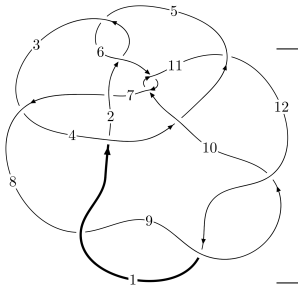
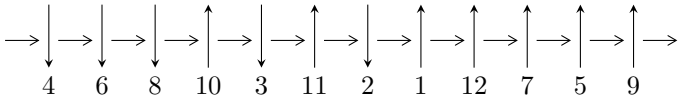
$12a_{0902}$ $(K12a_{0902})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 2.28807 \times 10^{579} u^{141} - 6.43625 \times 10^{579} u^{140} + \cdots + 1.05243 \times 10^{581} b - 1.13630 \times 10^{583}, \\ & - 5.53214 \times 10^{582} u^{141} - 3.86140 \times 10^{582} u^{140} + \cdots + 2.97837 \times 10^{583} a + 3.74063 \times 10^{585}, \\ & u^{142} + u^{141} + \cdots - 433u + 566 \rangle \\ I_2^u = \langle & -2.57367 \times 10^{19} u^{35} + 4.86277 \times 10^{19} u^{34} + \cdots + 2.01550 \times 10^{18} b - 8.20022 \times 10^{17}, \\ & 6.09631 \times 10^{19} u^{35} - 1.33362 \times 10^{20} u^{34} + \cdots + 2.01550 \times 10^{18} a + 1.44484 \times 10^{18}, \ u^{36} - 2u^{35} + \cdots + 14u^2 + \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 178 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. $\boldsymbol{I_1^u = \langle 2.29 \times 10^{579} u^{141} - 6.44 \times 10^{579} u^{140} + \cdots + 1.05 \times 10^{581} b - 1.14 \times 10^{583},\ -5.53 \times 10^{582} u^{141} - 3.86 \times 10^{582} u^{140} + \cdots + 2.98 \times 10^{583} a + 3.74 \times 10^{585},\ u^{142} + u^{141} + \cdots - 433u + 566 \rangle}$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} 0.185744u^{141} + 0.129648u^{140} + \cdots + 322.302u - 125.593 \\ -0.0217409u^{141} + 0.0611562u^{140} + \cdots - 118.415u + 107.969 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.164003u^{141} + 0.190804u^{140} + \cdots + 203.887u - 17.6243 \\ -0.0217409u^{141} + 0.0611562u^{140} + \cdots - 118.415u + 107.969 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.309742u^{141} + 0.350704u^{140} + \cdots + 493.397u - 53.3774 \\ -0.0719401u^{141} - 0.0810056u^{140} + \cdots - 131.013u + 13.3389 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.121598u^{141} - 0.0533193u^{140} + \cdots - 327.614u + 128.023 \\ 0.0891752u^{141} + 0.159360u^{140} + \cdots + 52.7069u + 65.0312 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.293005u^{141} + 0.169552u^{140} + \cdots + 378.798u - 149.784 \\ -0.0739083u^{141} - 0.0139821u^{140} + \cdots - 108.232u + 84.0302 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.106030u^{141} + 0.0168797u^{140} + \cdots - 381.916u + 195.461 \\ 0.0887523u^{141} + 0.131058u^{140} + \cdots + 92.1652u + 28.5140 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0525750u^{141} - 0.0742782u^{140} + \cdots + 367.180u - 194.571 \\ 0.0505938u^{141} + 0.117664u^{140} + \cdots - 22.8007u + 72.9937 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.470709u^{141} - 0.618514u^{140} + \cdots - 641.784u - 141.596 \\ 0.0411816u^{141} + 0.125305u^{140} + \cdots + 9.96569u + 101.141 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.326552u^{141} - 0.235065u^{140} + \cdots - 376.096u + 126.428$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{142} - 11u^{141} + \cdots + 60356u + 9829$
c_2, c_5	$u^{142} + 10u^{141} + \cdots - 30698u + 7239$
c_3	$u^{142} - u^{141} + \cdots - 5976125u + 475354$
c_4	$u^{142} - u^{141} + \cdots + 2114842u + 213833$
c_6, c_{10}	$u^{142} + u^{141} + \cdots - 433u + 566$
c_7	$u^{142} - u^{141} + \cdots - 1090932u + 74313$
c_8, c_9, c_{12}	$u^{142} + 3u^{141} + \cdots + 11u + 3$
c_{11}	$u^{142} + u^{141} + \cdots + 31729814u + 9330071$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{142} - 33y^{141} + \cdots - 4656904666y + 96609241$
c_2, c_5	$y^{142} + 72y^{141} + \cdots + 1964047862y + 52403121$
c_3	$y^{142} - 37y^{141} + \cdots - 14479019050013y + 225961425316$
c_4	$y^{142} + 41y^{141} + \cdots + 1108048823382y + 45724551889$
c_6, c_{10}	$y^{142} + 75y^{141} + \cdots + 11660023y + 320356$
c_7	$y^{142} + 27y^{141} + \cdots + 321386954580y + 5522421969$
c_8, c_9, c_{12}	$y^{142} + 147y^{141} + \cdots + 239y + 9$
c_{11}	$y^{142} + 45y^{141} + \cdots + 2490029141421586y + 87050224865041$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.478669+0.856250I$ $a=\ 1.33220-0.64590I$ $b=\ 0.383497+1.146310I$	$3.46210+0.57689I$	0
$u=-0.478669-0.856250I$ $a=\ 1.33220+0.64590I$ $b=\ 0.383497-1.146310I$	$3.46210-0.57689I$	0
$u=-0.276069+0.983520I$ $a=-0.223608+0.516278I$ $b=-1.254720+0.327774I$	$-4.00562-0.90784I$	0
$u=-0.276069-0.983520I$ $a=-0.223608-0.516278I$ $b=-1.254720-0.327774I$	$-4.00562+0.90784I$	0
$u=\ 0.587967+0.847989I$ $a=\ 1.20752+0.85788I$ $b=\ 0.514239-0.957313I$	$2.57766+3.35143I$	0
$u=\ 0.587967-0.847989I$ $a=\ 1.20752-0.85788I$ $b=\ 0.514239+0.957313I$	$2.57766-3.35143I$	0
$u=\ 0.420975+0.862842I$ $a=\ 1.37063+0.46303I$ $b=\ 0.254616-1.311030I$	$-2.54002-3.38817I$	0
$u=\ 0.420975-0.862842I$ $a=\ 1.37063-0.46303I$ $b=\ 0.254616+1.311030I$	$-2.54002+3.38817I$	0
$u=\ 0.168952+1.026210I$ $a=-0.356726+0.070450I$ $b=-1.280580-0.362676I$	$-4.05586+0.44867I$	0
$u=\ 0.168952-1.026210I$ $a=-0.356726-0.070450I$ $b=-1.280580+0.362676I$	$-4.05586-0.44867I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.305624 + 0.994112I$ $a = -0.039538 - 0.797063I$ $b = -1.47194 - 0.29326I$	$-10.36690 + 0.94731I$	0
$u = \quad 0.305624 - 0.994112I$ $a = -0.039538 + 0.797063I$ $b = -1.47194 + 0.29326I$	$-10.36690 - 0.94731I$	0
$u = \quad 0.328331 + 1.000760I$ $a = \quad 0.509886 - 0.205943I$ $b = -0.978942 - 0.877373I$	$-8.45607 - 1.93135I$	0
$u = \quad 0.328331 - 1.000760I$ $a = \quad 0.509886 + 0.205943I$ $b = -0.978942 + 0.877373I$	$-8.45607 + 1.93135I$	0
$u = -0.968840 + 0.437352I$ $a = -0.244962 + 0.682190I$ $b = \quad 0.544550 - 0.862963I$	$-5.46124 - 1.69208I$	0
$u = -0.968840 - 0.437352I$ $a = -0.244962 - 0.682190I$ $b = \quad 0.544550 + 0.862963I$	$-5.46124 + 1.69208I$	0
$u = -0.107346 + 1.063880I$ $a = -0.273242 - 0.295384I$ $b = -1.50566 + 0.37213I$	$-10.44900 - 0.12490I$	0
$u = -0.107346 - 1.063880I$ $a = -0.273242 + 0.295384I$ $b = -1.50566 - 0.37213I$	$-10.44900 + 0.12490I$	0
$u = -1.075090 + 0.049904I$ $a = \quad 0.39394 + 1.52869I$ $b = -0.171883 - 1.212840I$	$0.09215 - 2.97768I$	0
$u = -1.075090 - 0.049904I$ $a = \quad 0.39394 - 1.52869I$ $b = -0.171883 + 1.212840I$	$0.09215 + 2.97768I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.834850+0.360564I$ $a=\ \ 0.67808+1.42823I$ $b=-0.352030-1.133540I$	$-2.50415-3.84106I$	0
$u=-0.834850-0.360564I$ $a=\ \ 0.67808-1.42823I$ $b=-0.352030+1.133540I$	$-2.50415+3.84106I$	0
$u=\ \ 0.532925+0.954910I$ $a=-0.54452-1.54775I$ $b=-0.964111+0.691845I$	$-8.87435+4.97515I$	0
$u=\ \ 0.532925-0.954910I$ $a=-0.54452+1.54775I$ $b=-0.964111-0.691845I$	$-8.87435-4.97515I$	0
$u=-0.343797+1.058840I$ $a=\ \ 0.274425-0.063970I$ $b=-0.774550+0.537885I$	$-2.27256+0.30412I$	0
$u=-0.343797-1.058840I$ $a=\ \ 0.274425+0.063970I$ $b=-0.774550-0.537885I$	$-2.27256-0.30412I$	0
$u=-0.718421+0.515010I$ $a=\ \ 1.11405-1.55879I$ $b=\ \ 0.753041+0.772121I$	$-5.89549-6.63684I$	0
$u=-0.718421-0.515010I$ $a=\ \ 1.11405+1.55879I$ $b=\ \ 0.753041-0.772121I$	$-5.89549+6.63684I$	0
$u=-0.908635+0.651617I$ $a=-0.20098+1.66515I$ $b=-0.200393-0.692894I$	$-1.00289-4.26111I$	0
$u=-0.908635-0.651617I$ $a=-0.20098-1.66515I$ $b=-0.200393+0.692894I$	$-1.00289+4.26111I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.588083 + 0.649256I$ $a = -0.026913 - 0.970820I$ $b = 0.196803 + 1.199740I$	$3.16495 + 1.28532I$	0
$u = 0.588083 - 0.649256I$ $a = -0.026913 + 0.970820I$ $b = 0.196803 - 1.199740I$	$3.16495 - 1.28532I$	0
$u = 0.437260 + 1.051100I$ $a = -1.75375 - 0.97756I$ $b = -0.402824 + 1.320210I$	$-2.92869 + 8.77702I$	0
$u = 0.437260 - 1.051100I$ $a = -1.75375 + 0.97756I$ $b = -0.402824 - 1.320210I$	$-2.92869 - 8.77702I$	0
$u = 0.003428 + 0.860712I$ $a = -1.09628 - 0.92751I$ $b = -0.88457 + 1.13243I$	$-7.57932 + 3.21423I$	0
$u = 0.003428 - 0.860712I$ $a = -1.09628 + 0.92751I$ $b = -0.88457 - 1.13243I$	$-7.57932 - 3.21423I$	0
$u = -0.358491 + 1.089620I$ $a = -1.61364 + 0.32071I$ $b = -0.402768 - 1.118320I$	$1.82183 - 6.06054I$	0
$u = -0.358491 - 1.089620I$ $a = -1.61364 - 0.32071I$ $b = -0.402768 + 1.118320I$	$1.82183 + 6.06054I$	0
$u = 1.143980 + 0.138090I$ $a = 0.46738 + 1.42871I$ $b = 0.452265 - 0.680884I$	$1.57594 + 1.20217I$	0
$u = 1.143980 - 0.138090I$ $a = 0.46738 - 1.42871I$ $b = 0.452265 + 0.680884I$	$1.57594 - 1.20217I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.271997 + 1.128510I$ $a = -1.244120 + 0.524267I$ $b = -0.342755 + 0.875789I$	$-0.94220 + 2.37666I$	0
$u = 0.271997 - 1.128510I$ $a = -1.244120 - 0.524267I$ $b = -0.342755 - 0.875789I$	$-0.94220 - 2.37666I$	0
$u = 0.292494 + 0.785928I$ $a = -0.509142 - 1.181730I$ $b = -0.03316 + 1.72308I$	$-2.10987 + 6.56452I$	0
$u = 0.292494 - 0.785928I$ $a = -0.509142 + 1.181730I$ $b = -0.03316 - 1.72308I$	$-2.10987 - 6.56452I$	0
$u = 0.289860 + 1.155650I$ $a = -0.067496 + 0.212863I$ $b = -0.740555 + 0.018184I$	$-2.68159 + 2.57576I$	0
$u = 0.289860 - 1.155650I$ $a = -0.067496 - 0.212863I$ $b = -0.740555 - 0.018184I$	$-2.68159 - 2.57576I$	0
$u = -0.384045 + 1.134370I$ $a = 0.98934 - 1.94180I$ $b = 0.426980 + 1.102130I$	$-9.63220 - 9.37220I$	0
$u = -0.384045 - 1.134370I$ $a = 0.98934 + 1.94180I$ $b = 0.426980 - 1.102130I$	$-9.63220 + 9.37220I$	0
$u = 0.590506 + 1.044010I$ $a = 1.252460 + 0.627862I$ $b = 0.010668 - 0.799440I$	$0.87521 + 2.04600I$	0
$u = 0.590506 - 1.044010I$ $a = 1.252460 - 0.627862I$ $b = 0.010668 + 0.799440I$	$0.87521 - 2.04600I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.368091+0.707655I$ $a=-0.315007+1.177230I$ $b=\ \ 0.05498-1.51104I$	$4.01740-4.28704I$	0
$u=-0.368091-0.707655I$ $a=-0.315007-1.177230I$ $b=\ \ 0.05498+1.51104I$	$4.01740+4.28704I$	0
$u=-0.637298+1.022940I$ $a=\ \ 1.38467-0.52036I$ $b=-0.164880+0.719875I$	$-4.34036-1.57855I$	0
$u=-0.637298-1.022940I$ $a=\ \ 1.38467+0.52036I$ $b=-0.164880-0.719875I$	$-4.34036+1.57855I$	0
$u=-0.559655+0.560349I$ $a=\ \ 0.824163+0.312751I$ $b=-0.070009-0.359810I$	$-4.46226-2.06361I$	0
$u=-0.559655-0.560349I$ $a=\ \ 0.824163-0.312751I$ $b=-0.070009+0.359810I$	$-4.46226+2.06361I$	0
$u=\ \ 0.673809+0.410469I$ $a=\ \ 1.13725+1.56194I$ $b=-0.566301-1.174990I$	$-4.78229-3.89551I$	0
$u=\ \ 0.673809-0.410469I$ $a=\ \ 1.13725-1.56194I$ $b=-0.566301+1.174990I$	$-4.78229+3.89551I$	0
$u=-0.720671+0.320211I$ $a=\ \ 0.76744-1.53883I$ $b=-0.377558+1.169930I$	$1.63882+2.84244I$	0
$u=-0.720671-0.320211I$ $a=\ \ 0.76744+1.53883I$ $b=-0.377558-1.169930I$	$1.63882-2.84244I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.038408 + 0.781028I$ $a = -1.97752 + 0.88211I$ $b = -0.523972 - 0.860480I$	$-0.661106 - 1.168450I$	0
$u = \quad 0.038408 - 0.781028I$ $a = -1.97752 - 0.88211I$ $b = -0.523972 + 0.860480I$	$-0.661106 + 1.168450I$	0
$u = \quad 0.552073 + 1.085980I$ $a = -1.00678 - 1.61348I$ $b = -0.77923 + 1.38683I$	$-6.77196 + 8.65975I$	0
$u = \quad 0.552073 - 1.085980I$ $a = -1.00678 + 1.61348I$ $b = -0.77923 - 1.38683I$	$-6.77196 - 8.65975I$	0
$u = \quad 1.176740 + 0.317476I$ $a = -0.421676 - 1.297270I$ $b = \quad 0.557082 + 1.188040I$	$-4.38743 - 12.66050I$	0
$u = \quad 1.176740 - 0.317476I$ $a = -0.421676 + 1.297270I$ $b = \quad 0.557082 - 1.188040I$	$-4.38743 + 12.66050I$	0
$u = \quad 0.746465 + 0.229567I$ $a = \quad 0.49746 - 1.46801I$ $b = -0.255192 + 1.180850I$	$3.01026 + 2.97423I$	0
$u = \quad 0.746465 - 0.229567I$ $a = \quad 0.49746 + 1.46801I$ $b = -0.255192 - 1.180850I$	$3.01026 - 2.97423I$	0
$u = -0.235899 + 1.198680I$ $a = -0.157627 - 0.037888I$ $b = -1.107410 - 0.397698I$	$-9.58024 - 3.78253I$	0
$u = -0.235899 - 1.198680I$ $a = -0.157627 + 0.037888I$ $b = -1.107410 + 0.397698I$	$-9.58024 + 3.78253I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.366840 + 1.176800I$ $a = 1.06025 + 1.61211I$ $b = 0.396687 - 1.017200I$	$-3.12654 + 5.12017I$	0
$u = 0.366840 - 1.176800I$ $a = 1.06025 - 1.61211I$ $b = 0.396687 + 1.017200I$	$-3.12654 - 5.12017I$	0
$u = -1.194370 + 0.342101I$ $a = -0.300599 + 1.256420I$ $b = 0.498541 - 1.134710I$	$2.67057 + 8.51304I$	0
$u = -1.194370 - 0.342101I$ $a = -0.300599 - 1.256420I$ $b = 0.498541 + 1.134710I$	$2.67057 - 8.51304I$	0
$u = -0.543589 + 1.118370I$ $a = -0.98588 + 1.35723I$ $b = -0.67365 - 1.31528I$	$-0.69245 - 7.64949I$	0
$u = -0.543589 - 1.118370I$ $a = -0.98588 - 1.35723I$ $b = -0.67365 + 1.31528I$	$-0.69245 + 7.64949I$	0
$u = 1.179090 + 0.417228I$ $a = 0.442552 + 1.230250I$ $b = -0.192615 - 1.032570I$	$3.66469 - 0.46871I$	0
$u = 1.179090 - 0.417228I$ $a = 0.442552 - 1.230250I$ $b = -0.192615 + 1.032570I$	$3.66469 + 0.46871I$	0
$u = -0.730932 + 0.103327I$ $a = 0.073008 - 1.332990I$ $b = 0.633370 + 0.148350I$	$-0.03095 + 4.13089I$	$0. - 5.99292I$
$u = -0.730932 - 0.103327I$ $a = 0.073008 + 1.332990I$ $b = 0.633370 - 0.148350I$	$-0.03095 - 4.13089I$	$0. + 5.99292I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.560920+1.134940I$ $a=\ 1.20787-0.83755I$ $b=\ 0.093775+0.989121I$	$-3.07228-2.47279I$	0
$u=-0.560920-1.134940I$ $a=\ 1.20787+0.83755I$ $b=\ 0.093775-0.989121I$	$-3.07228+2.47279I$	0
$u=-0.392275+1.207670I$ $a=\ 0.74877-1.35824I$ $b=\ 0.433329+0.906999I$	$-3.80153+0.03349I$	0
$u=-0.392275-1.207670I$ $a=\ 0.74877+1.35824I$ $b=\ 0.433329-0.906999I$	$-3.80153-0.03349I$	0
$u=\ 0.723036+0.096967I$ $a=-0.30442+1.62170I$ $b=\ 0.819101-0.184753I$	$-7.29798-7.55573I$	$0.+4.12954I$
$u=\ 0.723036-0.096967I$ $a=-0.30442-1.62170I$ $b=\ 0.819101+0.184753I$	$-7.29798+7.55573I$	$0.-4.12954I$
$u=-0.497006+1.183730I$ $a=\ 0.047052-0.146499I$ $b=\ 1.115480-0.371088I$	$-3.12697-8.74193I$	0
$u=-0.497006-1.183730I$ $a=\ 0.047052+0.146499I$ $b=\ 1.115480+0.371088I$	$-3.12697+8.74193I$	0
$u=-0.796008+1.007520I$ $a=-0.45975+1.45851I$ $b=-0.469655-0.944239I$	$-1.18802-4.51356I$	0
$u=-0.796008-1.007520I$ $a=-0.45975-1.45851I$ $b=-0.469655+0.944239I$	$-1.18802+4.51356I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.498316 + 1.183950I$ $a = -0.077756 + 0.190020I$ $b = 1.283590 + 0.400393I$	$-10.3885 + 12.1530I$	0
$u = 0.498316 - 1.183950I$ $a = -0.077756 - 0.190020I$ $b = 1.283590 - 0.400393I$	$-10.3885 - 12.1530I$	0
$u = 0.418341 + 1.218000I$ $a = 0.47858 + 1.44988I$ $b = 0.546794 - 0.867528I$	$-10.96760 - 3.41269I$	0
$u = 0.418341 - 1.218000I$ $a = 0.47858 - 1.44988I$ $b = 0.546794 + 0.867528I$	$-10.96760 + 3.41269I$	0
$u = 0.082762 + 0.703328I$ $a = -0.67464 + 2.62267I$ $b = -0.200798 - 1.261050I$	$0.956664 - 0.580311I$	$0. - 2.89788I$
$u = 0.082762 - 0.703328I$ $a = -0.67464 - 2.62267I$ $b = -0.200798 + 1.261050I$	$0.956664 + 0.580311I$	$0. + 2.89788I$
$u = 0.479748 + 1.204300I$ $a = 0.195027 - 0.015270I$ $b = 0.862704 + 0.457878I$	$-2.22245 + 3.81114I$	0
$u = 0.479748 - 1.204300I$ $a = 0.195027 + 0.015270I$ $b = 0.862704 - 0.457878I$	$-2.22245 - 3.81114I$	0
$u = 1.230250 + 0.420710I$ $a = -0.129021 - 1.118690I$ $b = 0.463713 + 1.020690I$	$2.79525 - 2.59011I$	0
$u = 1.230250 - 0.420710I$ $a = -0.129021 + 1.118690I$ $b = 0.463713 - 1.020690I$	$2.79525 + 2.59011I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.458649 + 1.235680I$ $a = -0.751853 - 0.855465I$ $b = -0.68547 + 1.26825I$	$-1.03216 + 7.23401I$	0
$u = 0.458649 - 1.235680I$ $a = -0.751853 + 0.855465I$ $b = -0.68547 - 1.26825I$	$-1.03216 - 7.23401I$	0
$u = 0.435732 + 0.515732I$ $a = 0.62172 + 2.33397I$ $b = -0.26401 - 1.44804I$	$-1.25428 - 5.04052I$	$5.07314 + 1.23203I$
$u = 0.435732 - 0.515732I$ $a = 0.62172 - 2.33397I$ $b = -0.26401 + 1.44804I$	$-1.25428 + 5.04052I$	$5.07314 - 1.23203I$
$u = -0.024109 + 0.653679I$ $a = -3.49839 - 0.19298I$ $b = -0.186448 + 0.576874I$	$-0.32550 - 3.13895I$	$-0.060041 + 0.501749I$
$u = -0.024109 - 0.653679I$ $a = -3.49839 + 0.19298I$ $b = -0.186448 - 0.576874I$	$-0.32550 + 3.13895I$	$-0.060041 - 0.501749I$
$u = -0.597257 + 1.219750I$ $a = 0.051084 + 0.333777I$ $b = 0.809683 - 0.828704I$	$-8.08943 + 1.16458I$	0
$u = -0.597257 - 1.219750I$ $a = 0.051084 - 0.333777I$ $b = 0.809683 + 0.828704I$	$-8.08943 - 1.16458I$	0
$u = -0.410230 + 1.301090I$ $a = -0.510227 + 0.764524I$ $b = -0.82765 - 1.30593I$	$-7.40791 - 7.97201I$	0
$u = -0.410230 - 1.301090I$ $a = -0.510227 - 0.764524I$ $b = -0.82765 + 1.30593I$	$-7.40791 + 7.97201I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.548892 + 0.167026I$ $a = 0.742819 + 0.391067I$ $b = 0.252418 + 0.111531I$	$1.098270 + 0.281063I$	$8.19845 - 0.19463I$
$u = 0.548892 - 0.167026I$ $a = 0.742819 - 0.391067I$ $b = 0.252418 - 0.111531I$	$1.098270 - 0.281063I$	$8.19845 + 0.19463I$
$u = 0.70327 + 1.24166I$ $a = -0.551424 - 1.246770I$ $b = -0.487941 + 1.232670I$	$0.96366 + 7.11785I$	0
$u = 0.70327 - 1.24166I$ $a = -0.551424 + 1.246770I$ $b = -0.487941 - 1.232670I$	$0.96366 - 7.11785I$	0
$u = -0.75004 + 1.22284I$ $a = 0.721701 - 1.044890I$ $b = 0.729375 + 0.950419I$	$-7.67992 - 4.65633I$	0
$u = -0.75004 - 1.22284I$ $a = 0.721701 + 1.044890I$ $b = 0.729375 - 0.950419I$	$-7.67992 + 4.65633I$	0
$u = 0.16285 + 1.44238I$ $a = 0.210070 + 0.138192I$ $b = 0.349364 + 0.626310I$	$-4.44830 + 1.80657I$	0
$u = 0.16285 - 1.44238I$ $a = 0.210070 - 0.138192I$ $b = 0.349364 - 0.626310I$	$-4.44830 - 1.80657I$	0
$u = 0.68030 + 1.28462I$ $a = 0.80183 + 1.29340I$ $b = 0.73667 - 1.30126I$	$-7.4568 + 19.2134I$	0
$u = 0.68030 - 1.28462I$ $a = 0.80183 - 1.29340I$ $b = 0.73667 + 1.30126I$	$-7.4568 - 19.2134I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.232624+0.493610I$ $a=\ 0.19216-2.26658I$ $b=-0.209908+1.361050I$	$3.82881+3.11867I$	$9.87010+4.90577I$
$u=-0.232624-0.493610I$ $a=\ 0.19216+2.26658I$ $b=-0.209908-1.361050I$	$3.82881-3.11867I$	$9.87010-4.90577I$
$u=-0.25270+1.43453I$ $a=-0.046030-0.307545I$ $b=\ 0.426363-0.498336I$	$-11.59990-5.71729I$	0
$u=-0.25270-1.43453I$ $a=-0.046030+0.307545I$ $b=\ 0.426363+0.498336I$	$-11.59990+5.71729I$	0
$u=-0.067851+0.538906I$ $a=-4.84135+0.50318I$ $b=\ 0.118425-0.506906I$	$-7.09986+6.70126I$	$-0.04550+1.57834I$
$u=-0.067851-0.538906I$ $a=-4.84135-0.50318I$ $b=\ 0.118425+0.506906I$	$-7.09986-6.70126I$	$-0.04550-1.57834I$
$u=-0.68521+1.28867I$ $a=\ 0.82550-1.23548I$ $b=\ 0.68519+1.24298I$	$-0.3743-15.1451I$	0
$u=-0.68521-1.28867I$ $a=\ 0.82550+1.23548I$ $b=\ 0.68519-1.24298I$	$-0.3743+15.1451I$	0
$u=\ 0.70273+1.29929I$ $a=\ 0.823221+1.147060I$ $b=\ 0.647600-1.138780I$	$-0.14927+9.44771I$	0
$u=\ 0.70273-1.29929I$ $a=\ 0.823221-1.147060I$ $b=\ 0.647600+1.138780I$	$-0.14927-9.44771I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.63157+1.35510I$ $a=-0.524328+1.140050I$ $b=-0.48541-1.38965I$	$-4.12698-9.13619I$	0
$u=-0.63157-1.35510I$ $a=-0.524328-1.140050I$ $b=-0.48541+1.38965I$	$-4.12698+9.13619I$	0
$u=0.452608+0.213292I$ $a=1.69199+0.39852I$ $b=-0.845004-0.343047I$	$-7.29237-1.24023I$	$-3.76862+1.01628I$
$u=0.452608-0.213292I$ $a=1.69199-0.39852I$ $b=-0.845004+0.343047I$	$-7.29237+1.24023I$	$-3.76862-1.01628I$
$u=-1.25890+0.87511I$ $a=0.373514-1.010990I$ $b=-0.149001+0.925549I$	$-0.56233-2.85442I$	0
$u=-1.25890-0.87511I$ $a=0.373514+1.010990I$ $b=-0.149001-0.925549I$	$-0.56233+2.85442I$	0
$u=-0.11145+1.53426I$ $a=0.101173+0.171180I$ $b=0.372465-0.710380I$	$-4.49502+3.56428I$	0
$u=-0.11145-1.53426I$ $a=0.101173-0.171180I$ $b=0.372465+0.710380I$	$-4.49502-3.56428I$	0
$u=0.15662+1.61789I$ $a=-0.076669-0.232889I$ $b=0.417265+0.774497I$	$-11.35590-7.40823I$	0
$u=0.15662-1.61789I$ $a=-0.076669+0.232889I$ $b=0.417265-0.774497I$	$-11.35590+7.40823I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.216999+0.249777I$		
$a=\ \ 1.388530-0.202847I$	$-1.226190+0.619054I$	$-4.72694-1.24239I$
$b=-0.557069+0.200280I$		
$u=-0.216999-0.249777I$		
$a=\ \ 1.388530+0.202847I$	$-1.226190-0.619054I$	$-4.72694+1.24239I$
$b=-0.557069-0.200280I$		

II. $I_2^u = \langle -2.57 \times 10^{19} u^{35} + 4.86 \times 10^{19} u^{34} + \cdots + 2.02 \times 10^{18} b - 8.20 \times 10^{17},\ 6.10 \times 10^{19} u^{35} - 1.33 \times 10^{20} u^{34} + \cdots + 2.02 \times 10^{18} a + 1.44 \times 10^{18},\ u^{36} - 2u^{35} + \cdots + 14u^2 + 1 \rangle$

(i) Arc colorings

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

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

$$a_3 = \begin{pmatrix} -30.2472u^{35} + 66.1684u^{34} + \cdots - 77.5726u - 0.716865 \\ 12.7694u^{35} - 24.1269u^{34} + \cdots + 36.7399u + 0.406859 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -17.4778u^{35} + 42.0416u^{34} + \cdots - 40.8327u - 0.310006 \\ 12.7694u^{35} - 24.1269u^{34} + \cdots + 36.7399u + 0.406859 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 37.1444u^{35} - 89.8110u^{34} + \cdots + 114.211u - 14.3262 \\ -12.7055u^{35} + 28.5405u^{34} + \cdots - 35.9503u + 2.20666 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -18.6345u^{35} + 35.2322u^{34} + \cdots - 55.3744u - 3.44365 \\ 9.84723u^{35} - 24.2438u^{34} + \cdots + 27.1631u - 8.79275 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 2.18350u^{35} - 14.3137u^{34} + \cdots + 19.5885u - 34.2760 \\ 2.69195u^{35} + 1.32869u^{34} + \cdots + 16.9912u + 37.1156 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u \\ u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -20.2791u^{35} + 37.3207u^{34} + \cdots - 58.2966u - 9.40486 \\ 10.7024u^{35} - 24.0662u^{34} + \cdots + 28.4407u - 4.03212 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -30.6945u^{35} + 78.3639u^{34} + \cdots - 126.465u + 37.7422 \\ 13.0033u^{35} - 30.3304u^{34} + \cdots + 25.8852u - 6.93072 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.85536u^{35} - 25.4658u^{34} + \cdots + 9.94827u - 61.6082 \\ 2.80326u^{35} + 5.33318u^{34} + \cdots + 20.0054u + 8.97209 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{35973025950083734218}{2015496361627731553}u^{35} + \frac{94035164920635520509}{2015496361627731553}u^{34} + \cdots - \frac{311102618662251135084}{2015496361627731553}u + \frac{194844079216638223094}{2015496361627731553}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{36} - 4u^{35} + \cdots - 7u + 1$
c_2	$u^{36} - 13u^{35} + \cdots - 7u + 1$
c_3	$u^{36} - 5u^{34} + \cdots - u + 5$
c_4	$u^{36} + 8u^{34} + \cdots - 3u + 1$
c_5	$u^{36} + 13u^{35} + \cdots + 7u + 1$
c_6	$u^{36} - 2u^{35} + \cdots + 14u^2 + 1$
c_7	$u^{36} + 2u^{35} + \cdots - 51u + 19$
c_8, c_9	$u^{36} + 4u^{35} + \cdots + 3u^2 + 1$
c_{10}	$u^{36} + 2u^{35} + \cdots + 14u^2 + 1$
c_{11}	$u^{36} + 4u^{34} + \cdots + 17u + 19$
c_{12}	$u^{36} - 4u^{35} + \cdots + 3u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{36} - 14y^{35} + \cdots - 11y + 1$
c_2, c_5	$y^{36} + 19y^{35} + \cdots + 33y + 1$
c_3	$y^{36} - 10y^{35} + \cdots - 161y + 25$
c_4	$y^{36} + 16y^{35} + \cdots - 11y + 1$
c_6, c_{10}	$y^{36} + 18y^{35} + \cdots + 28y + 1$
c_7	$y^{36} + 10y^{35} + \cdots + 2035y + 361$
c_8, c_9, c_{12}	$y^{36} + 38y^{35} + \cdots + 6y + 1$
c_{11}	$y^{36} + 8y^{35} + \cdots + 2029y + 361$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.228706+0.974281I$ $a=-0.308166+0.288171I$ $b=-1.268950+0.258688I$	$-3.62992-0.89196I$	$5.74509+6.13726I$
$u=-0.228706-0.974281I$ $a=-0.308166-0.288171I$ $b=-1.268950-0.258688I$	$-3.62992+0.89196I$	$5.74509-6.13726I$
$u=-0.988092+0.212080I$ $a=\ \ 0.211876-1.178230I$ $b=-0.323412+1.091440I$	$3.08966+1.78788I$	$6.07790-0.28630I$
$u=-0.988092-0.212080I$ $a=\ \ 0.211876+1.178230I$ $b=-0.323412-1.091440I$	$3.08966-1.78788I$	$6.07790+0.28630I$
$u=\ \ 0.269227+0.940966I$ $a=-0.230455-0.526025I$ $b=-1.58746-0.21260I$	$-9.74356+1.10597I$	$0.08806-6.10068I$
$u=\ \ 0.269227-0.940966I$ $a=-0.230455+0.526025I$ $b=-1.58746+0.21260I$	$-9.74356-1.10597I$	$0.08806+6.10068I$
$u=-1.044870+0.099525I$ $a=-0.53928+1.59752I$ $b=-0.414830-0.680381I$	$1.69231-1.26633I$	$25.9459+14.2093I$
$u=-1.044870-0.099525I$ $a=-0.53928-1.59752I$ $b=-0.414830+0.680381I$	$1.69231+1.26633I$	$25.9459-14.2093I$
$u=\ \ 0.442553+1.055470I$ $a=\ \ 0.016031+0.153440I$ $b=-0.927023-0.840368I$	$-7.24724-1.02583I$	$-0.796867-1.023283I$
$u=\ \ 0.442553-1.055470I$ $a=\ \ 0.016031-0.153440I$ $b=-0.927023+0.840368I$	$-7.24724+1.02583I$	$-0.796867+1.023283I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.368847+1.089750I$ $a=1.49118+0.22115I$ $b=0.052855+0.823044I$	$-0.68258-1.35085I$	$1.40417-0.38839I$
$u=-0.368847-1.089750I$ $a=1.49118-0.22115I$ $b=0.052855-0.823044I$	$-0.68258+1.35085I$	$1.40417+0.38839I$
$u=0.622817+0.988493I$ $a=-0.819524-1.071440I$ $b=-0.861190+0.963155I$	$-6.86219+5.52328I$	$-2.87028-6.61639I$
$u=0.622817-0.988493I$ $a=-0.819524+1.071440I$ $b=-0.861190-0.963155I$	$-6.86219-5.52328I$	$-2.87028+6.61639I$
$u=0.399523+0.625845I$ $a=2.49730+2.12993I$ $b=0.141685-0.620149I$	$-0.07693+3.74141I$	$5.50452-11.00105I$
$u=0.399523-0.625845I$ $a=2.49730-2.12993I$ $b=0.141685+0.620149I$	$-0.07693-3.74141I$	$5.50452+11.00105I$
$u=-0.198247+0.684021I$ $a=0.77471+2.62745I$ $b=-0.062790-1.224510I$	$1.09408-1.32745I$	$1.94569+6.33508I$
$u=-0.198247-0.684021I$ $a=0.77471-2.62745I$ $b=-0.062790+1.224510I$	$1.09408+1.32745I$	$1.94569-6.33508I$
$u=0.486765+1.201470I$ $a=-0.84750-1.15917I$ $b=-0.54082+1.43724I$	$-4.96071+8.36904I$	$-2.97510-6.23739I$
$u=0.486765-1.201470I$ $a=-0.84750+1.15917I$ $b=-0.54082-1.43724I$	$-4.96071-8.36904I$	$-2.97510+6.23739I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.162690 + 0.576692I$ $a = -0.005305 - 1.385200I$ $b = -0.140264 + 1.119050I$	$0.31041 + 4.13952I$	$7.76597 - 6.83399I$
$u = 1.162690 - 0.576692I$ $a = -0.005305 + 1.385200I$ $b = -0.140264 - 1.119050I$	$0.31041 - 4.13952I$	$7.76597 + 6.83399I$
$u = -0.540540 + 1.195850I$ $a = -0.86519 + 1.12290I$ $b = -0.600610 - 1.250450I$	$-0.20674 - 7.02610I$	$3.42108 + 5.72852I$
$u = -0.540540 - 1.195850I$ $a = -0.86519 - 1.12290I$ $b = -0.600610 + 1.250450I$	$-0.20674 + 7.02610I$	$3.42108 - 5.72852I$
$u = -0.191942 + 0.607701I$ $a = 3.91732 - 1.77982I$ $b = 0.425257 + 0.550597I$	$-7.25745 - 7.16410I$	$-5.7589 + 13.6777I$
$u = -0.191942 - 0.607701I$ $a = 3.91732 + 1.77982I$ $b = 0.425257 - 0.550597I$	$-7.25745 + 7.16410I$	$-5.7589 - 13.6777I$
$u = -0.076465 + 1.392690I$ $a = -0.488997 - 0.028628I$ $b = -0.201467 + 0.339609I$	$-4.30154 - 2.43261I$	$0. + 6.12130I$
$u = -0.076465 - 1.392690I$ $a = -0.488997 + 0.028628I$ $b = -0.201467 - 0.339609I$	$-4.30154 + 2.43261I$	$0. - 6.12130I$
$u = 0.165526 + 0.575319I$ $a = 1.41693 + 1.13030I$ $b = -0.15933 - 1.57045I$	$-2.09907 - 5.33545I$	$-2.75152 + 3.75593I$
$u = 0.165526 - 0.575319I$ $a = 1.41693 - 1.13030I$ $b = -0.15933 + 1.57045I$	$-2.09907 + 5.33545I$	$-2.75152 - 3.75593I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.06069 + 0.98074I$ $a = 0.578765 + 1.114380I$ $b = -0.039259 - 0.823613I$	$-0.96095 + 3.33683I$	0
$u = 1.06069 - 0.98074I$ $a = 0.578765 - 1.114380I$ $b = -0.039259 + 0.823613I$	$-0.96095 - 3.33683I$	0
$u = 0.05940 + 1.45935I$ $a = -0.471555 + 0.059551I$ $b = 0.137685 - 0.404473I$	$-11.07780 + 6.42317I$	0
$u = 0.05940 - 1.45935I$ $a = -0.471555 - 0.059551I$ $b = 0.137685 + 0.404473I$	$-11.07780 - 6.42317I$	0
$u = -0.031475 + 0.476251I$ $a = 1.17186 - 1.59062I$ $b = -0.130074 + 1.386360I$	$3.57218 + 3.44962I$	$-1.37734 - 8.93470I$
$u = -0.031475 - 0.476251I$ $a = 1.17186 + 1.59062I$ $b = -0.130074 - 1.386360I$	$3.57218 - 3.44962I$	$-1.37734 + 8.93470I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{36}-4u^{35}+\cdots-7u+1)(u^{142}-11u^{141}+\cdots+60356u+9829)$
c_2	$(u^{36}-13u^{35}+\cdots-7u+1)(u^{142}+10u^{141}+\cdots-30698u+7239)$
c_3	$(u^{36}-5u^{34}+\cdots-u+5)(u^{142}-u^{141}+\cdots-5976125u+475354)$
c_4	$(u^{36}+8u^{34}+\cdots-3u+1)(u^{142}-u^{141}+\cdots+2114842u+213833)$
c_5	$(u^{36}+13u^{35}+\cdots+7u+1)(u^{142}+10u^{141}+\cdots-30698u+7239)$
c_6	$(u^{36}-2u^{35}+\cdots+14u^2+1)(u^{142}+u^{141}+\cdots-433u+566)$
c_7	$(u^{36}+2u^{35}+\cdots-51u+19)(u^{142}-u^{141}+\cdots-1090932u+74313)$
c_8, c_9	$(u^{36}+4u^{35}+\cdots+3u^2+1)(u^{142}+3u^{141}+\cdots+11u+3)$
c_{10}	$(u^{36}+2u^{35}+\cdots+14u^2+1)(u^{142}+u^{141}+\cdots-433u+566)$
c_{11}	$(u^{36}+4u^{34}+\cdots+17u+19)$ $\cdot(u^{142}+u^{141}+\cdots+31729814u+9330071)$
c_{12}	$(u^{36}-4u^{35}+\cdots+3u^2+1)(u^{142}+3u^{141}+\cdots+11u+3)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{36} - 14y^{35} + \cdots - 11y + 1)$ $\cdot (y^{142} - 33y^{141} + \cdots - 4656904666y + 96609241)$
c_2, c_5	$(y^{36} + 19y^{35} + \cdots + 33y + 1)$ $\cdot (y^{142} + 72y^{141} + \cdots + 1964047862y + 52403121)$
c_3	$(y^{36} - 10y^{35} + \cdots - 161y + 25)$ $\cdot (y^{142} - 37y^{141} + \cdots - 14479019050013y + 225961425316)$
c_4	$(y^{36} + 16y^{35} + \cdots - 11y + 1)$ $\cdot (y^{142} + 41y^{141} + \cdots + 1108048823382y + 45724551889)$
c_6, c_{10}	$(y^{36} + 18y^{35} + \cdots + 28y + 1)$ $\cdot (y^{142} + 75y^{141} + \cdots + 11660023y + 320356)$
c_7	$(y^{36} + 10y^{35} + \cdots + 2035y + 361)$ $\cdot (y^{142} + 27y^{141} + \cdots + 321386954580y + 5522421969)$
c_8, c_9, c_{12}	$(y^{36} + 38y^{35} + \cdots + 6y + 1)(y^{142} + 147y^{141} + \cdots + 239y + 9)$
c_{11}	$(y^{36} + 8y^{35} + \cdots + 2029y + 361)$ $\cdot (y^{142} + 45y^{141} + \cdots + 2490029141421586y + 87050224865041)$