
$u = 1.44905 + 0.42986I$ $a = 1.65631 - 0.50201I$ $b = -1.39012 - 0.49411I$	$6.76618 + 8.91651I$	0
$u = 1.44905 - 0.42986I$ $a = 1.65631 + 0.50201I$ $b = -1.39012 + 0.49411I$	$6.76618 - 8.91651I$	0
$u = -1.50929 + 0.26794I$ $a = 1.41729 + 0.64688I$ $b = -1.256170 + 0.125720I$	$8.61267 - 1.93065I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.50929-0.26794I$ $a=\ \ 1.41729-0.64688I$ $b=-1.256170-0.125720I$	$8.61267+1.93065I$	0
$u=-0.279385+0.368153I$ $a=-1.83248+1.25627I$ $b=-1.179650-0.065581I$	$6.61684+2.50918I$	$6.24026-0.59427I$
$u=-0.279385-0.368153I$ $a=-1.83248-1.25627I$ $b=-1.179650+0.065581I$	$6.61684-2.50918I$	$6.24026+0.59427I$
$u=-0.250178+0.369857I$ $a=\ \ 0.750005-0.477358I$ $b=\ \ 1.078170-0.243571I$	$1.94381-1.09928I$	$4.21543-2.50201I$
$u=-0.250178-0.369857I$ $a=\ \ 0.750005+0.477358I$ $b=\ \ 1.078170+0.243571I$	$1.94381+1.09928I$	$4.21543+2.50201I$
$u=-1.51457+0.38536I$ $a=\ \ 1.72646+0.33684I$ $b=-1.39591+0.61376I$	$2.70311-12.72480I$	0
$u=-1.51457-0.38536I$ $a=\ \ 1.72646-0.33684I$ $b=-1.39591-0.61376I$	$2.70311+12.72480I$	0
$u=-1.46203+0.55811I$ $a=\ \ 1.45492+0.60713I$ $b=-1.163980+0.344377I$	$5.33653-3.93136I$	0
$u=-1.46203-0.55811I$ $a=\ \ 1.45492-0.60713I$ $b=-1.163980-0.344377I$	$5.33653+3.93136I$	0
$u=-1.56362+0.07499I$ $a=-1.65439+0.33117I$ $b=\ \ 1.34628-0.86893I$	$7.88074-4.00988I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.56362-0.07499I$ $a=-1.65439-0.33117I$ $b=\ \ 1.34628+0.86893I$	$7.88074+4.00988I$	0
$u=\ \ 1.50291+0.50598I$ $a=-1.51586+0.38481I$ $b=\ \ 1.53209+0.24649I$	$8.63449+8.49621I$	0
$u=\ \ 1.50291-0.50598I$ $a=-1.51586-0.38481I$ $b=\ \ 1.53209-0.24649I$	$8.63449-8.49621I$	0
$u=-0.58428+1.48683I$ $a=-0.637107-0.403633I$ $b=\ \ 1.103030-0.333293I$	$5.13987-6.06899I$	0
$u=-0.58428-1.48683I$ $a=-0.637107+0.403633I$ $b=\ \ 1.103030+0.333293I$	$5.13987+6.06899I$	0
$u=-0.039712+0.383815I$ $a=-1.60576+1.49388I$ $b=-1.349460+0.121068I$	$4.68203-7.34034I$	$2.76344+6.88370I$
$u=-0.039712-0.383815I$ $a=-1.60576-1.49388I$ $b=-1.349460-0.121068I$	$4.68203+7.34034I$	$2.76344-6.88370I$
$u=\ \ 1.62464+0.22687I$ $a=\ \ 1.208230-0.707441I$ $b=-1.030680-0.067296I$	$9.46227+0.31077I$	0
$u=\ \ 1.62464-0.22687I$ $a=\ \ 1.208230+0.707441I$ $b=-1.030680+0.067296I$	$9.46227-0.31077I$	0
$u=-1.56087+0.50563I$ $a=-1.56171-0.45492I$ $b=\ \ 1.41008-0.61688I$	$7.3844-19.4648I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.56087-0.50563I$ $a=-1.56171+0.45492I$ $b=\ \ 1.41008+0.61688I$	$7.3844+19.4648I$	0
$u=\ \ 1.57222+0.52281I$ $a=-1.47152+0.54181I$ $b=\ \ 1.34155+0.57236I$	$11.5783+12.8899I$	0
$u=\ \ 1.57222-0.52281I$ $a=-1.47152-0.54181I$ $b=\ \ 1.34155-0.57236I$	$11.5783-12.8899I$	0
$u=-0.211240+0.175347I$ $a=\ \ 0.78077-1.60023I$ $b=\ \ 1.243800-0.259007I$	$1.84179-1.19731I$	$10.60119+1.31143I$
$u=-0.211240-0.175347I$ $a=\ \ 0.78077+1.60023I$ $b=\ \ 1.243800+0.259007I$	$1.84179+1.19731I$	$10.60119-1.31143I$
$u=-1.59245+0.77043I$ $a=-1.124470-0.692437I$ $b=\ \ 1.152740-0.488771I$	$6.78045-5.07765I$	0
$u=-1.59245-0.77043I$ $a=-1.124470+0.692437I$ $b=\ \ 1.152740+0.488771I$	$6.78045+5.07765I$	0
$u=\ \ 0.139487+0.183215I$ $a=-2.40843-4.64200I$ $b=\ \ 0.823244-0.576780I$	$-3.44687-2.76159I$	$-7.18414+2.30075I$
$u=\ \ 0.139487-0.183215I$ $a=-2.40843+4.64200I$ $b=\ \ 0.823244+0.576780I$	$-3.44687+2.76159I$	$-7.18414-2.30075I$
$u=-1.72643+0.44990I$ $a=-1.375460-0.243823I$ $b=\ \ 1.325610-0.264331I$	$11.45270-3.71233I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.72643-0.44990I$ $a=-1.375460+0.243823I$ $b=\ \ 1.325610+0.264331I$	$11.45270+3.71233I$	0
$u=-1.81486+0.03742I$ $a=\ \ 1.123450+0.289731I$ $b=-1.016800+0.550219I$	$6.91636-2.18547I$	0
$u=-1.81486-0.03742I$ $a=\ \ 1.123450-0.289731I$ $b=-1.016800-0.550219I$	$6.91636+2.18547I$	0
$u=\ \ 1.14116+1.53222I$ $a=-0.670452+0.193941I$ $b=\ \ 1.064820-0.058701I$	$2.92855-4.19859I$	0
$u=\ \ 1.14116-1.53222I$ $a=-0.670452-0.193941I$ $b=\ \ 1.064820+0.058701I$	$2.92855+4.19859I$	0

II. $\boldsymbol{I_2^u = \langle 2.16 \times 10^{34} u^{36} - 4.93 \times 10^{34} u^{35} + \cdots + 6.17 \times 10^{32} b + 7.43 \times 10^{34},\ -1.18 \times 10^{35} u^{36} + 2.71 \times 10^{35} u^{35} + \cdots + 6.17 \times 10^{32} a - 3.95 \times 10^{35},\ u^{37} - 2u^{36} + \cdots + 10u + 1 \rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 190.952u^{36} - 438.342u^{35} + \cdots + 4264.72u + 639.381 \\ -34.9567u^{36} + 79.7857u^{35} + \cdots - 793.607u - 120.340 \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} -228.329u^{36} + 527.250u^{35} + \cdots - 5018.39u - 744.962 \\ 56.5751u^{36} - 130.395u^{35} + \cdots + 1249.81u + 187.278 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 60.3854u^{36} - 134.275u^{35} + \cdots + 1508.47u + 246.749 \\ 26.2295u^{36} - 61.9744u^{35} + \cdots + 539.580u + 74.1548 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -263.150u^{36} + 607.262u^{35} + \cdots - 5790.63u - 861.649 \\ 59.8795u^{36} - 137.732u^{35} + \cdots + 1318.71u + 197.649 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -310.737u^{36} + 712.858u^{35} + \cdots - 6900.48u - 1042.87 \\ 17.4172u^{36} - 38.8289u^{35} + \cdots + 375.207u + 59.4696 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 177.071u^{36} - 406.626u^{35} + \cdots + 3955.06u + 592.816 \\ -21.0754u^{36} + 48.0697u^{35} + \cdots - 483.949u - 73.7746 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -9.57722u^{36} + 27.7184u^{35} + \cdots - 21.9641u + 22.0479 \\ 53.2220u^{36} - 124.251u^{35} + \cdots + 1148.13u + 165.694 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -325.487u^{36} + 745.280u^{35} + \cdots - 7331.59u - 1116.54 \\ -2.16109u^{36} + 5.65095u^{35} + \cdots - 6.76424u + 4.11501 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -224.319u^{36} + 519.345u^{35} + \cdots - 4822.71u - 717.630$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{37} - 3u^{36} + \cdots + 14u - 1$
c_2	$u^{37} + 2u^{36} + \cdots - 2u + 1$
c_3	$u^{37} - u^{35} + \cdots - 26u^2 - 1$
c_4	$u^{37} + 3u^{36} + \cdots + 14u + 1$
c_5	$u^{37} + 4u^{36} + \cdots + u - 1$
c_6	$u^{37} - 2u^{36} + \cdots - 2u - 1$
c_7	$u^{37} - 2u^{36} + \cdots + 10u + 1$
c_8	$u^{37} + u^{36} + \cdots + 8u - 1$
c_9	$u^{37} - 4u^{35} + \cdots + 12u^2 + 1$
c_{10}	$u^{37} + 2u^{36} + \cdots + 10u - 1$
c_{11}	$u^{37} + u^{36} + \cdots + 6u + 1$
c_{12}	$u^{37} - u^{36} + \cdots + 8u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4	$y^{37} + 35y^{36} + \cdots + 4y - 1$
c_2, c_6	$y^{37} - 20y^{36} + \cdots + 26y - 1$
c_3	$y^{37} - 2y^{36} + \cdots - 52y - 1$
c_5	$y^{37} + 2y^{36} + \cdots - 13y - 1$
c_7, c_{10}	$y^{37} - 30y^{36} + \cdots + 42y - 1$
c_8, c_{12}	$y^{37} - 27y^{36} + \cdots + 52y - 1$
c_9	$y^{37} - 8y^{36} + \cdots - 24y - 1$
c_{11}	$y^{37} + 15y^{36} + \cdots - 8y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.865930 + 0.470625I$ $a = -0.526913 + 0.972443I$ $b = -0.398966 - 0.172060I$	$0.50373 + 9.30508I$	$0. - 8.35077I$
$u = 0.865930 - 0.470625I$ $a = -0.526913 - 0.972443I$ $b = -0.398966 + 0.172060I$	$0.50373 - 9.30508I$	$0. + 8.35077I$
$u = -1.024440 + 0.098100I$ $a = -0.454000 + 0.240276I$ $b = 0.426615 - 0.922013I$	$1.68609 - 2.26452I$	$4.04281 + 0.84517I$
$u = -1.024440 - 0.098100I$ $a = -0.454000 - 0.240276I$ $b = 0.426615 + 0.922013I$	$1.68609 + 2.26452I$	$4.04281 - 0.84517I$
$u = 1.066150 + 0.306740I$ $a = 0.440825 + 0.012806I$ $b = 0.378402 + 0.564900I$	$-1.83564 + 4.15388I$	$0. - 4.40524I$
$u = 1.066150 - 0.306740I$ $a = 0.440825 - 0.012806I$ $b = 0.378402 - 0.564900I$	$-1.83564 - 4.15388I$	$0. + 4.40524I$
$u = -1.11824$ $a = -3.87923$ $b = 1.11736$	3.76136	-113.100
$u = 1.117000 + 0.147107I$ $a = -0.524947 - 0.369648I$ $b = 0.66570 + 1.28161I$	$-1.32048 + 4.03300I$	$0. - 6.05320I$
$u = 1.117000 - 0.147107I$ $a = -0.524947 + 0.369648I$ $b = 0.66570 - 1.28161I$	$-1.32048 - 4.03300I$	$0. + 6.05320I$
$u = -0.678504 + 0.548499I$ $a = 0.02582 - 1.53831I$ $b = -0.547929 - 0.224890I$	$3.69091 - 2.47875I$	$3.78320 + 4.82757I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.678504-0.548499I$ $a=\ 0.02582+1.53831I$ $b=-0.547929+0.224890I$	$3.69091+2.47875I$	$3.78320-4.82757I$
$u=-0.798358+0.200701I$ $a=\ 1.44784+0.12783I$ $b=\ 0.656047+0.060507I$	$2.05516-0.19969I$	$-2.24677-4.30907I$
$u=-0.798358-0.200701I$ $a=\ 1.44784-0.12783I$ $b=\ 0.656047-0.060507I$	$2.05516+0.19969I$	$-2.24677+4.30907I$
$u=\ 1.054110+0.528576I$ $a=-1.094210+0.844287I$ $b=\ 0.831338-0.193676I$	$-2.08376-1.30211I$	0
$u=\ 1.054110-0.528576I$ $a=-1.094210-0.844287I$ $b=\ 0.831338+0.193676I$	$-2.08376+1.30211I$	0
$u=\ 0.717902+0.250097I$ $a=-0.436294+1.233330I$ $b=\ 0.483472-0.977863I$	$-2.74979-2.46325I$	$-7.38440+0.94612I$
$u=\ 0.717902-0.250097I$ $a=-0.436294-1.233330I$ $b=\ 0.483472+0.977863I$	$-2.74979+2.46325I$	$-7.38440-0.94612I$
$u=\ 1.255810+0.435419I$ $a=\ 1.81891-0.69946I$ $b=-1.55728-0.35567I$	$6.40878+9.97191I$	0
$u=\ 1.255810-0.435419I$ $a=\ 1.81891+0.69946I$ $b=-1.55728+0.35567I$	$6.40878-9.97191I$	0
$u=\ 0.517961+1.233440I$ $a=\ 0.521539-0.256141I$ $b=-1.224930+0.176329I$	$3.95000-4.57681I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.517961 - 1.233440I$ $a = 0.521539 + 0.256141I$ $b = -1.224930 - 0.176329I$	$3.95000 + 4.57681I$	0
$u = -0.173056 + 0.527887I$ $a = 0.014441 + 0.349671I$ $b = 1.159170 - 0.280954I$	$1.33138 - 1.35616I$	$-5.50164 + 2.96971I$
$u = -0.173056 - 0.527887I$ $a = 0.014441 - 0.349671I$ $b = 1.159170 + 0.280954I$	$1.33138 + 1.35616I$	$-5.50164 - 2.96971I$
$u = -1.29451 + 0.80457I$ $a = 1.113590 + 0.839742I$ $b = -1.186220 + 0.417857I$	$6.35380 - 5.45787I$	0
$u = -1.29451 - 0.80457I$ $a = 1.113590 - 0.839742I$ $b = -1.186220 - 0.417857I$	$6.35380 + 5.45787I$	0
$u = -1.54693 + 0.20966I$ $a = 1.23232 + 0.71478I$ $b = -1.063630 + 0.155621I$	$10.47500 - 0.70049I$	0
$u = -1.54693 - 0.20966I$ $a = 1.23232 - 0.71478I$ $b = -1.063630 - 0.155621I$	$10.47500 + 0.70049I$	0
$u = 1.56404 + 0.10854I$ $a = -1.69721 - 0.23703I$ $b = 1.41094 + 0.73775I$	$7.91793 + 3.68580I$	0
$u = 1.56404 - 0.10854I$ $a = -1.69721 + 0.23703I$ $b = 1.41094 - 0.73775I$	$7.91793 - 3.68580I$	0
$u = -0.307621 + 0.159649I$ $a = -1.74934 - 1.64818I$ $b = 0.858001 + 0.729524I$	$-0.09807 + 3.13048I$	$-6.92040 - 4.86439I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.307621-0.159649I$ $a=-1.74934+1.64818I$ $b=\ \ 0.858001-0.729524I$	$-0.09807-3.13048I$	$-6.92040+4.86439I$
$u=-1.68288+0.18256I$ $a=-1.392640-0.193317I$ $b=\ \ 1.135750-0.578329I$	$6.46479-2.76132I$	0
$u=-1.68288-0.18256I$ $a=-1.392640+0.193317I$ $b=\ \ 1.135750+0.578329I$	$6.46479+2.76132I$	0
$u=-0.304520+0.009033I$ $a=\ \ 2.02952+4.14105I$ $b=-0.865590-0.750204I$	$-1.81843+2.85453I$	$-1.46562-5.02758I$
$u=-0.304520-0.009033I$ $a=\ \ 2.02952-4.14105I$ $b=-0.865590+0.750204I$	$-1.81843-2.85453I$	$-1.46562+5.02758I$
$u=\ \ 1.21104+1.27593I$ $a=\ \ 1.170360-0.249474I$ $b=-0.719579+0.019969I$	$1.60111-3.86013I$	0
$u=\ \ 1.21104-1.27593I$ $a=\ \ 1.170360+0.249474I$ $b=-0.719579-0.019969I$	$1.60111+3.86013I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{37}-3u^{36}+\cdots+14u-1)(u^{145}-10u^{144}+\cdots-5940u+449)$
c_2	$(u^{37}+2u^{36}+\cdots-2u+1)(u^{145}-3u^{144}+\cdots+467400u-213397)$
c_3	$(u^{37}-u^{35}+\cdots-26u^2-1)$ $\cdot(u^{145}+u^{144}+\cdots-1175510402u+376846879)$
c_4	$(u^{37}+3u^{36}+\cdots+14u+1)(u^{145}-10u^{144}+\cdots-5940u+449)$
c_5	$(u^{37}+4u^{36}+\cdots+u-1)(u^{145}+13u^{144}+\cdots+43u+1)$
c_6	$(u^{37}-2u^{36}+\cdots-2u-1)(u^{145}-3u^{144}+\cdots+467400u-213397)$
c_7	$(u^{37}-2u^{36}+\cdots+10u+1)(u^{145}-3u^{144}+\cdots+45520u-31624)$
c_8	$(u^{37}+u^{36}+\cdots+8u-1)(u^{145}-47u^{143}+\cdots-910u+31)$
c_9	$(u^{37}-4u^{35}+\cdots+12u^2+1)(u^{145}-3u^{144}+\cdots+64828u+97949)$
c_{10}	$(u^{37}+2u^{36}+\cdots+10u-1)(u^{145}-3u^{144}+\cdots+45520u-31624)$
c_{11}	$(u^{37}+u^{36}+\cdots+6u+1)(u^{145}+2u^{144}+\cdots-2298u+229)$
c_{12}	$(u^{37}-u^{36}+\cdots+8u+1)(u^{145}-47u^{143}+\cdots-910u+31)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4	$(y^{37} + 35y^{36} + \cdots + 4y - 1)$ $\cdot (y^{145} + 108y^{144} + \cdots + 3274390y - 201601)$
c_2, c_6	$(y^{37} - 20y^{36} + \cdots + 26y - 1)$ $\cdot (y^{145} - 95y^{144} + \cdots + 820020367120y - 45538279609)$
c_3	$(y^{37} - 2y^{36} + \cdots - 52y - 1)$ $\cdot (y^{145} + 59y^{144} + \cdots - 6.17 \times 10^{18}y - 1.42 \times 10^{17})$
c_5	$(y^{37} + 2y^{36} + \cdots - 13y - 1)(y^{145} + 3y^{144} + \cdots + 517y - 1)$
c_7, c_{10}	$(y^{37} - 30y^{36} + \cdots + 42y - 1)$ $\cdot (y^{145} - 121y^{144} + \cdots + 10721993376y - 1000077376)$
c_8, c_{12}	$(y^{37} - 27y^{36} + \cdots + 52y - 1)(y^{145} - 94y^{144} + \cdots + 537754y - 961)$
c_9	$(y^{37} - 8y^{36} + \cdots - 24y - 1)$ $\cdot (y^{145} + 9y^{144} + \cdots - 357137656050y - 9594006601)$
c_{11}	$(y^{37} + 15y^{36} + \cdots - 8y - 1)(y^{145} + 28y^{144} + \cdots - 3337382y - 52441)$