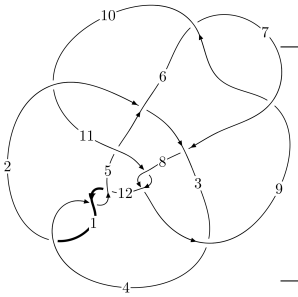
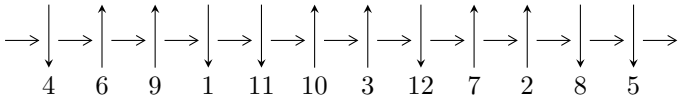
$12a_{0943}$ $(K12a_{0943})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.78712 \times 10^{517} u^{145} - 1.33819 \times 10^{518} u^{144} + \cdots + 6.78869 \times 10^{518} b - 5.80111 \times 10^{518}, \\ & - 1.40605 \times 10^{519} u^{145} + 1.05376 \times 10^{520} u^{144} + \cdots + 2.10450 \times 10^{520} a - 9.14715 \times 10^{520}, \\ & u^{146} - 7u^{145} + \cdots + 117u + 31 \rangle \\ I_2^u = \langle & 150001u^{35} + 1354688u^{34} + \cdots + 891921b + 1011631, \\ & - 918644u^{35} + 3557286u^{34} + \cdots + 891921a - 2376240,\ u^{36} - 8u^{35} + \cdots - 10u + 1 \rangle \end{aligned}$$

* 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. $\boldsymbol{I_1^u = \langle 1.79 \times 10^{517} u^{145} - 1.34 \times 10^{518} u^{144} + \cdots + 6.79 \times 10^{518} b - 5.80 \times 10^{518},\ -1.41 \times 10^{519} u^{145} + 1.05 \times 10^{520} u^{144} + \cdots + 2.10 \times 10^{520} a - 9.15 \times 10^{520},\ u^{146} - 7u^{145} + \cdots + 117u + 31 \rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0668117u^{145} - 0.500717u^{144} + \cdots - 26.7482u + 4.34648 \\ -0.0263250u^{145} + 0.197120u^{144} + \cdots - 1.04940u + 0.854525 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.0108550u^{145} + 0.121391u^{144} + \cdots - 16.3069u + 3.52191 \\ 0.0207079u^{145} - 0.149856u^{144} + \cdots - 2.81401u - 0.238209 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.0404867u^{145} - 0.303596u^{144} + \cdots - 27.7976u + 5.20101 \\ -0.0263250u^{145} + 0.197120u^{144} + \cdots - 1.04940u + 0.854525 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0558723u^{145} - 0.372603u^{144} + \cdots - 3.26923u + 2.17630 \\ -0.0251010u^{145} + 0.179971u^{144} + \cdots + 1.78696u + 0.577547 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.00181010u^{145} - 0.0179139u^{144} + \cdots + 20.7607u - 1.65983 \\ -0.00208124u^{145} - 0.0464347u^{144} + \cdots + 1.81185u - 0.736714 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0159414u^{145} + 0.110964u^{144} + \cdots + 7.43670u - 4.92878 \\ -0.0176368u^{145} + 0.114351u^{144} + \cdots + 4.21484u - 0.761534 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.00715498u^{145} - 0.0371041u^{144} + \cdots + 15.7315u - 1.64989 \\ -0.00307858u^{145} - 0.0206540u^{144} + \cdots + 3.24478u - 0.384611 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.240462u^{145} + 1.85632u^{144} + \cdots + 5.56279u - 3.36132$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$u^{146} + 7u^{145} + \cdots - 117u + 31$
c_2	$u^{146} - 3u^{145} + \cdots - 232u + 23$
c_3	$u^{146} - u^{145} + \cdots + 36926312u + 87096208$
c_5	$u^{146} + u^{145} + \cdots - 73218680u + 5055088$
c_6, c_9	$u^{146} + 6u^{145} + \cdots + 59u + 1$
c_7	$u^{146} + 14u^{144} + \cdots - 34304u + 1984$
c_8, c_{11}	$u^{146} + 6u^{145} + \cdots + 10735u + 2329$
c_{10}	$u^{146} - 6u^{145} + \cdots + 186624u + 155392$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{146} + 139y^{145} + \cdots - 122499y + 961$
c_2	$y^{146} + 21y^{145} + \cdots + 34036y + 529$
c_3	$y^{146} + 25y^{145} + \cdots + 222241981535540160y + 7585749447979264$
c_5	$y^{146} + 29y^{145} + \cdots + 948957128361152y + 25553914687744$
c_6, c_9	$y^{146} + 104y^{145} + \cdots - 243y + 1$
c_7	$y^{146} + 28y^{145} + \cdots + 135151616y + 3936256$
c_8, c_{11}	$y^{146} - 76y^{145} + \cdots - 142242651y + 5424241$
c_{10}	$y^{146} + 20y^{145} + \cdots + 1419362140160y + 24146673664$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.600308+0.786562I$ $a=0.263013-0.319264I$ $b=-1.055520-0.453993I$	$0.29286-4.41022I$	0
$u=-0.600308-0.786562I$ $a=0.263013+0.319264I$ $b=-1.055520+0.453993I$	$0.29286+4.41022I$	0
$u=0.710381+0.675563I$ $a=-0.160649+0.663844I$ $b=-1.239970-0.424123I$	$-4.13553-5.87181I$	0
$u=0.710381-0.675563I$ $a=-0.160649-0.663844I$ $b=-1.239970+0.424123I$	$-4.13553+5.87181I$	0
$u=-0.950755+0.378156I$ $a=0.576510+0.789498I$ $b=1.220860-0.595168I$	$-5.8255+14.7586I$	0
$u=-0.950755-0.378156I$ $a=0.576510-0.789498I$ $b=1.220860+0.595168I$	$-5.8255-14.7586I$	0
$u=0.876850+0.401996I$ $a=-0.657246+0.667423I$ $b=-1.059220-0.374861I$	$-2.73674-3.81103I$	0
$u=0.876850-0.401996I$ $a=-0.657246-0.667423I$ $b=-1.059220+0.374861I$	$-2.73674+3.81103I$	0
$u=0.920571+0.263564I$ $a=-0.342320+0.713848I$ $b=-1.005740+0.168942I$	$-5.52437+0.55845I$	0
$u=0.920571-0.263564I$ $a=-0.342320-0.713848I$ $b=-1.005740-0.168942I$	$-5.52437-0.55845I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.248446 + 1.032260I$ $a = 0.05791 + 2.36671I$ $b = -0.773771 - 0.599814I$	$-2.70153 - 6.27133I$	0
$u = 0.248446 - 1.032260I$ $a = 0.05791 - 2.36671I$ $b = -0.773771 + 0.599814I$	$-2.70153 + 6.27133I$	0
$u = 0.927301 + 0.037439I$ $a = -0.456936 - 0.740794I$ $b = -0.972638 + 0.460098I$	$-5.63011 + 1.69117I$	0
$u = 0.927301 - 0.037439I$ $a = -0.456936 + 0.740794I$ $b = -0.972638 - 0.460098I$	$-5.63011 - 1.69117I$	0
$u = -0.823585 + 0.343442I$ $a = -0.766504 - 0.808831I$ $b = -1.228460 + 0.594830I$	$-1.10225 + 9.30326I$	0
$u = -0.823585 - 0.343442I$ $a = -0.766504 + 0.808831I$ $b = -1.228460 - 0.594830I$	$-1.10225 - 9.30326I$	0
$u = 0.471973 + 0.755429I$ $a = 0.547287 - 0.692286I$ $b = -0.452214 + 0.309658I$	$-2.03687 - 2.78273I$	0
$u = 0.471973 - 0.755429I$ $a = 0.547287 + 0.692286I$ $b = -0.452214 - 0.309658I$	$-2.03687 + 2.78273I$	0
$u = 1.058890 + 0.388787I$ $a = 0.412535 - 0.239057I$ $b = 1.133490 + 0.285129I$	$-5.98452 - 3.86162I$	0
$u = 1.058890 - 0.388787I$ $a = 0.412535 + 0.239057I$ $b = 1.133490 - 0.285129I$	$-5.98452 + 3.86162I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.035090 + 0.463986I$ $a = 0.471933 - 0.959842I$ $b = 1.027660 + 0.425622I$	$-5.72968 - 4.48341I$	0
$u = 1.035090 - 0.463986I$ $a = 0.471933 + 0.959842I$ $b = 1.027660 - 0.425622I$	$-5.72968 + 4.48341I$	0
$u = -0.076786 + 1.154700I$ $a = 0.144743 + 0.110076I$ $b = -1.48191 - 0.22697I$	$-5.32053 - 4.44523I$	0
$u = -0.076786 - 1.154700I$ $a = 0.144743 - 0.110076I$ $b = -1.48191 + 0.22697I$	$-5.32053 + 4.44523I$	0
$u = 0.673070 + 0.943463I$ $a = -0.097615 + 0.277155I$ $b = -0.855254 + 0.159813I$	$-1.22395 - 1.64245I$	0
$u = 0.673070 - 0.943463I$ $a = -0.097615 - 0.277155I$ $b = -0.855254 - 0.159813I$	$-1.22395 + 1.64245I$	0
$u = -0.604200 + 0.546499I$ $a = 1.45515 + 0.62412I$ $b = 0.413674 - 0.463374I$	$-2.21578 - 4.91795I$	0
$u = -0.604200 - 0.546499I$ $a = 1.45515 - 0.62412I$ $b = 0.413674 + 0.463374I$	$-2.21578 + 4.91795I$	0
$u = -0.697511 + 0.374057I$ $a = 0.153012 - 0.426392I$ $b = 0.234013 + 0.975605I$	$-2.81738 + 9.12644I$	0
$u = -0.697511 - 0.374057I$ $a = 0.153012 + 0.426392I$ $b = 0.234013 - 0.975605I$	$-2.81738 - 9.12644I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.780473+0.927697I$ $a=-0.280900+0.109842I$ $b=\ \ 1.081760+0.471945I$	$-4.24779-8.88674I$	0
$u=-0.780473-0.927697I$ $a=-0.280900-0.109842I$ $b=\ \ 1.081760-0.471945I$	$-4.24779+8.88674I$	0
$u=\ \ 0.821779+0.895107I$ $a=\ \ 0.253931+0.215585I$ $b=\ \ 0.878324-0.273970I$	$-4.54611-1.90325I$	0
$u=\ \ 0.821779-0.895107I$ $a=\ \ 0.253931-0.215585I$ $b=\ \ 0.878324+0.273970I$	$-4.54611+1.90325I$	0
$u=\ \ 0.448782+1.129800I$ $a=\ \ 0.282045-0.326218I$ $b=-0.968796+0.200248I$	$-2.09122-3.25336I$	0
$u=\ \ 0.448782-1.129800I$ $a=\ \ 0.282045+0.326218I$ $b=-0.968796-0.200248I$	$-2.09122+3.25336I$	0
$u=-0.287540+1.188040I$ $a=-0.894690+0.350012I$ $b=\ \ 1.329140+0.452737I$	$-1.37349+0.92683I$	0
$u=-0.287540-1.188040I$ $a=-0.894690-0.350012I$ $b=\ \ 1.329140-0.452737I$	$-1.37349-0.92683I$	0
$u=-0.030401+1.243270I$ $a=\ \ 0.21021+2.56463I$ $b=-0.641198-0.258051I$	$-0.68606+6.01802I$	0
$u=-0.030401-1.243270I$ $a=\ \ 0.21021-2.56463I$ $b=-0.641198+0.258051I$	$-0.68606-6.01802I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.098424+1.241790I$ $a=-0.621581+0.389280I$ $b=\ \ 1.54433+0.04239I$	$-0.45702+1.43647I$	0
$u=-0.098424-1.241790I$ $a=-0.621581-0.389280I$ $b=\ \ 1.54433-0.04239I$	$-0.45702-1.43647I$	0
$u=-0.733155+0.092657I$ $a=\ \ 1.016870+0.296987I$ $b=\ \ 1.26236-0.68131I$	$-4.69874+2.79612I$	0
$u=-0.733155-0.092657I$ $a=\ \ 1.016870-0.296987I$ $b=\ \ 1.26236+0.68131I$	$-4.69874-2.79612I$	0
$u=\ \ 0.663880+0.311056I$ $a=-0.018267+0.881601I$ $b=\ \ 0.090419-0.426726I$	$-3.45989-1.16177I$	0
$u=\ \ 0.663880-0.311056I$ $a=-0.018267-0.881601I$ $b=\ \ 0.090419+0.426726I$	$-3.45989+1.16177I$	0
$u=\ \ 0.363362+0.635871I$ $a=-1.221540-0.420107I$ $b=\ \ 0.925861-0.197907I$	$-0.153349-0.132354I$	0
$u=\ \ 0.363362-0.635871I$ $a=-1.221540+0.420107I$ $b=\ \ 0.925861+0.197907I$	$-0.153349+0.132354I$	0
$u=-0.056699+1.274890I$ $a=-0.89526-2.10953I$ $b=\ \ 0.362918+1.164050I$	$4.42784-2.41245I$	0
$u=-0.056699-1.274890I$ $a=-0.89526+2.10953I$ $b=\ \ 0.362918-1.164050I$	$4.42784+2.41245I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.112257 + 1.278830I$ $a = -0.19799 - 2.06823I$ $b = 0.662336 + 0.119214I$	$3.48220 + 0.33660I$	0
$u = 0.112257 - 1.278830I$ $a = -0.19799 + 2.06823I$ $b = 0.662336 - 0.119214I$	$3.48220 - 0.33660I$	0
$u = 0.358917 + 0.615524I$ $a = -1.26873 + 2.55917I$ $b = -0.834546 - 0.388384I$	$-2.83699 - 6.20686I$	$0. + 10.87479I$
$u = 0.358917 - 0.615524I$ $a = -1.26873 - 2.55917I$ $b = -0.834546 + 0.388384I$	$-2.83699 + 6.20686I$	$0. - 10.87479I$
$u = -0.139703 + 1.284050I$ $a = 0.872531 - 0.086241I$ $b = -1.71657 - 0.09524I$	$-4.66332 + 7.15556I$	0
$u = -0.139703 - 1.284050I$ $a = 0.872531 + 0.086241I$ $b = -1.71657 + 0.09524I$	$-4.66332 - 7.15556I$	0
$u = -0.223759 + 1.274350I$ $a = 0.92487 - 1.66131I$ $b = -1.097840 + 0.493168I$	$-4.16337 - 1.87122I$	0
$u = -0.223759 - 1.274350I$ $a = 0.92487 + 1.66131I$ $b = -1.097840 - 0.493168I$	$-4.16337 + 1.87122I$	0
$u = 0.040291 + 1.295820I$ $a = 0.23230 - 1.76775I$ $b = -1.133660 + 0.662083I$	$1.87406 + 1.51346I$	0
$u = 0.040291 - 1.295820I$ $a = 0.23230 + 1.76775I$ $b = -1.133660 - 0.662083I$	$1.87406 - 1.51346I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.322674+1.257330I$ $a=\ 0.76820+1.63579I$ $b=\ 0.668901-0.810258I$	$1.14020+7.00435I$	0
$u=-0.322674-1.257330I$ $a=\ 0.76820-1.63579I$ $b=\ 0.668901+0.810258I$	$1.14020-7.00435I$	0
$u=\ 0.909914+0.968779I$ $a=-0.015212-0.506982I$ $b=\ 0.908547-0.078071I$	$-4.41947-2.76812I$	0
$u=\ 0.909914-0.968779I$ $a=-0.015212+0.506982I$ $b=\ 0.908547+0.078071I$	$-4.41947+2.76812I$	0
$u=-0.191254+1.326680I$ $a=-0.788587-0.960048I$ $b=\ 0.566130+1.028180I$	$1.62293-0.45548I$	0
$u=-0.191254-1.326680I$ $a=-0.788587+0.960048I$ $b=\ 0.566130-1.028180I$	$1.62293+0.45548I$	0
$u=-0.658028+0.033714I$ $a=\ 0.860356-0.040788I$ $b=\ 0.487871+0.818994I$	$-2.60226-3.36266I$	$-2.88422+8.32461I$
$u=-0.658028-0.033714I$ $a=\ 0.860356+0.040788I$ $b=\ 0.487871-0.818994I$	$-2.60226+3.36266I$	$-2.88422-8.32461I$
$u=\ 0.590138+0.292913I$ $a=\ 0.349197-0.886307I$ $b=\ 1.124890+0.561726I$	$-1.38197-3.16972I$	$0.24009+5.86421I$
$u=\ 0.590138-0.292913I$ $a=\ 0.349197+0.886307I$ $b=\ 1.124890-0.561726I$	$-1.38197+3.16972I$	$0.24009-5.86421I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.544271+0.322218I$ $a=\ \ 0.002303+0.176521I$ $b=-0.231322-1.018080I$	$1.97463+3.59000I$	$2.18111-9.54008I$
$u=-0.544271-0.322218I$ $a=\ \ 0.002303-0.176521I$ $b=-0.231322+1.018080I$	$1.97463-3.59000I$	$2.18111+9.54008I$
$u=-0.300405+1.336520I$ $a=-0.00901+1.91153I$ $b=\ \ 1.25841-0.84764I$	$-0.19380+6.52936I$	0
$u=-0.300405-1.336520I$ $a=-0.00901-1.91153I$ $b=\ \ 1.25841+0.84764I$	$-0.19380-6.52936I$	0
$u=-0.161418+1.363690I$ $a=-0.79148+1.80977I$ $b=\ \ 1.152160-0.449182I$	$0.93742+2.88356I$	0
$u=-0.161418-1.363690I$ $a=-0.79148-1.80977I$ $b=\ \ 1.152160+0.449182I$	$0.93742-2.88356I$	0
$u=-0.031138+1.374080I$ $a=-0.33165+1.64163I$ $b=\ \ 1.164800-0.613479I$	$2.98509+2.56355I$	0
$u=-0.031138-1.374080I$ $a=-0.33165-1.64163I$ $b=\ \ 1.164800+0.613479I$	$2.98509-2.56355I$	0
$u=\ \ 0.075398+1.381720I$ $a=-0.64377+1.75561I$ $b=\ \ 0.76129-1.35490I$	$5.67006+1.62713I$	0
$u=\ \ 0.075398-1.381720I$ $a=-0.64377-1.75561I$ $b=\ \ 0.76129+1.35490I$	$5.67006-1.62713I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.161331 + 1.386940I$ $a = 0.56011 - 1.32894I$ $b = 1.156120 + 0.345033I$	$4.75595 - 4.27023I$	0
$u = 0.161331 - 1.386940I$ $a = 0.56011 + 1.32894I$ $b = 1.156120 - 0.345033I$	$4.75595 + 4.27023I$	0
$u = 0.400753 + 1.355730I$ $a = 0.087799 + 0.999503I$ $b = -0.725981 - 0.034937I$	$-0.53523 - 4.19761I$	0
$u = 0.400753 - 1.355730I$ $a = 0.087799 - 0.999503I$ $b = -0.725981 + 0.034937I$	$-0.53523 + 4.19761I$	0
$u = -0.500335 + 0.300299I$ $a = -1.55821 - 0.36015I$ $b = -0.458401 + 0.490676I$	$2.04668 - 0.50496I$	$4.74774 - 1.63481I$
$u = -0.500335 - 0.300299I$ $a = -1.55821 + 0.36015I$ $b = -0.458401 - 0.490676I$	$2.04668 + 0.50496I$	$4.74774 + 1.63481I$
$u = -0.22933 + 1.41090I$ $a = -0.240214 - 1.348330I$ $b = -0.928330 + 0.600220I$	$7.43972 + 2.33030I$	0
$u = -0.22933 - 1.41090I$ $a = -0.240214 + 1.348330I$ $b = -0.928330 - 0.600220I$	$7.43972 - 2.33030I$	0
$u = -0.559237 + 0.068955I$ $a = -0.576035 - 1.250270I$ $b = -1.386620 + 0.233170I$	$-8.36721 - 4.78858I$	$-9.12474 + 3.88127I$
$u = -0.559237 - 0.068955I$ $a = -0.576035 + 1.250270I$ $b = -1.386620 - 0.233170I$	$-8.36721 + 4.78858I$	$-9.12474 - 3.88127I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.21709+1.42007I$ $a=\ \ 0.74892+1.42849I$ $b=-0.418875-1.269480I$	$7.54837+6.43308I$	0
$u=-0.21709-1.42007I$ $a=\ \ 0.74892-1.42849I$ $b=-0.418875+1.269480I$	$7.54837-6.43308I$	0
$u=-0.19325+1.42451I$ $a=\ \ 1.01210-1.87923I$ $b=-1.079390+0.409504I$	$-2.42478+9.06140I$	0
$u=-0.19325-1.42451I$ $a=\ \ 1.01210+1.87923I$ $b=-1.079390-0.409504I$	$-2.42478-9.06140I$	0
$u=-0.499376+0.245580I$ $a=-0.51189-2.43113I$ $b=-1.276590+0.260999I$	$-7.87105+6.49530I$	$-9.42523-6.99676I$
$u=-0.499376-0.245580I$ $a=-0.51189+2.43113I$ $b=-1.276590-0.260999I$	$-7.87105-6.49530I$	$-9.42523+6.99676I$
$u=\ \ 0.21879+1.43107I$ $a=-0.55800-1.70384I$ $b=\ \ 1.14934+0.86467I$	$4.19508-6.10037I$	0
$u=\ \ 0.21879-1.43107I$ $a=-0.55800+1.70384I$ $b=\ \ 1.14934-0.86467I$	$4.19508+6.10037I$	0
$u=\ \ 0.324349+0.433891I$ $a=-0.529747-0.426575I$ $b=\ \ 0.127123+0.315352I$	$-0.037096-1.090900I$	$-0.42114+5.58767I$
$u=\ \ 0.324349-0.433891I$ $a=-0.529747+0.426575I$ $b=\ \ 0.127123-0.315352I$	$-0.037096+1.090900I$	$-0.42114-5.58767I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.16854 + 1.45294I$ $a = 0.369845 + 1.142920I$ $b = -0.240117 - 0.918274I$	$4.38303 - 4.19511I$	0
$u = 0.16854 - 1.45294I$ $a = 0.369845 - 1.142920I$ $b = -0.240117 + 0.918274I$	$4.38303 + 4.19511I$	0
$u = 0.11022 + 1.46155I$ $a = 0.13378 - 1.48184I$ $b = -0.204410 + 1.134740I$	$6.45842 - 2.82218I$	0
$u = 0.11022 - 1.46155I$ $a = 0.13378 + 1.48184I$ $b = -0.204410 - 1.134740I$	$6.45842 + 2.82218I$	0
$u = 0.26509 + 1.45041I$ $a = -0.554874 + 1.175130I$ $b = 0.503496 - 0.747600I$	$2.30403 - 4.52481I$	0
$u = 0.26509 - 1.45041I$ $a = -0.554874 - 1.175130I$ $b = 0.503496 + 0.747600I$	$2.30403 + 4.52481I$	0
$u = -0.26766 + 1.45291I$ $a = -0.63295 - 1.38107I$ $b = 0.382706 + 1.230100I$	$3.05018 + 12.65850I$	0
$u = -0.26766 - 1.45291I$ $a = -0.63295 + 1.38107I$ $b = 0.382706 - 1.230100I$	$3.05018 - 12.65850I$	0
$u = 0.13370 + 1.48386I$ $a = 0.069161 - 1.218020I$ $b = -0.109373 + 0.916612I$	$6.35142 - 2.84344I$	0
$u = 0.13370 - 1.48386I$ $a = 0.069161 + 1.218020I$ $b = -0.109373 - 0.916612I$	$6.35142 + 2.84344I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.32331+1.45711I$ $a=\ \ 0.19719-1.76021I$ $b=-1.29655+0.73348I$	$4.6636+13.4608I$	0
$u=-0.32331-1.45711I$ $a=\ \ 0.19719+1.76021I$ $b=-1.29655-0.73348I$	$4.6636-13.4608I$	0
$u=\ \ 0.057887+0.501362I$ $a=-0.940336-0.573017I$ $b=\ \ 0.190226+0.738558I$	$0.17753-1.84376I$	$5.68204+3.35389I$
$u=\ \ 0.057887-0.501362I$ $a=-0.940336+0.573017I$ $b=\ \ 0.190226-0.738558I$	$0.17753+1.84376I$	$5.68204-3.35389I$
$u=-0.15097+1.49566I$ $a=\ \ 0.109950+1.164260I$ $b=\ \ 0.959123-0.508506I$	$4.64571-2.28975I$	0
$u=-0.15097-1.49566I$ $a=\ \ 0.109950-1.164260I$ $b=\ \ 0.959123+0.508506I$	$4.64571+2.28975I$	0
$u=-0.477345+0.120607I$ $a=\ \ 1.31244+1.59177I$ $b=\ \ 1.322360-0.208432I$	$-3.80983+0.57311I$	$-9.45730+1.68885I$
$u=-0.477345-0.120607I$ $a=\ \ 1.31244-1.59177I$ $b=\ \ 1.322360+0.208432I$	$-3.80983-0.57311I$	$-9.45730-1.68885I$
$u=\ \ 0.21833+1.50245I$ $a=-0.13194+1.57274I$ $b=-1.103140-0.458774I$	$3.95038-8.84943I$	0
$u=\ \ 0.21833-1.50245I$ $a=-0.13194-1.57274I$ $b=-1.103140+0.458774I$	$3.95038+8.84943I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.41003 + 1.47277I$ $a = -0.200926 - 1.091420I$ $b = 1.304720 + 0.503059I$	$-0.12706 - 9.08974I$	0
$u = 0.41003 - 1.47277I$ $a = -0.200926 + 1.091420I$ $b = 1.304720 - 0.503059I$	$-0.12706 + 9.08974I$	0
$u = 0.31796 + 1.49626I$ $a = 0.16241 + 1.44977I$ $b = -1.172020 - 0.570588I$	$3.40236 - 8.11118I$	0
$u = 0.31796 - 1.49626I$ $a = 0.16241 - 1.44977I$ $b = -1.172020 + 0.570588I$	$3.40236 + 8.11118I$	0
$u = -0.36939 + 1.49324I$ $a = -0.19320 + 1.69855I$ $b = 1.28262 - 0.72345I$	$0.1662 + 19.5178I$	0
$u = -0.36939 - 1.49324I$ $a = -0.19320 - 1.69855I$ $b = 1.28262 + 0.72345I$	$0.1662 - 19.5178I$	0
$u = 0.09369 + 1.55360I$ $a = -1.079750 + 0.029301I$ $b = 0.553396 - 0.133180I$	$7.15214 - 1.71754I$	0
$u = 0.09369 - 1.55360I$ $a = -1.079750 - 0.029301I$ $b = 0.553396 + 0.133180I$	$7.15214 + 1.71754I$	0
$u = 0.26232 + 1.53818I$ $a = 0.53755 + 1.38774I$ $b = -1.31579 - 0.72013I$	$2.98298 - 9.50561I$	0
$u = 0.26232 - 1.53818I$ $a = 0.53755 - 1.38774I$ $b = -1.31579 + 0.72013I$	$2.98298 + 9.50561I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.07254+1.55880I$ $a=\ \ 0.535691+0.604356I$ $b=-0.614451-0.562278I$	$8.36751-2.32631I$	0
$u=-0.07254-1.55880I$ $a=\ \ 0.535691-0.604356I$ $b=-0.614451+0.562278I$	$8.36751+2.32631I$	0
$u=\ \ 0.39814+1.52226I$ $a=-0.15966-1.62974I$ $b=\ \ 1.070620+0.600799I$	$0.58666-9.65964I$	0
$u=\ \ 0.39814-1.52226I$ $a=-0.15966+1.62974I$ $b=\ \ 1.070620-0.600799I$	$0.58666+9.65964I$	0
$u=\ \ 0.411023+0.111534I$ $a=\ \ 3.95344+0.88557I$ $b=\ \ 0.915658+0.227156I$	$-0.17955-2.16910I$	$-5.61403+6.23784I$
$u=\ \ 0.411023-0.111534I$ $a=\ \ 3.95344-0.88557I$ $b=\ \ 0.915658-0.227156I$	$-0.17955+2.16910I$	$-5.61403-6.23784I$
$u=\ \ 0.13104+1.59747I$ $a=\ \ 0.764192-0.716684I$ $b=-0.469970+0.418534I$	$5.98696-5.01739I$	0
$u=\ \ 0.13104-1.59747I$ $a=\ \ 0.764192+0.716684I$ $b=-0.469970-0.418534I$	$5.98696+5.01739I$	0
$u=\ \ 0.251273+0.294215I$ $a=\ \ 2.55180+0.33707I$ $b=-0.706513-0.551091I$	$-1.53089-2.29908I$	$0.66513+4.08716I$
$u=\ \ 0.251273-0.294215I$ $a=\ \ 2.55180-0.33707I$ $b=-0.706513+0.551091I$	$-1.53089+2.29908I$	$0.66513-4.08716I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.01175 + 1.69084I$ $a = -0.477497 - 0.543141I$ $b = 0.663871 + 0.364920I$	$5.70671 - 6.09660I$	0
$u = 0.01175 - 1.69084I$ $a = -0.477497 + 0.543141I$ $b = 0.663871 - 0.364920I$	$5.70671 + 6.09660I$	0
$u = 0.130172 + 0.093907I$ $a = 1.69000 + 1.63828I$ $b = 0.525449 - 1.070560I$	$0.78817 + 2.51729I$	$-2.1938 + 17.1726I$
$u = 0.130172 - 0.093907I$ $a = 1.69000 - 1.63828I$ $b = 0.525449 + 1.070560I$	$0.78817 - 2.51729I$	$-2.1938 - 17.1726I$
$u = -0.1113420 + 0.0440042I$ $a = 7.83129 - 0.09976I$ $b = 0.888164 - 0.452496I$	$-1.67474 + 2.05875I$	$-0.24305 - 3.66078I$
$u = -0.1113420 - 0.0440042I$ $a = 7.83129 + 0.09976I$ $b = 0.888164 + 0.452496I$	$-1.67474 - 2.05875I$	$-0.24305 + 3.66078I$

II.

$\boldsymbol{I_2^u = \langle 1.50\times 10^5 u^{35} + 1.35\times 10^6 u^{34} + \cdots + 8.92\times 10^5 b + 1.01\times 10^6,\ -9.19\times 10^5 u^{35} + 3.56\times 10^6 u^{34} + \cdots + 8.92\times 10^5 a - 2.38\times 10^6,\ u^{36} - 8u^{35} + \cdots - 10u + 1\rangle}$

(i) Arc colorings

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

$$a_{12} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} u^2 + 1 \\ u^4 + 2u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.02996u^{35} - 3.98834u^{34} + \cdots - 6.24114u + 2.66418 \\ -0.168177u^{35} - 1.51884u^{34} + \cdots + 5.82168u - 1.13422 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.686833u^{35} + 6.84037u^{34} + \cdots - 59.7725u + 5.60855 \\ -1.59563u^{35} + 14.2125u^{34} + \cdots - 0.377244u - 0.648296 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.861784u^{35} - 5.50719u^{34} + \cdots - 0.419456u + 1.52997 \\ -0.168177u^{35} - 1.51884u^{34} + \cdots + 5.82168u - 1.13422 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -1.02035u^{35} + 9.21222u^{34} + \cdots - 51.8896u + 6.01389 \\ -0.169504u^{35} + 1.08453u^{34} + \cdots - 12.1591u + 0.0163512 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.211043u^{35} + 4.30731u^{34} + \cdots - 1.56857u + 3.03228 \\ 2.61896u^{35} - 19.8031u^{34} + \cdots - 33.0782u + 4.21104 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.335996u^{35} - 2.76642u^{34} + \cdots - 44.8199u + 3.94342 \\ 1.61896u^{35} - 10.8031u^{34} + \cdots - 9.07815u + 0.211043 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.768259u^{35} + 9.48715u^{34} + \cdots + 17.7380u + 0.128084 \\ 1.47681u^{35} - 9.34615u^{34} + \cdots - 42.3705u + 4.93644 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{8011071}{297307}u^{35} - \frac{62847785}{297307}u^{34} + \cdots + \frac{111713417}{297307}u - \frac{9239715}{297307}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u^{36} - 8u^{35} + \cdots - 10u + 1$
c_2	$u^{36} - 2u^{35} + \cdots - u + 1$
c_3	$u^{36} + 3u^{33} + \cdots + 36u + 28$
c_4	$u^{36} + 8u^{35} + \cdots + 10u + 1$
c_5	$u^{36} + 2u^{34} + \cdots - 68u + 28$
c_6	$u^{36} + 3u^{35} + \cdots + 10u + 1$
c_7	$u^{36} + u^{35} + \cdots + u + 1$
c_8	$u^{36} - u^{35} + \cdots + 2u + 1$
c_9	$u^{36} - 3u^{35} + \cdots - 10u + 1$
c_{10}	$u^{36} - u^{35} + \cdots + 6u + 1$
c_{11}	$u^{36} + u^{35} + \cdots - 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{36} + 38y^{35} + \cdots + 38y + 1$
c_2	$y^{36} + 12y^{35} + \cdots - 7y + 1$
c_3	$y^{36} + 8y^{34} + \cdots + 10128y + 784$
c_5	$y^{36} + 4y^{35} + \cdots + 1200y + 784$
c_6, c_9	$y^{36} + 27y^{35} + \cdots + 6y + 1$
c_7	$y^{36} + 15y^{35} + \cdots + 3y + 1$
c_8, c_{11}	$y^{36} - 21y^{35} + \cdots - 30y + 1$
c_{10}	$y^{36} + 3y^{35} + \cdots + 70y^2 + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.533885 + 0.970339I$ $a = 0.127119 + 0.362223I$ $b = -0.989285 + 0.135828I$	$-1.64580 - 1.75060I$	0
$u = 0.533885 - 0.970339I$ $a = 0.127119 - 0.362223I$ $b = -0.989285 - 0.135828I$	$-1.64580 + 1.75060I$	0
$u = 0.969458 + 0.588695I$ $a = 0.429402 - 0.700696I$ $b = 1.032740 + 0.357926I$	$-4.80823 - 4.53254I$	0
$u = 0.969458 - 0.588695I$ $a = 0.429402 + 0.700696I$ $b = 1.032740 - 0.357926I$	$-4.80823 + 4.53254I$	0
$u = 0.233279 + 1.150440I$ $a = 0.736292 + 0.587646I$ $b = -1.386120 + 0.239135I$	$-1.37039 - 1.28460I$	0
$u = 0.233279 - 1.150440I$ $a = 0.736292 - 0.587646I$ $b = -1.386120 - 0.239135I$	$-1.37039 + 1.28460I$	0
$u = -0.037785 + 1.178950I$ $a = -0.609449 - 0.538714I$ $b = 1.49631 - 0.04163I$	$-4.84574 + 5.70700I$	0
$u = -0.037785 - 1.178950I$ $a = -0.609449 + 0.538714I$ $b = 1.49631 + 0.04163I$	$-4.84574 - 5.70700I$	0
$u = 0.805016 + 0.126771I$ $a = -0.824930 + 0.385825I$ $b = -1.095740 - 0.538036I$	$-4.18489 - 2.62068I$	$-2.84257 + 3.19711I$
$u = 0.805016 - 0.126771I$ $a = -0.824930 - 0.385825I$ $b = -1.095740 + 0.538036I$	$-4.18489 + 2.62068I$	$-2.84257 - 3.19711I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.165779+1.234590I$ $a=\ \ 0.13062+2.58731I$ $b=\ \ 0.601661-0.283064I$	$-0.74410+7.03680I$	0
$u=-0.165779-1.234590I$ $a=\ \ 0.13062-2.58731I$ $b=\ \ 0.601661+0.283064I$	$-0.74410-7.03680I$	0
$u=\ \ 0.899142+0.916996I$ $a=\ \ 0.0821422+0.0046731I$ $b=\ \ 0.832483-0.264930I$	$-3.92995-1.97942I$	0
$u=\ \ 0.899142-0.916996I$ $a=\ \ 0.0821422-0.0046731I$ $b=\ \ 0.832483+0.264930I$	$-3.92995+1.97942I$	0
$u=-0.007158+0.708970I$ $a=-0.867199-1.007810I$ $b=\ \ 1.358370+0.115535I$	$-6.64576-5.45010I$	$-5.09080+4.87596I$
$u=-0.007158-0.708970I$ $a=-0.867199+1.007810I$ $b=\ \ 1.358370-0.115535I$	$-6.64576+5.45010I$	$-5.09080-4.87596I$
$u=\ \ 0.048386+1.293590I$ $a=\ \ 0.74648-2.14839I$ $b=-0.570571+1.050880I$	$4.52833+1.97332I$	0
$u=\ \ 0.048386-1.293590I$ $a=\ \ 0.74648+2.14839I$ $b=-0.570571-1.050880I$	$4.52833-1.97332I$	0
$u=-0.028795+1.323720I$ $a=\ \ 0.09215-1.88659I$ $b=-1.015720+0.567973I$	$4.04448+2.16603I$	0
$u=-0.028795-1.323720I$ $a=\ \ 0.09215+1.88659I$ $b=-1.015720-0.567973I$	$4.04448-2.16603I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.347408 + 1.329210I$ $a = -0.21748 + 1.64557I$ $b = -1.038130 - 0.766999I$	$0.36298 - 6.77899I$	0
$u = 0.347408 - 1.329210I$ $a = -0.21748 - 1.64557I$ $b = -1.038130 + 0.766999I$	$0.36298 + 6.77899I$	0
$u = -0.267265 + 0.539289I$ $a = 1.65877 + 2.74128I$ $b = 0.614762 + 0.105373I$	$-3.24314 - 5.36502I$	$-7.53946 + 2.37356I$
$u = -0.267265 - 0.539289I$ $a = 1.65877 - 2.74128I$ $b = 0.614762 - 0.105373I$	$-3.24314 + 5.36502I$	$-7.53946 - 2.37356I$
$u = 0.09281 + 1.45881I$ $a = 0.21397 + 1.46679I$ $b = -0.258530 - 1.133270I$	$6.47556 - 3.78965I$	0
$u = 0.09281 - 1.45881I$ $a = 0.21397 - 1.46679I$ $b = -0.258530 + 1.133270I$	$6.47556 + 3.78965I$	0
$u = 0.05185 + 1.54777I$ $a = 0.943551 - 0.051012I$ $b = -0.503844 - 0.114561I$	$7.14619 - 2.13271I$	0
$u = 0.05185 - 1.54777I$ $a = 0.943551 + 0.051012I$ $b = -0.503844 + 0.114561I$	$7.14619 + 2.13271I$	0
$u = 0.29173 + 1.54648I$ $a = -0.33020 - 1.38646I$ $b = 1.202160 + 0.570425I$	$2.20071 - 8.92537I$	0
$u = 0.29173 - 1.54648I$ $a = -0.33020 + 1.38646I$ $b = 1.202160 - 0.570425I$	$2.20071 + 8.92537I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.09740 + 1.64098I$ $a = -0.461130 + 0.535451I$ $b = 0.493504 - 0.179561I$	$5.43737 - 5.17892I$	0
$u = 0.09740 - 1.64098I$ $a = -0.461130 - 0.535451I$ $b = 0.493504 + 0.179561I$	$5.43737 + 5.17892I$	0
$u = -0.037185 + 0.297031I$ $a = 2.21923 - 3.75530I$ $b = -0.785947 - 0.304483I$	$0.41358 - 1.85518I$	$6.34588 + 1.64255I$
$u = -0.037185 - 0.297031I$ $a = 2.21923 + 3.75530I$ $b = -0.785947 + 0.304483I$	$0.41358 + 1.85518I$	$6.34588 - 1.64255I$
$u = 0.173606 + 0.180367I$ $a = 0.930666 + 0.069034I$ $b = -0.488104 - 1.025620I$	$0.80880 - 2.71970I$	$2.4894 + 21.3470I$
$u = 0.173606 - 0.180367I$ $a = 0.930666 - 0.069034I$ $b = -0.488104 + 1.025620I$	$0.80880 + 2.71970I$	$2.4894 - 21.3470I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$(u^{36} - 8u^{35} + \cdots - 10u + 1)(u^{146} + 7u^{145} + \cdots - 117u + 31)$
c_2	$(u^{36} - 2u^{35} + \cdots - u + 1)(u^{146} - 3u^{145} + \cdots - 232u + 23)$
c_3	$(u^{36} + 3u^{33} + \cdots + 36u + 28)$ $\cdot (u^{146} - u^{145} + \cdots + 36926312u + 87096208)$
c_4	$(u^{36} + 8u^{35} + \cdots + 10u + 1)(u^{146} + 7u^{145} + \cdots - 117u + 31)$
c_5	$(u^{36} + 2u^{34} + \cdots - 68u + 28)$ $\cdot (u^{146} + u^{145} + \cdots - 73218680u + 5055088)$
c_6	$(u^{36} + 3u^{35} + \cdots + 10u + 1)(u^{146} + 6u^{145} + \cdots + 59u + 1)$
c_7	$(u^{36} + u^{35} + \cdots + u + 1)(u^{146} + 14u^{144} + \cdots - 34304u + 1984)$
c_8	$(u^{36} - u^{35} + \cdots + 2u + 1)(u^{146} + 6u^{145} + \cdots + 10735u + 2329)$
c_9	$(u^{36} - 3u^{35} + \cdots - 10u + 1)(u^{146} + 6u^{145} + \cdots + 59u + 1)$
c_{10}	$(u^{36} - u^{35} + \cdots + 6u + 1)(u^{146} - 6u^{145} + \cdots + 186624u + 155392)$
c_{11}	$(u^{36} + u^{35} + \cdots - 2u + 1)(u^{146} + 6u^{145} + \cdots + 10735u + 2329)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$(y^{36}+38y^{35}+\cdots+38y+1)(y^{146}+139y^{145}+\cdots-122499y+961)$
c_2	$(y^{36}+12y^{35}+\cdots-7y+1)(y^{146}+21y^{145}+\cdots+34036y+529)$
c_3	$(y^{36}+8y^{34}+\cdots+10128y+784)$ $\cdot(y^{146}+25y^{145}+\cdots+222241981535540160y+7585749447979264)$
c_5	$(y^{36}+4y^{35}+\cdots+1200y+784)$ $\cdot(y^{146}+29y^{145}+\cdots+948957128361152y+25553914687744)$
c_6, c_9	$(y^{36}+27y^{35}+\cdots+6y+1)(y^{146}+104y^{145}+\cdots-243y+1)$
c_7	$(y^{36}+15y^{35}+\cdots+3y+1)$ $\cdot(y^{146}+28y^{145}+\cdots+135151616y+3936256)$
c_8, c_{11}	$(y^{36}-21y^{35}+\cdots-30y+1)$ $\cdot(y^{146}-76y^{145}+\cdots-142242651y+5424241)$
c_{10}	$(y^{36}+3y^{35}+\cdots+70y^2+1)$ $\cdot(y^{146}+20y^{145}+\cdots+1419362140160y+24146673664)$