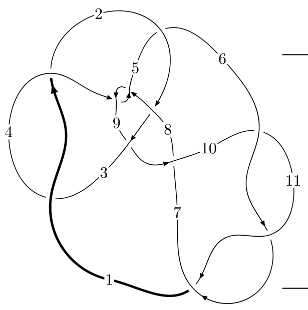
$11a_{298}$ ($K11a_{298}$)



A knot diagram[1]

Linearized knot diagam

$$\rightarrow \underset{4}{\downarrow} \rightarrow \underset{8}{\downarrow} \rightarrow \underset{1}{\downarrow} \rightarrow \underset{9}{\downarrow} \rightarrow \underset{2}{\downarrow} \rightarrow \underset{11}{\downarrow} \rightarrow \underset{10}{\downarrow} \rightarrow \underset{5}{\downarrow} \rightarrow \underset{3}{\downarrow} \rightarrow \underset{6}{\downarrow} \rightarrow \underset{7}{\downarrow} \rightarrow$$

Solving Sequence

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

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

$$I_1^u = \langle 9.88613 \times 10^{36} u^{66} - 3.08299 \times 10^{36} u^{65} + \cdots + 2.08415 \times 10^{37} b + 1.52499 \times 10^{37},$$
$$- 1.79254 \times 10^{37} u^{66} - 3.42174 \times 10^{37} u^{65} + \cdots + 2.08415 \times 10^{37} a - 3.54411 \times 10^{37},\ u^{67} + 2u^{66} + \cdots + 2u -$$
$$I_2^u = \langle 5b + u + 3,\ 5a + 2u + 6,\ u^2 + u - 1\rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 69 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.

$\boldsymbol{I_1^u = \langle 9.89\times10^{36}u^{66}-3.08\times10^{36}u^{65}+\cdots+2.08\times10^{37}b+1.52\times10^{37},\ -1.79\times10^{37}u^{66}-3.42\times10^{37}u^{65}+\cdots+2.08\times10^{37}a-3.54\times10^{37},\ u^{67}+2u^{66}+\cdots+2u+1\rangle}$

(i) Arc colorings

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

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

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

$$a_1 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}0.860082u^{66}+1.64179u^{65}+\cdots+1.94258u+1.70050\\-0.474347u^{66}+0.147925u^{65}+\cdots-0.386242u-0.731707\end{pmatrix}$$

$$a_4 = \begin{pmatrix}1.48932u^{66}+2.14476u^{65}+\cdots+3.32469u+2.19964\\-0.127700u^{66}+0.342656u^{65}+\cdots-0.886592u-0.475343\end{pmatrix}$$

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

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

$$a_2 = \begin{pmatrix}0.788597u^{66}+1.72240u^{65}+\cdots+3.47709u+1.64125\\-0.360672u^{66}+0.258719u^{65}+\cdots-0.433561u-0.659189\end{pmatrix}$$

$$a_5 = \begin{pmatrix}1.04231u^{66}+1.25813u^{65}+\cdots+2.97728u+1.55836\\0.579023u^{66}+0.216659u^{65}+\cdots+0.557709u+0.726240\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-1.54293u^{66}-2.24497u^{65}+\cdots-2.88258u-2.33342\\-1.53821u^{66}-1.11120u^{65}+\cdots+0.768914u-0.642905\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-1.54293u^{66}-2.24497u^{65}+\cdots-2.88258u-2.33342\\-1.53821u^{66}-1.11120u^{65}+\cdots+0.768914u-0.642905\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2.85040u^{66}-2.35907u^{65}+\cdots+11.1605u-13.3066$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_3	$u^{67} - 3u^{66} + \cdots - 11u + 25$
c_2	$u^{67} + u^{66} + \cdots + 980u + 100$
c_4, c_8	$u^{67} + 2u^{66} + \cdots + 4u + 1$
c_5	$5(5u^{67} - 44u^{66} + \cdots + 396u + 27)$
c_6, c_{10}, c_{11}	$u^{67} + 2u^{66} + \cdots + 2u + 1$
c_7	$u^{67} - 6u^{66} + \cdots - 618u + 117$
c_9	$5(5u^{67} + 27u^{66} + \cdots + 819u + 81)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$y^{67} - 39y^{66} + \cdots + 25671y - 625$
c_2	$y^{67} + 15y^{66} + \cdots + 203000y - 10000$
c_4, c_8	$y^{67} + 36y^{66} + \cdots + 4y - 1$
c_5	$25(25y^{67} + 624y^{66} + \cdots + 130896y - 729)$
c_6, c_{10}, c_{11}	$y^{67} - 60y^{66} + \cdots + 4y - 1$
c_7	$y^{67} + 4y^{66} + \cdots + 137160y - 13689$
c_9	$25(25y^{67} - 79y^{66} + \cdots - 46413y - 6561)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.971049 + 0.208920I$ $a = -0.32714 + 1.78126I$ $b = -0.115970 + 0.555157I$	$3.33579 + 2.19465I$	$-7.86655 + 0.I$
$u = 0.971049 - 0.208920I$ $a = -0.32714 - 1.78126I$ $b = -0.115970 - 0.555157I$	$3.33579 - 2.19465I$	$-7.86655 + 0.I$
$u = 0.828642 + 0.456356I$ $a = 1.29398 - 1.09741I$ $b = 0.975419 + 0.388481I$	$0.61572 + 7.81558I$	$-11.00000 - 4.31786I$
$u = 0.828642 - 0.456356I$ $a = 1.29398 + 1.09741I$ $b = 0.975419 - 0.388481I$	$0.61572 - 7.81558I$	$-11.00000 + 4.31786I$
$u = -0.785572 + 0.521754I$ $a = -0.876770 - 0.752417I$ $b = -0.765978 + 0.288301I$	$-2.70603 - 1.76569I$	$-13.31586 + 3.73920I$
$u = -0.785572 - 0.521754I$ $a = -0.876770 + 0.752417I$ $b = -0.765978 - 0.288301I$	$-2.70603 + 1.76569I$	$-13.31586 - 3.73920I$
$u = 1.025940 + 0.403064I$ $a = 0.638976 + 1.070100I$ $b = 0.056372 + 0.523175I$	$1.33655 - 6.86297I$	0
$u = 1.025940 - 0.403064I$ $a = 0.638976 - 1.070100I$ $b = 0.056372 - 0.523175I$	$1.33655 + 6.86297I$	0
$u = -0.298287 + 0.796077I$ $a = 0.133666 - 0.260488I$ $b = -1.30707 - 0.75572I$	$-1.12210 + 6.34169I$	$-11.92397 - 6.79037I$
$u = -0.298287 - 0.796077I$ $a = 0.133666 + 0.260488I$ $b = -1.30707 + 0.75572I$	$-1.12210 - 6.34169I$	$-11.92397 + 6.79037I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.272187 + 0.791950I$ $a = -0.230884 - 0.195053I$ $b = 1.67052 - 0.99999I$	$2.41609 - 12.25380I$	$-8.96204 + 8.44386I$
$u = 0.272187 - 0.791950I$ $a = -0.230884 + 0.195053I$ $b = 1.67052 + 0.99999I$	$2.41609 + 12.25380I$	$-8.96204 - 8.44386I$
$u = -1.133230 + 0.269613I$ $a = 0.275844 + 0.909490I$ $b = 0.184881 + 0.303565I$	$-1.02190 + 1.39824I$	0
$u = -1.133230 - 0.269613I$ $a = 0.275844 - 0.909490I$ $b = 0.184881 - 0.303565I$	$-1.02190 - 1.39824I$	0
$u = 0.140214 + 0.819901I$ $a = 0.116857 - 0.337825I$ $b = -0.481890 - 0.479676I$	$4.07626 + 2.45751I$	$-5.53723 - 4.39874I$
$u = 0.140214 - 0.819901I$ $a = 0.116857 + 0.337825I$ $b = -0.481890 + 0.479676I$	$4.07626 - 2.45751I$	$-5.53723 + 4.39874I$
$u = 0.311992 + 0.700971I$ $a = -0.145782 - 0.519209I$ $b = 1.343450 + 0.093089I$	$4.46866 - 1.41400I$	$-4.95439 + 4.71232I$
$u = 0.311992 - 0.700971I$ $a = -0.145782 + 0.519209I$ $b = 1.343450 - 0.093089I$	$4.46866 + 1.41400I$	$-4.95439 - 4.71232I$
$u = 0.195241 + 0.725393I$ $a = 0.102706 - 0.534072I$ $b = -1.42665 + 0.06702I$	$5.66368 - 5.86500I$	$-5.37991 + 6.33692I$
$u = 0.195241 - 0.725393I$ $a = 0.102706 + 0.534072I$ $b = -1.42665 - 0.06702I$	$5.66368 + 5.86500I$	$-5.37991 - 6.33692I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.271530+0.161748I$ $a=\ \ 2.41947+0.73704I$ $b=\ \ 2.14316-0.56893I$	$-2.00089+2.82137I$	0
$u=-1.271530-0.161748I$ $a=\ \ 2.41947-0.73704I$ $b=\ \ 2.14316+0.56893I$	$-2.00089-2.82137I$	0
$u=-0.141220+0.702053I$ $a=-0.075965-0.431787I$ $b=\ \ 0.902832+0.342246I$	$1.93198+2.14020I$	$-7.90136-3.81097I$
$u=-0.141220-0.702053I$ $a=-0.075965+0.431787I$ $b=\ \ 0.902832-0.342246I$	$1.93198-2.14020I$	$-7.90136+3.81097I$
$u=\ \ 0.657943+0.240545I$ $a=-0.13672-1.54848I$ $b=\ \ 0.683159-0.173182I$	$3.10200-2.24588I$	$-7.87626+2.77695I$
$u=\ \ 0.657943-0.240545I$ $a=-0.13672+1.54848I$ $b=\ \ 0.683159+0.173182I$	$3.10200+2.24588I$	$-7.87626-2.77695I$
$u=\ \ 1.314170+0.128201I$ $a=-1.10038+1.03976I$ $b=-1.66093+0.85544I$	$-5.00722-0.73302I$	0
$u=\ \ 1.314170-0.128201I$ $a=-1.10038-1.03976I$ $b=-1.66093-0.85544I$	$-5.00722+0.73302I$	0
$u=-1.320040+0.057043I$ $a=\ \ 1.36174+0.91804I$ $b=\ \ 1.39912+1.18725I$	$-2.47273-2.48121I$	0
$u=-1.320040-0.057043I$ $a=\ \ 1.36174-0.91804I$ $b=\ \ 1.39912-1.18725I$	$-2.47273+2.48121I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.322170 + 0.229367I$ $a = 0.14439 - 7.47115I$ $b = 3.94009 - 5.01080I$	$-2.87450 - 2.88828I$	0
$u = 1.322170 - 0.229367I$ $a = 0.14439 + 7.47115I$ $b = 3.94009 + 5.01080I$	$-2.87450 + 2.88828I$	0
$u = -1.319590 + 0.346942I$ $a = -0.476943 + 0.014476I$ $b = -0.666723 + 0.083983I$	$-0.49228 + 1.74583I$	0
$u = -1.319590 - 0.346942I$ $a = -0.476943 - 0.014476I$ $b = -0.666723 - 0.083983I$	$-0.49228 - 1.74583I$	0
$u = -0.219881 + 0.595702I$ $a = 0.441318 + 0.005243I$ $b = 1.21996 + 0.96570I$	$0.06257 + 4.19245I$	$-10.29586 - 9.03236I$
$u = -0.219881 - 0.595702I$ $a = 0.441318 - 0.005243I$ $b = 1.21996 - 0.96570I$	$0.06257 - 4.19245I$	$-10.29586 + 9.03236I$
$u = 1.363670 + 0.157603I$ $a = -0.646817 - 0.030339I$ $b = -1.52794 + 0.21614I$	$-6.14223 - 0.20744I$	0
$u = 1.363670 - 0.157603I$ $a = -0.646817 + 0.030339I$ $b = -1.52794 - 0.21614I$	$-6.14223 + 0.20744I$	0
$u = -1.367670 + 0.191097I$ $a = -0.180450 - 1.153580I$ $b = 0.375829 - 0.704752I$	$-6.71014 + 3.51832I$	0
$u = -1.367670 - 0.191097I$ $a = -0.180450 + 1.153580I$ $b = 0.375829 + 0.704752I$	$-6.71014 - 3.51832I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.353030 + 0.281550I$ $a = 0.61601 - 1.37793I$ $b = 1.36173 - 1.14425I$	$-2.79764 - 5.70186I$	0
$u = 1.353030 - 0.281550I$ $a = 0.61601 + 1.37793I$ $b = 1.36173 + 1.14425I$	$-2.79764 + 5.70186I$	0
$u = -1.366210 + 0.216084I$ $a = -0.61315 - 2.12558I$ $b = -0.72885 - 1.51198I$	$-6.38128 + 3.82220I$	0
$u = -1.366210 - 0.216084I$ $a = -0.61315 + 2.12558I$ $b = -0.72885 + 1.51198I$	$-6.38128 - 3.82220I$	0
$u = -0.078148 + 0.604951I$ $a = -1.51809 - 0.93623I$ $b = 2.07351 + 2.80457I$	$1.52367 - 0.14015I$	$-14.2937 - 4.2199I$
$u = -0.078148 - 0.604951I$ $a = -1.51809 + 0.93623I$ $b = 2.07351 - 2.80457I$	$1.52367 + 0.14015I$	$-14.2937 + 4.2199I$
$u = 1.376960 + 0.239051I$ $a = 0.56095 - 2.53625I$ $b = 1.18970 - 2.28032I$	$-5.00444 - 7.26595I$	0
$u = 1.376960 - 0.239051I$ $a = 0.56095 + 2.53625I$ $b = 1.18970 + 2.28032I$	$-5.00444 + 7.26595I$	0
$u = -1.374450 + 0.292982I$ $a = -1.41785 - 1.33123I$ $b = -2.16228 - 0.85840I$	$0.68934 + 9.55585I$	0
$u = -1.374450 - 0.292982I$ $a = -1.41785 + 1.33123I$ $b = -2.16228 + 0.85840I$	$0.68934 - 9.55585I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.41838 + 0.31994I$ $a = 0.78576 + 2.39619I$ $b = 1.88722 + 1.70135I$	$-2.9681 + 16.2798I$	0
$u = -1.41838 - 0.31994I$ $a = 0.78576 - 2.39619I$ $b = 1.88722 - 1.70135I$	$-2.9681 - 16.2798I$	0
$u = 0.178834 + 0.510609I$ $a = -0.270334 + 1.049170I$ $b = -1.098170 + 0.533111I$	$-1.45952 - 1.07936I$	$-12.77452 + 1.30331I$
$u = 0.178834 - 0.510609I$ $a = -0.270334 - 1.049170I$ $b = -1.098170 - 0.533111I$	$-1.45952 + 1.07936I$	$-12.77452 - 1.30331I$
$u = 1.42924 + 0.31936I$ $a = -0.63124 + 1.94989I$ $b = -1.46734 + 1.38386I$	$-6.62942 - 10.38300I$	0
$u = 1.42924 - 0.31936I$ $a = -0.63124 - 1.94989I$ $b = -1.46734 - 1.38386I$	$-6.62942 + 10.38300I$	0
$u = -1.44421 + 0.28194I$ $a = 1.11075 + 1.15807I$ $b = 1.42474 + 0.38588I$	$-1.18945 + 5.01515I$	0
$u = -1.44421 - 0.28194I$ $a = 1.11075 - 1.15807I$ $b = 1.42474 - 0.38588I$	$-1.18945 - 5.01515I$	0
$u = -1.49701 + 0.03536I$ $a = 0.488640 - 0.267244I$ $b = -0.258686 - 0.678873I$	$-7.03449 - 6.70275I$	0
$u = -1.49701 - 0.03536I$ $a = 0.488640 + 0.267244I$ $b = -0.258686 + 0.678873I$	$-7.03449 + 6.70275I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=0.224112+0.424001I$ $a=-1.08363+1.63534I$ $b=-0.534595+0.408640I$	$-1.70121-1.12219I$	$-12.55043+5.69637I$
$u=0.224112-0.424001I$ $a=-1.08363-1.63534I$ $b=-0.534595-0.408640I$	$-1.70121+1.12219I$	$-12.55043-5.69637I$
$u=1.57577+0.03846I$ $a=-0.513955-0.003599I$ $b=-0.067086-0.129529I$	$-10.71130+0.03287I$	0
$u=1.57577-0.03846I$ $a=-0.513955+0.003599I$ $b=-0.067086+0.129529I$	$-10.71130-0.03287I$	0
$u=-0.347952+0.238520I$ $a=2.05729+1.92360I$ $b=-0.043214+0.259142I$	$-1.03011-1.52508I$	$-14.1900+0.3808I$
$u=-0.347952-0.238520I$ $a=2.05729-1.92360I$ $b=-0.043214-0.259142I$	$-1.03011+1.52508I$	$-14.1900-0.3808I$
$u=-0.315598$ $a=0.995497$ $b=-0.236639$	-0.581693	-17.2430

II. $I^u_2 = \langle 5b + u + 3,\ 5a + 2u + 6,\ u^2 + u - 1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ -u+1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u \\ -u+1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -\frac{2}{5}u - \frac{6}{5} \\ -\frac{1}{5}u - \frac{3}{5} \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{3}{5}u - \frac{6}{5} \\ \frac{4}{5}u - \frac{8}{5} \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 2u \\ u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -\frac{2}{5}u - \frac{6}{5} \\ -\frac{1}{5}u - \frac{3}{5} \end{pmatrix}$$
$$a_5 = \begin{pmatrix} -\frac{2}{5}u + \frac{1}{5} \\ -\frac{1}{5}u - \frac{2}{5} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{7}{5}u + \frac{2}{5} \\ \frac{6}{5}u + \frac{1}{5} \end{pmatrix}$$
$$a_9 = \begin{pmatrix} \frac{7}{5}u + \frac{2}{5} \\ \frac{6}{5}u + \frac{1}{5} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{72}{5}u - 7$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_3	$(y-1)^2$
c_2	y^2
c_4, c_6, c_8 c_{10}, c_{11}	$y^2 - 3y + 1$
c_5	$25(25y^2 - 15y + 1)$
c_7	$y^2 - 7y + 1$
c_9	$25(5y-1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -1.44721$ $b = -0.723607$	-2.63189	-15.9000
$u = -1.61803$ $a = -0.552786$ $b = -0.276393$	-10.5276	16.3000

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^2)(u^{67}-3u^{66}+\cdots-11u+25)$
c_2	$u^2(u^{67}+u^{66}+\cdots+980u+100)$
c_3	$((u+1)^2)(u^{67}-3u^{66}+\cdots-11u+25)$
c_4	$(u^2+u-1)(u^{67}+2u^{66}+\cdots+4u+1)$
c_5	$25(5u^2+5u+1)(5u^{67}-44u^{66}+\cdots+396u+27)$
c_6	$(u^2+u-1)(u^{67}+2u^{66}+\cdots+2u+1)$
c_7	$(u^2-3u+1)(u^{67}-6u^{66}+\cdots-618u+117)$
c_8	$(u^2-u-1)(u^{67}+2u^{66}+\cdots+4u+1)$
c_9	$25(5u^2-1)(5u^{67}+27u^{66}+\cdots+819u+81)$
c_{10}, c_{11}	$(u^2-u-1)(u^{67}+2u^{66}+\cdots+2u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_3	$((y-1)^2)(y^{67} - 39y^{66} + \cdots + 25671y - 625)$
c_2	$y^2(y^{67} + 15y^{66} + \cdots + 203000y - 10000)$
c_4, c_8	$(y^2 - 3y + 1)(y^{67} + 36y^{66} + \cdots + 4y - 1)$
c_5	$625(25y^2 - 15y + 1)(25y^{67} + 624y^{66} + \cdots + 130896y - 729)$
c_6, c_{10}, c_{11}	$(y^2 - 3y + 1)(y^{67} - 60y^{66} + \cdots + 4y - 1)$
c_7	$(y^2 - 7y + 1)(y^{67} + 4y^{66} + \cdots + 137160y - 13689)$
c_9	$625(5y-1)^2(25y^{67} - 79y^{66} + \cdots - 46413y - 6561)$