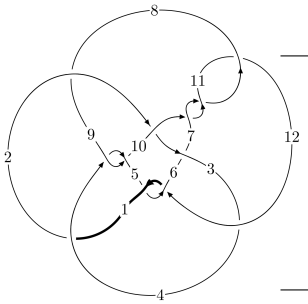
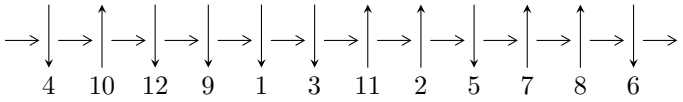
$12a_{1201}$ $(K12a_{1201})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I_1^u &= \langle -4.70258 \times 10^{345} u^{139} + 1.45980 \times 10^{346} u^{138} + \cdots + 2.18893 \times 10^{345} b + 3.04112 \times 10^{346}, \\
&\quad 3.74652 \times 10^{346} u^{139} - 1.17909 \times 10^{347} u^{138} + \cdots + 2.18893 \times 10^{345} a - 1.90043 \times 10^{347}, \\
&\quad u^{140} - 3u^{139} + \cdots - 27u - 1 \rangle \\
I_2^u &= \langle -286723 u^{34} + 444928 u^{33} + \cdots + 69517 b + 453427, \\
&\quad 8945075 u^{34} - 15497918 u^{33} + \cdots + 69517 a - 7160101,\ u^{35} - 3u^{34} + \cdots - 3u + 1 \rangle \\
I_3^u &= \langle b - 1,\ a,\ u - 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 176 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. $\boldsymbol{I_1^u = \langle -4.70 \times 10^{345} u^{139} + 1.46 \times 10^{346} u^{138} + \cdots + 2.19 \times 10^{345} b + 3.04 \times 10^{346},\ 3.75 \times 10^{346} u^{139} - 1.18 \times 10^{347} u^{138} + \cdots + 2.19 \times 10^{345} a - 1.90 \times 10^{347},\ u^{140} - 3u^{139} + \cdots - 27u - 1 \rangle}$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} -17.1157u^{139} + 53.8661u^{138} + \cdots + 1840.02u + 86.8198 \\ 2.14834u^{139} - 6.66899u^{138} + \cdots - 278.821u - 13.8932 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -17.4779u^{139} + 55.4038u^{138} + \cdots + 1913.85u + 90.1905 \\ 1.24479u^{139} - 4.12684u^{138} + \cdots - 216.821u - 10.9738 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -2.34681u^{139} + 4.30372u^{138} + \cdots + 657.341u + 40.8192 \\ 2.78708u^{139} - 6.59659u^{138} + \cdots - 259.251u - 13.1983 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -15.4483u^{139} + 49.0551u^{138} + \cdots + 2205.24u + 104.962 \\ 1.59584u^{139} - 6.60896u^{138} + \cdots - 250.220u - 12.3168 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -13.4458u^{139} + 41.6387u^{138} + \cdots + 1644.46u + 82.0808 \\ 2.89425u^{139} - 7.86046u^{138} + \cdots - 350.112u - 16.8488 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -15.8887u^{139} + 50.8414u^{138} + \cdots + 1793.03u + 84.5248 \\ 0.921328u^{139} - 3.64428u^{138} + \cdots - 231.824u - 11.5982 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -4.06898u^{139} + 13.2143u^{138} + \cdots + 1095.07u + 58.9998 \\ 1.75915u^{139} - 6.31156u^{138} + \cdots - 361.334u - 16.8026 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 28.6964u^{139} - 93.7293u^{138} + \cdots - 3097.74u - 147.900$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{140} + u^{139} + \cdots + 405u + 119$
c_2	$u^{140} + 4u^{139} + \cdots + 44695798u - 3369031$
c_3	$u^{140} - 4u^{139} + \cdots - 29465412u + 1871711$
c_4, c_9	$u^{140} - 2u^{139} + \cdots - 8527u + 2089$
c_5, c_{12}	$u^{140} + 3u^{139} + \cdots + 63834u - 5809$
c_6	$u^{140} + 7u^{139} + \cdots + 208242066u - 166275911$
c_7, c_{10}, c_{11}	$u^{140} - 3u^{139} + \cdots - 27u - 1$
c_8	$u^{140} + 15u^{138} + \cdots + 315207u - 35883$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{140} - 5y^{139} + \cdots + 6830319y + 14161$
c_2	$y^{140} - 34y^{139} + \cdots - 510524756422924y + 11350369878961$
c_3	$y^{140} + 56y^{139} + \cdots + 52970751482880y + 3503302067521$
c_4, c_9	$y^{140} - 74y^{139} + \cdots - 86881505y + 4363921$
c_5, c_{12}	$y^{140} + 105y^{139} + \cdots + 2341783754y + 33744481$
c_6	$y^{140} + 57y^{139} + \cdots + 1894560234749566132y + 27647678578879921$
c_7, c_{10}, c_{11}	$y^{140} - 139y^{139} + \cdots - 63y + 1$
c_8	$y^{140} + 30y^{139} + \cdots + 67712278617y + 1287589689$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.462379+0.872851I$ $a=\ \ 0.457037-0.280992I$ $b=\ \ 0.668404+0.884753I$	$-3.71972-8.53606I$	0
$u=-0.462379-0.872851I$ $a=\ \ 0.457037+0.280992I$ $b=\ \ 0.668404-0.884753I$	$-3.71972+8.53606I$	0
$u=-0.704341+0.737453I$ $a=\ \ 0.776491-0.006136I$ $b=-0.504752+1.084340I$	$1.77897+9.64332I$	0
$u=-0.704341-0.737453I$ $a=\ \ 0.776491+0.006136I$ $b=-0.504752-1.084340I$	$1.77897-9.64332I$	0
$u=\ \ 0.686254+0.756748I$ $a=-0.715275-0.188941I$ $b=\ \ 0.395128+0.982604I$	$4.72890-3.27964I$	0
$u=\ \ 0.686254-0.756748I$ $a=-0.715275+0.188941I$ $b=\ \ 0.395128-0.982604I$	$4.72890+3.27964I$	0
$u=\ \ 0.377083+0.883614I$ $a=\ \ 0.539975-0.407438I$ $b=-0.046896-0.826372I$	$2.01560-1.61773I$	0
$u=\ \ 0.377083-0.883614I$ $a=\ \ 0.539975+0.407438I$ $b=-0.046896+0.826372I$	$2.01560+1.61773I$	0
$u=\ \ 0.478507+0.828531I$ $a=\ \ 0.577416+0.614164I$ $b=\ \ 0.667428-1.197920I$	$4.12877+8.61622I$	0
$u=\ \ 0.478507-0.828531I$ $a=\ \ 0.577416-0.614164I$ $b=\ \ 0.667428+1.197920I$	$4.12877-8.61622I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.456133+0.833311I$ $a=-0.674185+0.539381I$ $b=-0.80454-1.28700I$	$1.0425-14.9384I$	0
$u=-0.456133-0.833311I$ $a=-0.674185-0.539381I$ $b=-0.80454+1.28700I$	$1.0425+14.9384I$	0
$u=0.964246+0.434277I$ $a=0.562867+0.368503I$ $b=-0.137014-0.528866I$	$1.46755+0.80554I$	0
$u=0.964246-0.434277I$ $a=0.562867-0.368503I$ $b=-0.137014+0.528866I$	$1.46755-0.80554I$	0
$u=-0.328180+0.878078I$ $a=0.354828-0.320483I$ $b=0.309412+0.571510I$	$-3.62334+1.06275I$	0
$u=-0.328180-0.878078I$ $a=0.354828+0.320483I$ $b=0.309412-0.571510I$	$-3.62334-1.06275I$	0
$u=0.403616+0.815553I$ $a=-0.425989-0.236906I$ $b=-0.456070+0.937118I$	$0.10647+3.89798I$	0
$u=0.403616-0.815553I$ $a=-0.425989+0.236906I$ $b=-0.456070-0.937118I$	$0.10647-3.89798I$	0
$u=-0.170842+0.884336I$ $a=-0.458227-0.527772I$ $b=0.006089-0.657947I$	$1.93663-0.61257I$	0
$u=-0.170842-0.884336I$ $a=-0.458227+0.527772I$ $b=0.006089+0.657947I$	$1.93663+0.61257I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.818840+0.775513I$ $a=-0.418165-0.019733I$ $b=\ \ 0.167714-0.698294I$	$-2.76939+2.90326I$	0
$u=-0.818840-0.775513I$ $a=-0.418165+0.019733I$ $b=\ \ 0.167714+0.698294I$	$-2.76939-2.90326I$	0
$u=\ \ 0.623465+0.592662I$ $a=-0.355432-0.388206I$ $b=-0.666980+1.179240I$	$3.08454+6.40753I$	0
$u=\ \ 0.623465-0.592662I$ $a=-0.355432+0.388206I$ $b=-0.666980-1.179240I$	$3.08454-6.40753I$	0
$u=-1.136100+0.122033I$ $a=-0.434683+0.268499I$ $b=\ \ 0.804708+0.523340I$	$4.56061-3.17341I$	0
$u=-1.136100-0.122033I$ $a=-0.434683-0.268499I$ $b=\ \ 0.804708-0.523340I$	$4.56061+3.17341I$	0
$u=\ \ 1.16073$ $a=\ \ 0.0578993$ $b=\ \ 1.04319$	-1.61847	0
$u=-0.465931+0.682708I$ $a=-0.715701+0.938995I$ $b=-0.735843-0.794635I$	$-2.80541-4.22675I$	0
$u=-0.465931-0.682708I$ $a=-0.715701-0.938995I$ $b=-0.735843+0.794635I$	$-2.80541+4.22675I$	0
$u=\ \ 0.805832+0.171888I$ $a=-0.72972+1.84695I$ $b=\ \ 0.542835-0.558432I$	$3.36428+0.17780I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.805832 - 0.171888I$ $a = -0.72972 - 1.84695I$ $b = 0.542835 + 0.558432I$	$3.36428 - 0.17780I$	0
$u = -0.631596 + 0.501522I$ $a = 0.293717 + 0.046531I$ $b = -0.684176 + 0.529370I$	$-2.30853 + 0.01280I$	0
$u = -0.631596 - 0.501522I$ $a = 0.293717 - 0.046531I$ $b = -0.684176 - 0.529370I$	$-2.30853 - 0.01280I$	0
$u = -1.217270 + 0.004425I$ $a = 1.30064 - 2.33815I$ $b = -1.07297 + 1.32920I$	$1.04242 - 5.47669I$	0
$u = -1.217270 - 0.004425I$ $a = 1.30064 + 2.33815I$ $b = -1.07297 - 1.32920I$	$1.04242 + 5.47669I$	0
$u = 0.601253 + 0.469515I$ $a = 0.759163 + 0.277979I$ $b = 0.183519 - 0.606937I$	$1.29364 + 0.77209I$	0
$u = 0.601253 - 0.469515I$ $a = 0.759163 - 0.277979I$ $b = 0.183519 + 0.606937I$	$1.29364 - 0.77209I$	0
$u = -1.070230 + 0.636332I$ $a = -0.092737 + 0.241677I$ $b = 0.134547 - 0.437874I$	$-1.48417 - 6.45366I$	0
$u = -1.070230 - 0.636332I$ $a = -0.092737 - 0.241677I$ $b = 0.134547 + 0.437874I$	$-1.48417 + 6.45366I$	0
$u = 0.398072 + 0.626175I$ $a = -0.946969 - 0.318541I$ $b = -0.79762 + 1.43794I$	$2.96797 + 2.33819I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.398072 - 0.626175I$ $a = -0.946969 + 0.318541I$ $b = -0.79762 - 1.43794I$	$2.96797 - 2.33819I$	0
$u = 1.241780 + 0.220632I$ $a = -0.90441 - 1.62834I$ $b = 0.609759 + 1.255110I$	$2.80271 + 0.23073I$	0
$u = 1.241780 - 0.220632I$ $a = -0.90441 + 1.62834I$ $b = 0.609759 - 1.255110I$	$2.80271 - 0.23073I$	0
$u = 1.260930 + 0.082460I$ $a = 0.086207 - 0.530918I$ $b = -1.184450 - 0.384164I$	$2.27831 - 4.47551I$	0
$u = 1.260930 - 0.082460I$ $a = 0.086207 + 0.530918I$ $b = -1.184450 + 0.384164I$	$2.27831 + 4.47551I$	0
$u = -1.315690 + 0.009991I$ $a = -0.36004 - 2.74746I$ $b = 0.05423 + 1.82083I$	$0.10570 + 2.10964I$	0
$u = -1.315690 - 0.009991I$ $a = -0.36004 + 2.74746I$ $b = 0.05423 - 1.82083I$	$0.10570 - 2.10964I$	0
$u = -1.313990 + 0.111074I$ $a = -0.23144 - 1.79391I$ $b = 0.031189 + 0.365803I$	$-0.70589 - 4.44648I$	0
$u = -1.313990 - 0.111074I$ $a = -0.23144 + 1.79391I$ $b = 0.031189 - 0.365803I$	$-0.70589 + 4.44648I$	0
$u = 0.423118 + 0.522894I$ $a = 1.237050 - 0.528772I$ $b = -0.158698 - 1.136510I$	$3.23668 + 1.44238I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.423118 - 0.522894I$ $a = 1.237050 + 0.528772I$ $b = -0.158698 + 1.136510I$	$3.23668 - 1.44238I$	0
$u = -0.129908 + 0.651480I$ $a = 0.133831 + 0.582906I$ $b = 0.060763 - 1.345760I$	$-1.41806 + 3.01802I$	0
$u = -0.129908 - 0.651480I$ $a = 0.133831 - 0.582906I$ $b = 0.060763 + 1.345760I$	$-1.41806 - 3.01802I$	0
$u = -0.565129 + 0.345483I$ $a = -0.086280 - 0.838713I$ $b = 0.699439 + 1.051320I$	$4.07356 - 3.29083I$	0
$u = -0.565129 - 0.345483I$ $a = -0.086280 + 0.838713I$ $b = 0.699439 - 1.051320I$	$4.07356 + 3.29083I$	0
$u = 1.329060 + 0.180992I$ $a = 1.162230 + 0.506902I$ $b = -1.107950 - 0.567617I$	$2.37634 + 1.48237I$	0
$u = 1.329060 - 0.180992I$ $a = 1.162230 - 0.506902I$ $b = -1.107950 + 0.567617I$	$2.37634 - 1.48237I$	0
$u = 1.343570 + 0.059602I$ $a = 0.17148 - 1.95113I$ $b = -0.017383 + 1.108000I$	$3.06942 + 1.61488I$	0
$u = 1.343570 - 0.059602I$ $a = 0.17148 + 1.95113I$ $b = -0.017383 - 1.108000I$	$3.06942 - 1.61488I$	0
$u = -0.320764 + 0.569441I$ $a = 1.31405 - 0.73024I$ $b = 1.08104 + 1.24019I$	$3.26804 - 5.06148I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.320764-0.569441I$ $a=\ \ 1.31405+0.73024I$ $b=\ \ 1.08104-1.24019I$	$3.26804+5.06148I$	0
$u=-0.425132+0.490297I$ $a=-1.53497+0.84982I$ $b=-0.674783-0.719553I$	$-1.89546-4.32229I$	0
$u=-0.425132-0.490297I$ $a=-1.53497-0.84982I$ $b=-0.674783+0.719553I$	$-1.89546+4.32229I$	0
$u=-0.560763+0.315780I$ $a=\ \ 2.53851-1.29915I$ $b=-0.154600+0.718380I$	$0.39792-6.14230I$	$0.+8.00126I$
$u=-0.560763-0.315780I$ $a=\ \ 2.53851+1.29915I$ $b=-0.154600-0.718380I$	$0.39792+6.14230I$	$0.-8.00126I$
$u=-1.359650+0.117728I$ $a=-1.105820-0.418584I$ $b=\ \ 1.69043+0.21809I$	$5.88239-4.59774I$	0
$u=-1.359650-0.117728I$ $a=-1.105820+0.418584I$ $b=\ \ 1.69043-0.21809I$	$5.88239+4.59774I$	0
$u=-1.362510+0.085272I$ $a=\ \ 0.43387+2.68486I$ $b=-0.568408-0.582435I$	$2.91886-7.73986I$	0
$u=-1.362510-0.085272I$ $a=\ \ 0.43387-2.68486I$ $b=-0.568408+0.582435I$	$2.91886+7.73986I$	0
$u=-1.372620+0.041492I$ $a=\ \ 0.910453-0.463763I$ $b=-1.62467+0.42421I$	$2.97120-0.46899I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.372620-0.041492I$ $a=\ \ 0.910453+0.463763I$ $b=-1.62467-0.42421I$	$2.97120+0.46899I$	0
$u=\ \ 1.381760+0.136726I$ $a=\ \ 1.72384-0.47772I$ $b=-2.23547-0.03375I$	$3.20477+9.15153I$	0
$u=\ \ 1.381760-0.136726I$ $a=\ \ 1.72384+0.47772I$ $b=-2.23547+0.03375I$	$3.20477-9.15153I$	0
$u=\ \ 1.376280+0.254400I$ $a=-1.28784-1.04043I$ $b=\ \ 0.209891+1.329590I$	$8.43189+0.58347I$	0
$u=\ \ 1.376280-0.254400I$ $a=-1.28784+1.04043I$ $b=\ \ 0.209891-1.329590I$	$8.43189-0.58347I$	0
$u=\ \ 1.400760+0.095179I$ $a=-1.14022-1.06949I$ $b=\ \ 1.62050+1.13483I$	$1.58883+4.27435I$	0
$u=\ \ 1.400760-0.095179I$ $a=-1.14022+1.06949I$ $b=\ \ 1.62050-1.13483I$	$1.58883-4.27435I$	0
$u=-1.406880+0.006416I$ $a=\ \ 0.464909-1.094690I$ $b=\ \ 0.772828+0.884649I$	$7.98154-2.83433I$	0
$u=-1.406880-0.006416I$ $a=\ \ 0.464909+1.094690I$ $b=\ \ 0.772828-0.884649I$	$7.98154+2.83433I$	0
$u=-0.235792+0.542392I$ $a=-0.141507+0.081514I$ $b=-0.674308+0.917975I$	$-2.46402+1.20422I$	$-4.02039+3.48565I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.235792-0.542392I$ $a=-0.141507-0.081514I$ $b=-0.674308-0.917975I$	$-2.46402-1.20422I$	$-4.02039-3.48565I$
$u=1.42433+0.04690I$ $a=-0.84533+2.00807I$ $b=-0.056543-0.949934I$	$8.82467+3.19321I$	0
$u=1.42433-0.04690I$ $a=-0.84533-2.00807I$ $b=-0.056543+0.949934I$	$8.82467-3.19321I$	0
$u=1.42947+0.21457I$ $a=0.00176+2.48122I$ $b=1.23337-1.60979I$	$8.90630+7.94848I$	0
$u=1.42947-0.21457I$ $a=0.00176-2.48122I$ $b=1.23337+1.60979I$	$8.90630-7.94848I$	0
$u=-1.43761+0.22669I$ $a=0.76019-1.50877I$ $b=0.40645+1.55265I$	$9.06008-4.26529I$	0
$u=-1.43761-0.22669I$ $a=0.76019+1.50877I$ $b=0.40645-1.55265I$	$9.06008+4.26529I$	0
$u=0.140123+0.513834I$ $a=0.435608-0.512064I$ $b=1.100810+0.143302I$	$1.21463+2.45922I$	$-2.53647-5.18448I$
$u=0.140123-0.513834I$ $a=0.435608+0.512064I$ $b=1.100810-0.143302I$	$1.21463-2.45922I$	$-2.53647+5.18448I$
$u=-1.45639+0.23069I$ $a=-0.23608+2.35336I$ $b=-1.00629-1.91711I$	$8.94598-5.47573I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.45639-0.23069I$ $a=-0.23608-2.35336I$ $b=-1.00629+1.91711I$	$8.94598+5.47573I$	0
$u=1.46338+0.18353I$ $a=-0.15300-1.61650I$ $b=-0.951185+0.925574I$	$4.22217+6.83856I$	0
$u=1.46338-0.18353I$ $a=-0.15300+1.61650I$ $b=-0.951185-0.925574I$	$4.22217-6.83856I$	0
$u=0.037476+0.513388I$ $a=1.27392+1.70079I$ $b=0.643809-0.085613I$	$-4.82975+2.31062I$	$-12.87978-2.96394I$
$u=0.037476-0.513388I$ $a=1.27392-1.70079I$ $b=0.643809+0.085613I$	$-4.82975-2.31062I$	$-12.87978+2.96394I$
$u=1.46922+0.31257I$ $a=0.332409+1.305150I$ $b=0.390051-0.964932I$	$2.19099+3.17343I$	0
$u=1.46922-0.31257I$ $a=0.332409-1.305150I$ $b=0.390051+0.964932I$	$2.19099-3.17343I$	0
$u=1.49507+0.15095I$ $a=-0.18905+2.12309I$ $b=0.65123-1.66952I$	$10.73410+5.31948I$	0
$u=1.49507-0.15095I$ $a=-0.18905-2.12309I$ $b=0.65123+1.66952I$	$10.73410-5.31948I$	0
$u=1.50099+0.12695I$ $a=1.20794+1.23655I$ $b=0.310004-0.618174I$	$7.09391+7.88138I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.50099 - 0.12695I$ $a = 1.20794 - 1.23655I$ $b = 0.310004 + 0.618174I$	$7.09391 - 7.88138I$	0
$u = -1.50561 + 0.18920I$ $a = 0.122833 - 1.396170I$ $b = 0.706279 + 1.137180I$	$8.03732 - 3.36556I$	0
$u = -1.50561 - 0.18920I$ $a = 0.122833 + 1.396170I$ $b = 0.706279 - 1.137180I$	$8.03732 + 3.36556I$	0
$u = -0.166408 + 0.447749I$ $a = -0.942548 - 0.314060I$ $b = -1.64904 + 0.38973I$	$-1.75661 - 7.07071I$	$-8.13787 + 10.46929I$
$u = -0.166408 - 0.447749I$ $a = -0.942548 + 0.314060I$ $b = -1.64904 - 0.38973I$	$-1.75661 + 7.07071I$	$-8.13787 - 10.46929I$
$u = -1.49430 + 0.29806I$ $a = -0.22812 + 1.56211I$ $b = -0.68396 - 1.30037I$	$6.26553 - 7.93967I$	0
$u = -1.49430 - 0.29806I$ $a = -0.22812 - 1.56211I$ $b = -0.68396 + 1.30037I$	$6.26553 + 7.93967I$	0
$u = -0.174597 + 0.431979I$ $a = -0.93253 - 1.48595I$ $b = 0.527948 - 1.043380I$	$3.54406 + 2.27639I$	$2.72382 - 3.59475I$
$u = -0.174597 - 0.431979I$ $a = -0.93253 + 1.48595I$ $b = 0.527948 + 1.043380I$	$3.54406 - 2.27639I$	$2.72382 + 3.59475I$
$u = -1.52156 + 0.19604I$ $a = 0.07461 + 2.01691I$ $b = -0.81738 - 1.78384I$	$10.04850 - 9.28275I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.52156-0.19604I$ $a=\ \ 0.07461-2.01691I$ $b=-0.81738+1.78384I$	$10.04850+9.28275I$	0
$u=\ \ 1.51551+0.23988I$ $a=-0.14461-1.82163I$ $b=-0.713646+1.051090I$	$3.69617+7.60542I$	0
$u=\ \ 1.51551-0.23988I$ $a=-0.14461+1.82163I$ $b=-0.713646-1.051090I$	$3.69617-7.60542I$	0
$u=\ \ 1.49132+0.38149I$ $a=-0.402125-0.713805I$ $b=-0.482485+0.782696I$	$7.35578+5.43628I$	0
$u=\ \ 1.49132-0.38149I$ $a=-0.402125+0.713805I$ $b=-0.482485-0.782696I$	$7.35578-5.43628I$	0
$u=\ \ 1.50988+0.30607I$ $a=-0.23946-1.98071I$ $b=-0.93962+1.54380I$	$7.4013+19.0874I$	0
$u=\ \ 1.50988-0.30607I$ $a=-0.23946+1.98071I$ $b=-0.93962-1.54380I$	$7.4013-19.0874I$	0
$u=-1.51849+0.29906I$ $a=\ \ 0.25687-1.91430I$ $b=\ \ 0.76941+1.46778I$	$10.6023-12.7252I$	0
$u=-1.51849-0.29906I$ $a=\ \ 0.25687+1.91430I$ $b=\ \ 0.76941-1.46778I$	$10.6023+12.7252I$	0
$u=\ \ 1.51561+0.31438I$ $a=\ \ 0.07138+1.52212I$ $b=\ \ 0.92434-1.20152I$	$2.67796+12.83410I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.51561 - 0.31438I$ $a = 0.07138 - 1.52212I$ $b = 0.92434 + 1.20152I$	$2.67796 - 12.83410I$	0
$u = 1.55157 + 0.11010I$ $a = 0.164884 - 1.312400I$ $b = -0.595253 + 1.162150I$	$5.63135 - 0.31745I$	0
$u = 1.55157 - 0.11010I$ $a = 0.164884 + 1.312400I$ $b = -0.595253 - 1.162150I$	$5.63135 + 0.31745I$	0
$u = -1.54716 + 0.28316I$ $a = 0.240136 - 1.013790I$ $b = 0.634566 + 1.046300I$	$8.53481 - 2.77939I$	0
$u = -1.54716 - 0.28316I$ $a = 0.240136 + 1.013790I$ $b = 0.634566 - 1.046300I$	$8.53481 + 2.77939I$	0
$u = -1.58782 + 0.17188I$ $a = -0.588633 + 1.249210I$ $b = -0.053271 - 1.001920I$	$12.48620 - 0.04830I$	0
$u = -1.58782 - 0.17188I$ $a = -0.588633 - 1.249210I$ $b = -0.053271 + 1.001920I$	$12.48620 + 0.04830I$	0
$u = 1.59024 + 0.15756I$ $a = 0.569657 + 1.184930I$ $b = 0.024023 - 1.161970I$	$9.63114 - 6.45309I$	0
$u = 1.59024 - 0.15756I$ $a = 0.569657 - 1.184930I$ $b = 0.024023 + 1.161970I$	$9.63114 + 6.45309I$	0
$u = 0.017699 + 0.384118I$ $a = -3.89080 - 1.70197I$ $b = -1.001280 + 0.347221I$	$-1.52056 + 6.23501I$	$-10.80190 - 5.48008I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.017699 - 0.384118I$ $a = -3.89080 + 1.70197I$ $b = -1.001280 - 0.347221I$	$-1.52056 - 6.23501I$	$-10.80190 + 5.48008I$
$u = -1.63491 + 0.01230I$ $a = -0.37883 + 1.73983I$ $b = \ 0.113022 - 0.779294I$	$11.76030 + 0.35175I$	0
$u = -1.63491 - 0.01230I$ $a = -0.37883 - 1.73983I$ $b = \ 0.113022 + 0.779294I$	$11.76030 - 0.35175I$	0
$u = -0.152233 + 0.282285I$ $a = \ 1.61654 + 1.16705I$ $b = \ 0.831591 - 1.127100I$	$-3.51286 - 2.88025I$	$-9.55579 + 9.24687I$
$u = -0.152233 - 0.282285I$ $a = \ 1.61654 - 1.16705I$ $b = \ 0.831591 + 1.127100I$	$-3.51286 + 2.88025I$	$-9.55579 - 9.24687I$
$u = -0.061907 + 0.296312I$ $a = -0.56077 + 2.06142I$ $b = -0.697467 - 0.464867I$	$-1.325650 - 0.356775I$	$-7.64122 + 0.81952I$
$u = -0.061907 - 0.296312I$ $a = -0.56077 - 2.06142I$ $b = -0.697467 + 0.464867I$	$-1.325650 + 0.356775I$	$-7.64122 - 0.81952I$
$u = -0.177777 + 0.060265I$ $a = -4.92355 - 5.09239I$ $b = \ 0.432886 + 0.824106I$	$3.46607 - 2.61249I$	$2.41623 + 8.11633I$
$u = -0.177777 - 0.060265I$ $a = -4.92355 + 5.09239I$ $b = \ 0.432886 - 0.824106I$	$3.46607 + 2.61249I$	$2.41623 - 8.11633I$
$u = -0.120784$ $a = \ 3.91761$ $b = -0.952491$	-1.20266	-11.0970

II.

$\boldsymbol{I_2^u = \langle -2.87\times 10^5 u^{34} + 4.45\times 10^5 u^{33} + \cdots + 6.95\times 10^4 b + 4.53\times 10^5,\ 8.95\times 10^6 u^{34} - 1.55\times 10^7 u^{33} + \cdots + 6.95\times 10^4 a - 7.16\times 10^6,\ u^{35} - 3u^{34} + \cdots - 3u + 1\rangle}$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} -128.675u^{34} + 222.937u^{33} + \cdots - 226.268u + 102.998 \\ 4.12450u^{34} - 6.40028u^{33} + \cdots + 12.3272u - 6.52253 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 6.03280u^{34} - 7.95293u^{33} + \cdots - 2.50307u + 2.63185 \\ -90.5807u^{34} + 154.735u^{33} + \cdots - 148.898u + 66.3438 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -226.478u^{34} + 392.489u^{33} + \cdots - 392.861u + 178.616 \\ 71.4202u^{34} - 127.836u^{33} + \cdots + 117.537u - 55.4666 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -138.839u^{34} + 241.855u^{33} + \cdots - 209.572u + 102.371 \\ 138.715u^{34} - 238.136u^{33} + \cdots + 229.656u - 101.872 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 52.0321u^{34} - 89.7995u^{33} + \cdots + 76.6775u - 40.8356 \\ -17.3997u^{34} + 30.9632u^{33} + \cdots - 18.3790u + 8.66213 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 76.8678u^{34} - 130.421u^{33} + \cdots + 120.523u - 54.1158 \\ -201.418u^{34} + 346.958u^{33} + \cdots - 334.463u + 150.591 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 75.3933u^{34} - 127.969u^{33} + \cdots + 131.334u - 52.9898 \\ -6.86766u^{34} + 15.2250u^{33} + \cdots - 10.4685u + 6.51446 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{36916538}{69517}u^{34} - \frac{62488291}{69517}u^{33} + \cdots + \frac{8907764}{9931}u - \frac{27480848}{69517}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{35} - 15u^{34} + \cdots + 33u - 1$
c_2	$u^{35} + 4u^{33} + \cdots + 2u - 1$
c_3	$u^{35} - 2u^{34} + \cdots + 4u + 1$
c_4	$u^{35} - 8u^{33} + \cdots + u - 1$
c_5	$u^{35} - u^{34} + \cdots + 2u + 1$
c_6	$u^{35} + u^{34} + \cdots + 6u + 1$
c_7	$u^{35} - 3u^{34} + \cdots - 3u + 1$
c_8	$u^{35} + 6u^{33} + \cdots + u + 1$
c_9	$u^{35} - 8u^{33} + \cdots + u + 1$
c_{10}, c_{11}	$u^{35} + 3u^{34} + \cdots - 3u - 1$
c_{12}	$u^{35} + u^{34} + \cdots + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{35} + 5y^{34} + \cdots + 403y - 1$
c_2	$y^{35} + 8y^{34} + \cdots - 46y - 1$
c_3	$y^{35} + 30y^{34} + \cdots + 10y - 1$
c_4, c_9	$y^{35} - 16y^{34} + \cdots + 27y - 1$
c_5, c_{12}	$y^{35} + 31y^{34} + \cdots + 4y - 1$
c_6	$y^{35} + 7y^{34} + \cdots - 10y - 1$
c_7, c_{10}, c_{11}	$y^{35} - 37y^{34} + \cdots + 21y - 1$
c_8	$y^{35} + 12y^{34} + \cdots - 27y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.182027+0.869874I$ $a=-0.265202-0.612893I$ $b=\ \ 0.097048-0.828256I$	$2.24178+1.25666I$	$6.57050+0.34190I$
$u=-0.182027-0.869874I$ $a=-0.265202+0.612893I$ $b=\ \ 0.097048+0.828256I$	$2.24178-1.25666I$	$6.57050-0.34190I$
$u=\ \ 0.964804+0.569873I$ $a=-0.192692-0.641958I$ $b=-0.324644+0.264937I$	$-1.80184+6.85242I$	$0.-11.06449I$
$u=\ \ 0.964804-0.569873I$ $a=-0.192692+0.641958I$ $b=-0.324644-0.264937I$	$-1.80184-6.85242I$	$0.+11.06449I$
$u=-1.081130+0.358298I$ $a=\ \ 0.534291-0.627651I$ $b=-0.346617+0.425172I$	$0.976536-0.883404I$	$-7.82210+0.I$
$u=-1.081130-0.358298I$ $a=\ \ 0.534291+0.627651I$ $b=-0.346617-0.425172I$	$0.976536+0.883404I$	$-7.82210+0.I$
$u=-1.193960+0.021929I$ $a=-0.915369+0.173290I$ $b=\ \ 1.137950+0.481293I$	$5.33868-2.88602I$	0
$u=-1.193960-0.021929I$ $a=-0.915369-0.173290I$ $b=\ \ 1.137950-0.481293I$	$5.33868+2.88602I$	0
$u=-1.275640+0.144725I$ $a=\ \ 0.874481-1.012320I$ $b=-0.905324+0.799645I$	$1.26217-0.71404I$	0
$u=-1.275640-0.144725I$ $a=\ \ 0.874481+1.012320I$ $b=-0.905324-0.799645I$	$1.26217+0.71404I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.294680 + 0.008256I$ $a = 1.00955 - 1.82451I$ $b = -1.223060 + 0.311366I$	$2.51918 - 6.12462I$	0
$u = 1.294680 - 0.008256I$ $a = 1.00955 + 1.82451I$ $b = -1.223060 - 0.311366I$	$2.51918 + 6.12462I$	0
$u = 1.314160 + 0.068087I$ $a = -0.70685 - 2.25164I$ $b = 0.77303 + 1.34967I$	$0.17439 + 3.36654I$	0
$u = 1.314160 - 0.068087I$ $a = -0.70685 + 2.25164I$ $b = 0.77303 - 1.34967I$	$0.17439 - 3.36654I$	0
$u = 0.499645 + 0.422968I$ $a = -0.449921 - 0.365854I$ $b = 0.208413 - 0.619429I$	$-3.24269 - 2.15204I$	$-5.41903 + 0.14772I$
$u = 0.499645 - 0.422968I$ $a = -0.449921 + 0.365854I$ $b = 0.208413 + 0.619429I$	$-3.24269 + 2.15204I$	$-5.41903 - 0.14772I$
$u = 0.330711 + 0.550139I$ $a = -0.493823 + 0.056777I$ $b = 0.016658 - 0.730193I$	$-3.25264 - 2.13348I$	$-6.23780 + 1.01138I$
$u = 0.330711 - 0.550139I$ $a = -0.493823 - 0.056777I$ $b = 0.016658 + 0.730193I$	$-3.25264 + 2.13348I$	$-6.23780 - 1.01138I$
$u = -0.543392 + 0.313210I$ $a = -1.90486 + 0.89582I$ $b = 0.426421 - 0.681486I$	$3.69092 + 1.79872I$	$3.64028 - 0.38372I$
$u = -0.543392 - 0.313210I$ $a = -1.90486 - 0.89582I$ $b = 0.426421 + 0.681486I$	$3.69092 - 1.79872I$	$3.64028 + 0.38372I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.352598+0.502215I$ $a=\ \ 0.911125-0.726593I$ $b=\ \ 0.92760+1.28545I$	$3.44033-4.18639I$	$-0.79336+5.06589I$
$u=-0.352598-0.502215I$ $a=\ \ 0.911125+0.726593I$ $b=\ \ 0.92760-1.28545I$	$3.44033+4.18639I$	$-0.79336-5.06589I$
$u=-1.40315+0.25434I$ $a=\ \ 0.456337-0.755163I$ $b=\ \ 0.671332+0.746854I$	$6.42691-5.17350I$	0
$u=-1.40315-0.25434I$ $a=\ \ 0.456337+0.755163I$ $b=\ \ 0.671332-0.746854I$	$6.42691+5.17350I$	0
$u=-0.571961$ $a=-0.124725$ $b=-1.02027$	-0.646384	6.65490
$u=\ \ 1.44398+0.20199I$ $a=\ \ 0.02646+2.46256I$ $b=\ \ 1.03497-1.84981I$	$9.26260+6.85096I$	0
$u=\ \ 1.44398-0.20199I$ $a=\ \ 0.02646-2.46256I$ $b=\ \ 1.03497+1.84981I$	$9.26260-6.85096I$	0
$u=-1.48312+0.14024I$ $a=\ \ 0.12900+1.69004I$ $b=-1.030030-0.732629I$	$5.41730-7.98416I$	0
$u=-1.48312-0.14024I$ $a=\ \ 0.12900-1.69004I$ $b=-1.030030+0.732629I$	$5.41730+7.98416I$	0
$u=\ \ 1.48610+0.28274I$ $a=-0.404587-1.153440I$ $b=-0.593221+1.243270I$	$8.00621+2.96663I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 1.48610 - 0.28274I$ $a = -0.404587 + 1.153440I$ $b = -0.593221 - 1.243270I$	$8.00621 - 2.96663I$	0
$u = \ 0.323585 + 0.153891I$ $a = -1.66337 - 3.68000I$ $b = -0.978139 + 0.144666I$	$-0.84120 + 6.48790I$	$0.37015 - 8.47950I$
$u = \ 0.323585 - 0.153891I$ $a = -1.66337 + 3.68000I$ $b = -0.978139 - 0.144666I$	$-0.84120 - 6.48790I$	$0.37015 + 8.47950I$
$u = \ 1.64331 + 0.04001I$ $a = -0.38220 - 1.66220I$ $b = \ 0.117745 + 0.781991I$	$11.69750 - 0.56989I$	0
$u = \ 1.64331 - 0.04001I$ $a = -0.38220 + 1.66220I$ $b = \ 0.117745 - 0.781991I$	$11.69750 + 0.56989I$	0

III. $I_3^u = \langle b-1,\ a,\ u-1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3, c_4 c_9	$u+1$
c_2, c_5, c_6 c_7, c_8, c_{10} c_{11}, c_{12}	$u-1$

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u =$ 1.00000		
$a =$ 0	-1.64493	-6.00000
$b =$ 1.00000		

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u+1)(u^{35}-15u^{34}+\cdots+33u-1)(u^{140}+u^{139}+\cdots+405u+119)$
c_2	$(u-1)(u^{35}+4u^{33}+\cdots+2u-1)$ $\cdot(u^{140}+4u^{139}+\cdots+44695798u-3369031)$
c_3	$(u+1)(u^{35}-2u^{34}+\cdots+4u+1)$ $\cdot(u^{140}-4u^{139}+\cdots-29465412u+1871711)$
c_4	$(u+1)(u^{35}-8u^{33}+\cdots+u-1)(u^{140}-2u^{139}+\cdots-8527u+2089)$
c_5	$(u-1)(u^{35}-u^{34}+\cdots+2u+1)(u^{140}+3u^{139}+\cdots+63834u-5809)$
c_6	$(u-1)(u^{35}+u^{34}+\cdots+6u+1)$ $\cdot(u^{140}+7u^{139}+\cdots+208242066u-166275911)$
c_7	$(u-1)(u^{35}-3u^{34}+\cdots-3u+1)(u^{140}-3u^{139}+\cdots-27u-1)$
c_8	$(u-1)(u^{35}+6u^{33}+\cdots+u+1)$ $\cdot(u^{140}+15u^{138}+\cdots+315207u-35883)$
c_9	$(u+1)(u^{35}-8u^{33}+\cdots+u+1)(u^{140}-2u^{139}+\cdots-8527u+2089)$
c_{10}, c_{11}	$(u-1)(u^{35}+3u^{34}+\cdots-3u-1)(u^{140}-3u^{139}+\cdots-27u-1)$
c_{12}	$(u-1)(u^{35}+u^{34}+\cdots+2u-1)(u^{140}+3u^{139}+\cdots+63834u-5809)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y-1)(y^{35}+5y^{34}+\cdots+403y-1)$ $\cdot(y^{140}-5y^{139}+\cdots+6830319y+14161)$
c_2	$(y-1)(y^{35}+8y^{34}+\cdots-46y-1)$ $\cdot(y^{140}-34y^{139}+\cdots-510524756422924y+11350369878961)$
c_3	$(y-1)(y^{35}+30y^{34}+\cdots+10y-1)$ $\cdot(y^{140}+56y^{139}+\cdots+52970751482880y+3503302067521)$
c_4, c_9	$(y-1)(y^{35}-16y^{34}+\cdots+27y-1)$ $\cdot(y^{140}-74y^{139}+\cdots-86881505y+4363921)$
c_5, c_{12}	$(y-1)(y^{35}+31y^{34}+\cdots+4y-1)$ $\cdot(y^{140}+105y^{139}+\cdots+2341783754y+33744481)$
c_6	$(y-1)(y^{35}+7y^{34}+\cdots-10y-1)$ $\cdot(y^{140}+57y^{139}+\cdots+1894560234749566132y+27647678578879921)$
c_7, c_{10}, c_{11}	$(y-1)(y^{35}-37y^{34}+\cdots+21y-1)(y^{140}-139y^{139}+\cdots-63y+1)$
c_8	$(y-1)(y^{35}+12y^{34}+\cdots-27y-1)$ $\cdot(y^{140}+30y^{139}+\cdots+67712278617y+1287589689)$