

THE CENTER OF HECKE-CLIFFORD SUPERALGERA

Got 0: 1,
Got 1: T_1 ,
Got 2: T_2 ,
Got 3: T_3 ,
Got 4: c_1 ,
Got 5: c_2 ,
Got 6: c_3 ,
Got 7: c_4 ,
Got 8: T_1T_2 ,
Got 9: T_2T_1 ,
Got 10: T_2T_3 ,
Got 11: T_2c_1 ,
Got 12: T_2c_2 ,
Got 13: T_2c_3 ,
Got 14: T_2c_4 ,
Got 15: T_1T_3 ,
Got 16: T_3T_2 ,
Got 17: T_3c_1 ,
Got 18: T_3c_2 ,
Got 19: T_3c_3 ,
Got 20: T_3c_4 ,
Got 21: T_1c_1 ,
Got 22: c_1c_2 ,
Got 23: c_1c_3 ,
Got 24: c_1c_4 ,
Got 25: T_1c_2 ,
Got 26: c_2c_3 ,
Got 27: c_2c_4 ,
Got 28: T_1c_3 ,
Got 29: c_3c_4 ,
Got 30: T_1c_4 ,
Got 31: $T_2T_1c_4$,
Got 32: $T_1T_3T_2$,
Got 33: $T_2T_3T_2$,
Got 34: $T_2T_3c_1$,
Got 35: $T_2T_3c_2$,
Got 36: $T_2T_3c_3$,
Got 37: $T_2T_3c_4$,
Got 38: $T_1T_3c_1$,
Got 39: $T_2c_1c_2$,
Got 40: $T_2c_1c_3$,
Got 41: $T_2c_1c_4$,
Got 42: $T_1T_3c_2$,

Got 43: $T_2c_2c_3$,
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 Got 257: $T_1 T_3 T_2 T_1 c_2 c_3$,
 Got 258: $T_1 T_3 T_2 T_1 c_2 c_4$,
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Got 288: $T_2T_3c_1c_2c_3c_4$,
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 Got 374: $T_1 T_2 T_1 T_3 T_2 T_1 c_2 c_3$,
 Got 375: $T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3$,
 Got 376: $T_1 T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4$,
 Got 377: $T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 c_4$,
 Got 378: $T_1 T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4$,
 Got 379: $T_1 T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4$,
 Got 380: $T_1 T_2 T_3 T_2 T_1 c_1 c_2 c_3 c_4$,
 Got 381: $T_1 T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3$,
 Got 382: $T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3 c_4$,
 Got 383: $T_1 T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3 c_4$,
 Bases: 384.

Assume z is in center, and

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_4T_3 + a_5c_1 + a_6c_2 + a_7c_3 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{11}T_2T_3 + a_{12}T_2c_1 + a_{13}T_2c_2 + a_{14}T_2c_3 + a_{15}T_2c_4 + a_{16}T_1T_3 + a_{17}T_3T_2 \\
& + a_{18}T_3c_1 + a_{19}T_3c_2 + a_{20}T_3c_3 + a_{21}T_3c_4 + a_{22}T_1c_1 + a_{23}c_1c_2 + a_{24}c_1c_3 \\
& + a_{25}c_1c_4 + a_{26}T_1c_2 + a_{27}c_2c_3 + a_{28}c_2c_4 + a_{29}T_1c_3 + a_{30}c_3c_4 + a_{31}T_1c_4 \\
& + a_{32}T_2T_1c_4 + a_{33}T_1T_3T_2 + a_{34}T_2T_3T_2 + a_{35}T_2T_3c_1 + a_{36}T_2T_3c_2 \\
& + a_{37}T_2T_3c_3 + a_{38}T_2T_3c_4 + a_{39}T_1T_3c_1 + a_{40}T_2c_1c_2 + a_{41}T_2c_1c_3 \\
& + a_{42}T_2c_1c_4 + a_{43}T_1T_3c_2 + a_{44}T_2c_2c_3 + a_{45}T_2c_2c_4 + a_{46}T_1T_3c_3 \\
& + a_{47}T_2c_3c_4 + a_{48}T_1T_3c_4 + a_{49}T_1T_2T_3 + a_{50}T_1c_1c_2 + a_{51}T_3T_2T_1 \\
& + a_{52}T_3T_2c_1 + a_{53}T_3T_2c_2 + a_{54}T_3T_2c_3 + a_{55}T_3T_2c_4 + a_{56}T_1c_1c_3 \\
& + a_{57}T_3c_1c_2 + a_{58}T_3c_1c_3 + a_{59}T_3c_1c_4 + a_{60}T_1c_1c_4 + a_{61}T_3c_2c_3 \\
& + a_{62}T_3c_2c_4 + a_{63}T_1T_2c_1 + a_{64}T_3c_3c_4 + a_{65}T_1c_2c_3 + a_{66}T_1c_2c_4 \\
& + a_{67}T_1T_2c_2 + a_{68}c_1c_2c_3 + a_{69}c_1c_2c_4 + a_{70}T_1c_3c_4 + a_{71}c_1c_3c_4 \\
& + a_{72}T_1T_2c_3 + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 + a_{75}c_2c_3c_4 + a_{76}T_2T_1T_3 \\
& + a_{77}T_2T_1c_1 + a_{78}T_2T_1c_2 + a_{79}T_2T_1c_3 + a_{80}T_2T_3T_2c_3 + a_{81}T_2T_3T_2c_4 \\
& + a_{82}T_1T_3c_1c_3 + a_{83}T_2T_3c_1c_2 + a_{84}T_2T_3c_1c_3 + a_{85}T_2T_3c_1c_4 \\
& + a_{86}T_1T_3c_1c_4 + a_{87}T_2T_3c_2c_3 + a_{88}T_2T_3c_2c_4 + a_{89}T_1T_2T_3c_2 \\
& + a_{90}T_2T_3c_3c_4 + a_{91}T_1T_3c_2c_3 + a_{92}T_1T_3c_2c_4 + a_{93}T_1T_2T_3c_3 \\
& + a_{94}T_2c_1c_2c_3 + a_{95}T_2c_1c_2c_4 + a_{96}T_1T_3c_3c_4 + a_{97}T_2c_1c_3c_4 \\
& + a_{98}T_1T_2T_3c_4 + a_{99}T_1T_2T_1c_1 + a_{100}T_1T_2c_1c_2 + a_{101}T_2c_2c_3c_4 \\
& + a_{102}T_1c_1c_2c_3 + a_{103}T_1c_1c_2c_4 + a_{104}T_1T_2c_1c_3 + a_{105}T_1c_1c_3c_4 \\
& + a_{106}T_1T_2c_1c_4 + a_{107}T_1T_2T_1c_2 + a_{108}T_1T_2c_2c_3 + a_{109}T_3T_2T_1c_1 \\
& + a_{110}T_3T_2T_1c_2 + a_{111}T_3T_2T_1c_3 + a_{112}T_3T_2T_1c_4 + a_{113}T_1c_2c_3c_4 \\
& + a_{114}T_3T_2c_1c_2 + a_{115}T_3T_2c_1c_3 + a_{116}T_3T_2c_1c_4 + a_{117}T_1T_2c_2c_4 \\
& + a_{118}T_3T_2c_2c_3 + a_{119}T_3T_2c_2c_4 + a_{120}T_1T_2T_1c_3 + a_{121}T_3T_2c_3c_4 \\
& + a_{122}T_1T_2c_3c_4 + a_{123}T_1T_2T_1c_4 + a_{124}T_1T_2T_1T_3 + a_{125}T_3c_1c_2c_3 \\
& + a_{126}T_3c_1c_2c_4 + a_{127}T_1T_2T_3T_2 + a_{128}T_3c_1c_3c_4 + a_{129}T_1T_3T_2T_1 \\
& + a_{130}T_2T_1T_3T_2 + a_{131}T_2T_1T_3c_1 + a_{132}T_3c_2c_3c_4 + a_{133}T_2T_1T_3c_2 \\
& + a_{134}T_2T_1T_3c_3 + a_{135}T_2T_1T_3c_4 + a_{136}T_1T_3T_2c_1 + a_{137}T_2T_1c_1c_2 \\
& + a_{138}T_2T_1c_1c_3 + a_{139}T_2T_1c_1c_4 + a_{140}c_1c_2c_3c_4 + a_{141}T_1T_3T_2c_2 \\
& + a_{142}T_2T_1c_2c_3 + a_{143}T_2T_1c_2c_4 + a_{144}T_1T_3T_2c_3 + a_{145}T_2T_1c_3c_4 \\
& + a_{146}T_1T_3T_2c_4 + a_{147}T_1T_2T_3c_1 + a_{148}T_1T_3c_1c_2 + a_{149}T_2T_3T_2T_1 \\
& + a_{150}T_2T_3T_2c_1 + a_{151}T_2T_3T_2c_2 + a_{152}T_1T_2T_1c_3c_4 + a_{153}T_2T_3c_1c_3c_4 \\
& + a_{154}T_1T_2T_1T_3c_3 + a_{155}T_1c_1c_2c_3c_4 + a_{156}T_1T_2T_1T_3c_4 + a_{157}T_2T_3c_2c_3c_4 \\
& + a_{158}T_1T_2c_2c_3c_4 + a_{159}T_1T_2T_1T_3T_2 + a_{160}T_1T_2T_3T_2T_1 + a_{161}T_1T_2T_3T_2c_1 \\
& + a_{162}T_1T_2T_3T_2c_2 + a_{163}T_1T_2T_3T_2c_3 + a_{164}T_1T_2T_3T_2c_4 + a_{165}T_2c_1c_2c_3c_4 \\
& + a_{166}T_1T_2T_1c_1c_2 + a_{167}T_1T_3T_2T_1c_1 + a_{168}T_1T_3T_2T_1c_2 + a_{169}T_1T_3T_2T_1c_3 \\
& + a_{170}T_1T_3T_2T_1c_4 + a_{171}T_1T_2T_3c_1c_2 + a_{172}T_1T_3T_2c_1c_2 + a_{173}T_2T_1T_3T_2T_1 \\
& + a_{174}T_2T_1T_3T_2c_1 + a_{175}T_2T_1T_3T_2c_2 + a_{176}T_2T_1T_3T_2c_3 + a_{177}T_2T_1T_3T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{178}T_1T_3T_2c_1c_3 + a_{179}T_2T_1T_3c_1c_2 + a_{180}T_2T_1T_3c_1c_3 + a_{181}T_3T_2T_1c_1c_2 \\
& + a_{182}T_3T_2T_1c_1c_3 + a_{183}T_3T_2T_1c_1c_4 + a_{184}T_2T_1T_3c_1c_4 + a_{185}T_3T_2T_1c_2c_3 \\
& + a_{186}T_3T_2T_1c_2c_4 + a_{187}T_1T_3T_2c_1c_4 + a_{188}T_3T_2T_1c_3c_4 + a_{189}T_2T_1T_3c_2c_3 \\
& + a_{190}T_2T_1T_3c_2c_4 + a_{191}T_1T_2T_3c_1c_3 + a_{192}T_3T_2c_1c_2c_3 + a_{193}T_3T_2c_1c_2c_4 \\
& + a_{194}T_2T_1T_3c_3c_4 + a_{195}T_3T_2c_1c_3c_4 + a_{196}T_1T_3T_2c_2c_3 + a_{197}T_1T_3T_2c_2c_4 \\
& + a_{198}T_1T_2T_3c_1c_4 + a_{199}T_3T_2c_2c_3c_4 + a_{200}T_2T_1c_1c_2c_3 + a_{201}T_2T_1c_1c_2c_4 \\
& + a_{202}T_1T_3T_2c_3c_4 + a_{203}T_2T_1c_1c_3c_4 + a_{204}T_1T_2T_1c_1c_3 + a_{205}T_1T_2T_3c_2c_3 \\
& + a_{206}T_1T_2T_3c_2c_4 + a_{207}T_3c_1c_2c_3c_4 + a_{208}T_2T_1c_2c_3c_4 + a_{209}T_1T_3c_1c_2c_3 \\
& + a_{210}T_1T_3c_1c_2c_4 + a_{211}T_1T_2T_1c_1c_4 + a_{212}T_1T_3c_1c_3c_4 + a_{213}T_1T_2T_3c_3c_4 \\
& + a_{214}T_1T_2T_1T_3c_1 + a_{215}T_1T_2T_1c_2c_3 + a_{216}T_2T_3T_2T_1c_1 + a_{217}T_2T_3T_2T_1c_2 \\
& + a_{218}T_2T_3T_2T_1c_3 + a_{219}T_2T_3T_2T_1c_4 + a_{220}T_1T_3c_2c_3c_4 + a_{221}T_2T_3T_2c_1c_2 \\
& + a_{222}T_2T_3T_2c_1c_3 + a_{223}T_2T_3T_2c_1c_4 + a_{224}T_1T_2T_1c_2c_4 + a_{225}T_2T_3T_2c_2c_3 \\
& + a_{226}T_2T_3T_2c_2c_4 + a_{227}T_1T_2c_1c_2c_3 + a_{228}T_2T_3T_2c_3c_4 + a_{229}T_1T_2c_1c_2c_4 \\
& + a_{230}T_1T_2T_1T_3c_2 + a_{231}T_1T_2c_1c_3c_4 + a_{232}T_2T_3c_1c_2c_3 + a_{233}T_2T_3c_1c_2c_4 \\
& + a_{234}T_2T_1T_3c_2c_3c_4 + a_{235}T_1T_2T_3T_2T_1c_4 + a_{236}T_1T_2T_1c_1c_2c_3 \\
& + a_{237}T_1T_2T_3T_2c_1c_2 + a_{238}T_1T_2T_3T_2c_1c_3 + a_{239}T_1T_2T_3T_2c_1c_4 \\
& + a_{240}T_1T_2T_1c_1c_2c_4 + a_{241}T_1T_2T_3T_2c_2c_3 + a_{242}T_2T_1c_1c_2c_3c_4 \\
& + a_{243}T_1T_2T_3T_2c_2c_4 + a_{244}T_1T_2T_1T_3c_1c_2 + a_{245}T_1T_2T_3T_2c_3c_4 \\
& + a_{246}T_1T_2T_1c_1c_3c_4 + a_{247}T_1T_2T_1T_3c_1c_3 + a_{248}T_1T_2T_1T_3c_1c_4 \\
& + a_{249}T_3T_2T_1c_1c_2c_3 + a_{250}T_3T_2T_1c_1c_2c_4 + a_{251}T_1T_2T_3c_1c_2c_3 \\
& + a_{252}T_3T_2T_1c_1c_3c_4 + a_{253}T_1T_3T_2T_1c_1c_2 + a_{254}T_1T_3T_2T_1c_1c_3 \\
& + a_{255}T_1T_3T_2T_1c_1c_4 + a_{256}T_3T_2T_1c_2c_3c_4 + a_{257}T_1T_2T_3c_1c_2c_4 \\
& + a_{258}T_1T_3T_2T_1c_2c_3 + a_{259}T_1T_3T_2T_1c_2c_4 + a_{260}T_1T_2T_1T_3T_2c_1 \\
& + a_{261}T_1T_3T_2T_1c_3c_4 + a_{262}T_2T_3T_2T_1c_1c_2 + a_{263}T_2T_3T_2T_1c_1c_3 \\
& + a_{264}T_3T_2c_1c_2c_3c_4 + a_{265}T_2T_3T_2T_1c_1c_4 + a_{266}T_1T_2T_3c_1c_3c_4 \\
& + a_{267}T_2T_3T_2T_1c_2c_3 + a_{268}T_2T_3T_2T_1c_2c_4 + a_{269}T_1T_2T_1c_2c_3c_4 \\
& + a_{270}T_2T_3T_2T_1c_3c_4 + a_{271}T_1T_2T_1T_3c_2c_3 + a_{272}T_1T_3T_2c_1c_2c_3 \\
& + a_{273}T_1T_3T_2c_1c_2c_4 + a_{274}T_2T_3T_2c_1c_2c_3 + a_{275}T_2T_3T_2c_1c_2c_4 \\
& + a_{276}T_1T_2T_1T_3c_2c_4 + a_{277}T_2T_3T_2c_1c_3c_4 + a_{278}T_1T_3T_2c_1c_3c_4 \\
& + a_{279}T_1T_2T_3c_2c_3c_4 + a_{280}T_1T_2T_1T_3T_2c_2 + a_{281}T_2T_3T_2c_2c_3c_4 \\
& + a_{282}T_2T_1T_3T_2T_1c_1 + a_{283}T_2T_1T_3T_2T_1c_2 + a_{284}T_2T_1T_3T_2T_1c_3 \\
& + a_{285}T_2T_1T_3T_2T_1c_4 + a_{286}T_1T_2T_1T_3c_3c_4 + a_{287}T_2T_1T_3T_2c_1c_2 \\
& + a_{288}T_2T_1T_3T_2c_1c_3 + a_{289}T_2T_3c_1c_2c_3c_4 + a_{290}T_2T_1T_3T_2c_1c_4 \\
& + a_{291}T_1T_3T_2c_2c_3c_4 + a_{292}T_2T_1T_3T_2c_2c_3 + a_{293}T_2T_1T_3T_2c_2c_4 \\
& + a_{294}T_1T_2T_1T_3T_2c_3 + a_{295}T_2T_1T_3T_2c_3c_4 + a_{296}T_1T_2T_1T_3T_2c_4 \\
& + a_{297}T_1T_2T_1T_3T_2T_1 + a_{298}T_1T_2T_3T_2T_1c_1 + a_{299}T_2T_1T_3c_1c_2c_3 \\
& + a_{300}T_2T_1T_3c_1c_2c_4 + a_{301}T_1T_2T_3T_2T_1c_2 + a_{302}T_2T_1T_3c_1c_3c_4 \\
& + a_{303}T_1T_2c_1c_2c_3c_4 + a_{304}T_1T_2T_3T_2T_1c_3 + a_{305}T_1T_3c_1c_2c_3c_4 \\
& + a_{306}T_1T_2T_3c_1c_2c_3c_4 + a_{307}T_1T_2T_3T_2T_1c_1c_3 + a_{308}T_1T_2T_3T_2T_1c_1c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{309}T_1T_2T_1T_3c_1c_2c_4 + a_{310}T_1T_2T_3T_2T_1c_2c_3 + a_{311}T_1T_2T_3T_2T_1c_2c_4 \\
& + a_{312}T_1T_3T_2T_1c_1c_2c_3 + a_{313}T_2T_1T_3T_2T_1c_1c_2 + a_{314}T_2T_1T_3T_2T_1c_1c_3 \\
& + a_{315}T_2T_1T_3T_2T_1c_1c_4 + a_{316}T_1T_3T_2T_1c_1c_2c_4 + a_{317}T_2T_1T_3T_2T_1c_2c_3 \\
& + a_{318}T_2T_1T_3T_2T_1c_2c_4 + a_{319}T_1T_2T_1T_3T_2c_1c_3 + a_{320}T_2T_1T_3T_2T_1c_3c_4 \\
& + a_{321}T_1T_3T_2T_1c_1c_3c_4 + a_{322}T_1T_2T_3T_2T_1c_3c_4 + a_{323}T_1T_2T_1T_3c_1c_3c_4 \\
& + a_{324}T_2T_1T_3T_2c_1c_2c_3 + a_{325}T_2T_1T_3T_2c_1c_2c_4 + a_{326}T_1T_2T_1T_3T_2c_1c_4 \\
& + a_{327}T_2T_1T_3T_2c_1c_3c_4 + a_{328}T_1T_3T_2T_1c_2c_3c_4 + a_{329}T_2T_3T_2T_1c_1c_2c_3 \\
& + a_{330}T_2T_3T_2T_1c_1c_2c_4 + a_{331}T_1T_2T_1T_3T_2T_1c_2 + a_{332}T_2T_3T_2T_1c_1c_3c_4 \\
& + a_{333}T_1T_2T_3T_2c_1c_2c_3 + a_{334}T_2T_1T_3T_2c_2c_3c_4 + a_{335}T_1T_2T_3T_2c_1c_2c_4 \\
& + a_{336}T_2T_3T_2T_1c_2c_3c_4 + a_{337}T_1T_2T_1T_3T_2c_2c_3 + a_{338}T_1T_2T_3T_2c_1c_3c_4 \\
& + a_{339}T_1T_2T_1T_3c_2c_3c_4 + a_{340}T_1T_2T_1T_3T_2c_2c_4 + a_{341}T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{342}T_1T_2T_1T_3T_2T_1c_3 + a_{343}T_2T_1T_3c_1c_2c_3c_4 + a_{344}T_2T_3T_2c_1c_2c_3c_4 \\
& + a_{345}T_3T_2T_1c_1c_2c_3c_4 + a_{346}T_1T_2T_3T_2c_2c_3c_4 + a_{347}T_1T_2T_1T_3T_2c_3c_4 \\
& + a_{348}T_1T_2T_1T_3T_2T_1c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_1 + a_{350}T_1T_2T_1T_3T_2c_1c_2 \\
& + a_{351}T_1T_2T_1T_3c_1c_2c_3 + a_{352}T_1T_2T_1c_1c_2c_3c_4 + a_{353}T_1T_2T_3T_2T_1c_1c_2 \\
& + a_{354}T_2T_1T_3T_2T_1c_1c_2c_4 + a_{355}T_1T_2T_1T_3T_2c_1c_2c_3 + a_{356}T_2T_1T_3T_2T_1c_1c_3c_4 \\
& + a_{357}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{358}T_1T_2T_1T_3T_2T_1c_2c_4 + a_{359}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{360}T_2T_1T_3T_2T_1c_2c_3c_4 + a_{361}T_1T_3T_2T_1c_1c_2c_3c_4 + a_{362}T_1T_2T_3T_2c_1c_2c_3c_4 \\
& + a_{363}T_1T_2T_3T_2T_1c_1c_2c_3 + a_{364}T_1T_2T_3T_2T_1c_1c_2c_4 + a_{365}T_1T_2T_1T_3T_2T_1c_1c_3 \\
& + a_{366}T_1T_2T_3T_2T_1c_1c_3c_4 + a_{367}T_1T_2T_1T_3c_1c_2c_3c_4 + a_{368}T_2T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{369}T_1T_2T_1T_3T_2T_1c_3c_4 + a_{370}T_1T_2T_1T_3T_2T_1c_1c_4 + a_{371}T_1T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{372}T_2T_3T_2T_1c_1c_2c_3c_4 + a_{373}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 \\
& + a_{375}T_1T_2T_1T_3T_2T_1c_2c_3 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 + a_{377}T_1T_2T_1T_3T_2T_1c_1c_3c_4 \\
& + a_{378}T_1T_2T_1T_3T_2c_1c_2c_3c_4 + a_{379}T_1T_2T_1T_3T_2T_1c_2c_3c_4 \\
& + a_{380}T_1T_2T_1T_3T_2T_1c_1c_2c_4 + a_{381}T_1T_2T_3T_2T_1c_1c_2c_3c_4 \\
& + a_{382}T_1T_2T_1T_3T_2T_1c_1c_2c_3 + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4 \\
& + a_{384}T_1T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 2, Calculating $T_1z = zT_1$, We got 384 equations .

Totally 56 solutions, dup count: 0.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = qa_{107}$$

$$a_{35} = qa_{230}$$

$$a_{40} = -qa_{166}$$

$$a_{41} = qa_{215}$$

$$a_{42} = qa_{224}$$

$$a_{52} = qa_{168}$$

$$a_{83} = -qa_{244}$$

$$a_{84} = qa_{271}$$

$$a_{85} = qa_{276}$$

$$a_{94} = -qa_{236}$$

$$a_{95} = -qa_{240}$$

$$a_{97} = qa_{269}$$

$$a_{114} = -qa_{253}$$

$$a_{115} = qa_{258}$$

$$a_{116} = qa_{259}$$

$$a_{150} = qa_{301}$$

$$a_{153} = qa_{339}$$

$$a_{165} = -qa_{352}$$

$$a_{174} = qa_{331}$$

$$a_{192} = -qa_{312}$$

$$a_{193} = -qa_{316}$$

$$a_{195} = qa_{328}$$

$$a_{221} = -qa_{353}$$

$$a_{222} = qa_{310}$$

$$a_{223} = qa_{311}$$

$$a_{232} = -qa_{351}$$

$$a_{233} = -qa_{309}$$

$$a_{264} = -qa_{361}$$

$$a_{274} = -qa_{363}$$

$$a_{275} = -qa_{364}$$

$$a_{277} = qa_{371}$$

$$a_{287} = -qa_{374}$$

$$\begin{aligned}
a_{288} &= qa_{375} \\
a_{289} &= -qa_{367} \\
a_{290} &= qa_{358} \\
a_{324} &= -qa_{382} \\
a_{325} &= -qa_{380} \\
a_{327} &= qa_{379} \\
a_{344} &= -qa_{381} \\
a_{368} &= -qa_{384}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_4T_3 + a_5c_1 + a_6c_2 + a_7c_3 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{11}T_2T_3 + qa_{107}T_2c_1 + a_{13}T_2c_2 + a_{14}T_2c_3 + a_{15}T_2c_4 + a_{16}T_1T_3 + a_{17}T_3T_2 \\
& + a_{18}T_3c_1 + a_{19}T_3c_2 + a_{20}T_3c_3 + a_{21}T_3c_4 + a_{22}T_1c_1 + a_{24}c_1c_3 + a_{25}c_1c_4 \\
& + a_{26}T_1c_2 + a_{27}c_2c_3 + a_{28}c_2c_4 + a_{29}T_1c_3 + a_{30}c_3c_4 + a_{31}T_1c_4 + a_{32}T_2T_1c_4 \\
& + a_{33}T_1T_3T_2 + a_{34}T_2T_3T_2 + qa_{230}T_2T_3c_1 + a_{36}T_2T_3c_2 + a_{37}T_2T_3c_3 \\
& + a_{38}T_2T_3c_4 + a_{39}T_1T_3c_1 - qa_{166}T_2c_1c_2 + qa_{215}T_2c_1c_3 + qa_{224}T_2c_1c_4 \\
& + a_{43}T_1T_3c_2 + a_{44}T_2c_2c_3 + a_{45}T_2c_2c_4 + a_{46}T_1T_3c_3 + a_{47}T_2c_3c_4 \\
& + a_{48}T_1T_3c_4 + a_{49}T_1T_2T_3 + a_{51}T_3T_2T_1 + qa_{168}T_3T_2c_1 + a_{53}T_3T_2c_2 \\
& + a_{54}T_3T_2c_3 + a_{55}T_3T_2c_4 + a_{56}T_1c_1c_3 + a_{58}T_3c_1c_3 + a_{59}T_3c_1c_4 \\
& + a_{60}T_1c_1c_4 + a_{61}T_3c_2c_3 + a_{62}T_3c_2c_4 + a_{63}T_1T_2c_1 + a_{64}T_3c_3c_4 \\
& + a_{65}T_1c_2c_3 + a_{66}T_1c_2c_4 + a_{67}T_1T_2c_2 + a_{70}T_1c_3c_4 + a_{71}c_1c_3c_4 \\
& + a_{72}T_1T_2c_3 + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 + a_{75}c_2c_3c_4 + a_{76}T_2T_1T_3 \\
& + a_{77}T_2T_1c_1 + a_{78}T_2T_1c_2 + a_{79}T_2T_1c_3 + a_{80}T_2T_3T_2c_3 + a_{81}T_2T_3T_2c_4 \\
& + a_{82}T_1T_3c_1c_3 - qa_{244}T_2T_3c_1c_2 + qa_{271}T_2T_3c_1c_3 + qa_{276}T_2T_3c_1c_4 \\
& + a_{86}T_1T_3c_1c_4 + a_{87}T_2T_3c_2c_3 + a_{88}T_2T_3c_2c_4 + a_{89}T_1T_2T_3c_2 \\
& + a_{90}T_2T_3c_3c_4 + a_{91}T_1T_3c_2c_3 + a_{92}T_1T_3c_2c_4 + a_{93}T_1T_2T_3c_3 \\
& - qa_{236}T_2c_1c_2c_3 - qa_{240}T_2c_1c_2c_4 + a_{96}T_1T_3c_3c_4 + qa_{269}T_2c_1c_3c_4 \\
& + a_{98}T_1T_2T_3c_4 + a_{99}T_1T_2T_1c_1 + a_{100}T_1T_2c_1c_2 + a_{101}T_2c_2c_3c_4 \\
& + a_{104}T_1T_2c_1c_3 + a_{105}T_1c_1c_3c_4 + a_{106}T_1T_2c_1c_4 + a_{107}T_1T_2T_1c_2 \\
& + a_{108}T_1T_2c_2c_3 + a_{109}T_3T_2T_1c_1 + a_{110}T_3T_2T_1c_2 + a_{111}T_3T_2T_1c_3 \\
& + a_{112}T_3T_2T_1c_4 + a_{113}T_1c_2c_3c_4 - qa_{253}T_3T_2c_1c_2 + qa_{258}T_3T_2c_1c_3 \\
& + qa_{259}T_3T_2c_1c_4 + a_{117}T_1T_2c_2c_4 + a_{118}T_3T_2c_2c_3 + a_{119}T_3T_2c_2c_4 \\
& + a_{120}T_1T_2T_1c_3 + a_{121}T_3T_2c_3c_4 + a_{122}T_1T_2c_3c_4 + a_{123}T_1T_2T_1c_4 \\
& + a_{124}T_1T_2T_1T_3 + a_{127}T_1T_2T_3T_2 + a_{128}T_3c_1c_3c_4 + a_{129}T_1T_3T_2T_1 \\
& + a_{130}T_2T_1T_3T_2 + a_{131}T_2T_1T_3c_1 + a_{132}T_3c_2c_3c_4 + a_{133}T_2T_1T_3c_2 \\
& + a_{134}T_2T_1T_3c_3 + a_{135}T_2T_1T_3c_4 + a_{136}T_1T_3T_2c_1 + a_{137}T_2T_1c_1c_2 \\
& + a_{138}T_2T_1c_1c_3 + a_{139}T_2T_1c_1c_4 + a_{141}T_1T_3T_2c_2 + a_{142}T_2T_1c_2c_3 \\
& + a_{143}T_2T_1c_2c_4 + a_{144}T_1T_3T_2c_3 + a_{145}T_2T_1c_3c_4 + a_{146}T_1T_3T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{147}T_1T_2T_3c_1 + a_{149}T_2T_3T_2T_1 + qa_{301}T_2T_3T_2c_1 + a_{151}T_2T_3T_2c_2 \\
& + a_{152}T_1T_2T_1c_3c_4 + qa_{339}T_2T_3c_1c_3c_4 + a_{154}T_1T_2T_1T_3c_3 + a_{156}T_1T_2T_1T_3c_4 \\
& + a_{157}T_2T_3c_2c_3c_4 + a_{158}T_1T_2c_2c_3c_4 + a_{159}T_1T_2T_1T_3T_2 + a_{160}T_1T_2T_3T_2T_1 \\
& + a_{161}T_1T_2T_3T_2c_1 + a_{162}T_1T_2T_3T_2c_2 + a_{163}T_1T_2T_3T_2c_3 + a_{164}T_1T_2T_3T_2c_4 \\
& - qa_{352}T_2c_1c_2c_3c_4 + a_{166}T_1T_2T_1c_1c_2 + a_{167}T_1T_3T_2T_1c_1 + a_{168}T_1T_3T_2T_1c_2 \\
& + a_{169}T_1T_3T_2T_1c_3 + a_{170}T_1T_3T_2T_1c_4 + a_{171}T_1T_2T_3c_1c_2 + a_{172}T_1T_3T_2c_1c_2 \\
& + a_{173}T_2T_1T_3T_2T_1 + qa_{331}T_2T_1T_3T_2c_1 + a_{175}T_2T_1T_3T_2c_2 + a_{176}T_2T_1T_3T_2c_3 \\
& + a_{177}T_2T_1T_3T_2c_4 + a_{178}T_1T_3T_2c_1c_3 + a_{179}T_2T_1T_3c_1c_2 + a_{180}T_2T_1T_3c_1c_3 \\
& + a_{181}T_3T_2T_1c_1c_2 + a_{182}T_3T_2T_1c_1c_3 + a_{183}T_3T_2T_1c_1c_4 + a_{184}T_2T_1T_3c_1c_4 \\
& + a_{185}T_3T_2T_1c_2c_3 + a_{186}T_3T_2T_1c_2c_4 + a_{187}T_1T_3T_2c_1c_4 + a_{188}T_3T_2T_1c_3c_4 \\
& + a_{189}T_2T_1T_3c_2c_3 + a_{190}T_2T_1T_3c_2c_4 + a_{191}T_1T_2T_3c_1c_3 - qa_{312}T_3T_2c_1c_2c_3 \\
& - qa_{316}T_3T_2c_1c_2c_4 + a_{194}T_2T_1T_3c_3c_4 + qa_{328}T_3T_2c_1c_3c_4 + a_{196}T_1T_3T_2c_2c_3 \\
& + a_{197}T_1T_3T_2c_2c_4 + a_{198}T_1T_2T_3c_1c_4 + a_{199}T_3T_2c_2c_3c_4 + a_{200}T_2T_1c_1c_2c_3 \\
& + a_{201}T_2T_1c_1c_2c_4 + a_{202}T_1T_3T_2c_3c_4 + a_{203}T_2T_1c_1c_3c_4 + a_{204}T_1T_2T_1c_1c_3 \\
& + a_{205}T_1T_2T_3c_2c_3 + a_{206}T_1T_2T_3c_2c_4 + a_{208}T_2T_1c_2c_3c_4 + a_{211}T_1T_2T_1c_1c_4 \\
& + a_{212}T_1T_3c_1c_3c_4 + a_{213}T_1T_2T_3c_3c_4 + a_{214}T_1T_2T_1T_3c_1 + a_{215}T_1T_2T_1c_2c_3 \\
& + a_{216}T_2T_3T_2T_1c_1 + a_{217}T_2T_3T_2T_1c_2 + a_{218}T_2T_3T_2T_1c_3 + a_{219}T_2T_3T_2T_1c_4 \\
& + a_{220}T_1T_3c_2c_3c_4 - qa_{353}T_2T_3T_2c_1c_2 + qa_{310}T_2T_3T_2c_1c_3 + qa_{311}T_2T_3T_2c_1c_4 \\
& + a_{224}T_1T_2T_1c_2c_4 + a_{225}T_2T_3T_2c_2c_3 + a_{226}T_2T_3T_2c_2c_4 + a_{227}T_1T_2c_1c_2c_3 \\
& + a_{228}T_2T_3T_2c_3c_4 + a_{229}T_1T_2c_1c_2c_4 + a_{230}T_1T_2T_1T_3c_2 + a_{231}T_1T_2c_1c_3c_4 \\
& - qa_{351}T_2T_3c_1c_2c_3 - qa_{309}T_2T_3c_1c_2c_4 + a_{234}T_2T_1T_3c_2c_3c_4 \\
& + a_{235}T_1T_2T_3T_2T_1c_4 + a_{236}T_1T_2T_1c_1c_2c_3 + a_{237}T_1T_2T_3T_2c_1c_2 \\
& + a_{238}T_1T_2T_3T_2c_1c_3 + a_{239}T_1T_2T_3T_2c_1c_4 + a_{240}T_1T_2T_1c_1c_2c_4 \\
& + a_{241}T_1T_2T_3T_2c_2c_3 + a_{242}T_2T_1c_1c_2c_3c_4 + a_{243}T_1T_2T_3T_2c_2c_4 \\
& + a_{244}T_1T_2T_1T_3c_1c_2 + a_{245}T_1T_2T_3T_2c_3c_4 + a_{246}T_1T_2T_1c_1c_3c_4 \\
& + a_{247}T_1T_2T_1T_3c_1c_3 + a_{248}T_1T_2T_1T_3c_1c_4 + a_{249}T_3T_2T_1c_1c_2c_3 \\
& + a_{250}T_3T_2T_1c_1c_2c_4 + a_{251}T_1T_2T_3c_1c_2c_3 + a_{252}T_3T_2T_1c_1c_3c_4 \\
& + a_{253}T_1T_3T_2T_1c_1c_2 + a_{254}T_1T_3T_2T_1c_1c_3 + a_{255}T_1T_3T_2T_1c_1c_4 \\
& + a_{256}T_3T_2T_1c_2c_3c_4 + a_{257}T_1T_2T_3c_1c_2c_4 + a_{258}T_1T_3T_2T_1c_2c_3 \\
& + a_{259}T_1T_3T_2T_1c_2c_4 + a_{260}T_1T_2T_1T_3T_2c_1 + a_{261}T_1T_3T_2T_1c_3c_4 \\
& + a_{262}T_2T_3T_2T_1c_1c_2 + a_{263}T_2T_3T_2T_1c_1c_3 - qa_{361}T_3T_2c_1c_2c_3c_4 \\
& + a_{265}T_2T_3T_2T_1c_1c_4 + a_{266}T_1T_2T_3c_1c_3c_4 + a_{267}T_2T_3T_2T_1c_2c_3 \\
& + a_{268}T_2T_3T_2T_1c_2c_4 + a_{269}T_1T_2T_1c_2c_3c_4 + a_{270}T_2T_3T_2T_1c_3c_4 \\
& + a_{271}T_1T_2T_1T_3c_2c_3 + a_{272}T_1T_3T_2c_1c_2c_3 + a_{273}T_1T_3T_2c_1c_2c_4 \\
& - qa_{363}T_2T_3T_2c_1c_2c_3 - qa_{364}T_2T_3T_2c_1c_2c_4 + a_{276}T_1T_2T_1T_3c_2c_4 \\
& + qa_{371}T_2T_3T_2c_1c_3c_4 + a_{278}T_1T_3T_2c_1c_3c_4 + a_{279}T_1T_2T_3c_2c_3c_4 \\
& + a_{280}T_1T_2T_1T_3T_2c_2 + a_{281}T_2T_3T_2c_2c_3c_4 + a_{282}T_2T_1T_3T_2T_1c_1 \\
& + a_{283}T_2T_1T_3T_2T_1c_2 + a_{284}T_2T_1T_3T_2T_1c_3 + a_{285}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - qa_{374}T_2T_1T_3T_2c_1c_2 + qa_{375}T_2T_1T_3T_2c_1c_3
\end{aligned}$$

$$\begin{aligned}
& -qa_{367}T_2T_3c_1c_2c_3c_4 + qa_{358}T_2T_1T_3T_2c_1c_4 + a_{291}T_1T_3T_2c_2c_3c_4 \\
& + a_{292}T_2T_1T_3T_2c_2c_3 + a_{293}T_2T_1T_3T_2c_2c_4 + a_{294}T_1T_2T_1T_3T_2c_3 \\
& + a_{295}T_2T_1T_3T_2c_3c_4 + a_{296}T_1T_2T_1T_3T_2c_4 + a_{297}T_1T_2T_1T_3T_2T_1 \\
& + a_{298}T_1T_2T_3T_2T_1c_1 + a_{299}T_2T_1T_3c_1c_2c_3 + a_{300}T_2T_1T_3c_1c_2c_4 \\
& + a_{301}T_1T_2T_3T_2T_1c_2 + a_{302}T_2T_1T_3c_1c_3c_4 + a_{303}T_1T_2c_1c_2c_3c_4 \\
& + a_{304}T_1T_2T_3T_2T_1c_3 + a_{306}T_1T_2T_3c_1c_2c_3c_4 + a_{307}T_1T_2T_3T_2T_1c_1c_3 \\
& + a_{308}T_1T_2T_3T_2T_1c_1c_4 + a_{309}T_1T_2T_1T_3c_1c_2c_4 + a_{310}T_1T_2T_3T_2T_1c_2c_3 \\
& + a_{311}T_1T_2T_3T_2T_1c_2c_4 + a_{312}T_1T_3T_2T_1c_1c_2c_3 + a_{313}T_2T_1T_3T_2T_1c_1c_2 \\
& + a_{314}T_2T_1T_3T_2T_1c_1c_3 + a_{315}T_2T_1T_3T_2T_1c_1c_4 + a_{316}T_1T_3T_2T_1c_1c_2c_4 \\
& + a_{317}T_2T_1T_3T_2T_1c_2c_3 + a_{318}T_2T_1T_3T_2T_1c_2c_4 + a_{319}T_1T_2T_1T_3T_2c_1c_3 \\
& + a_{320}T_2T_1T_3T_2T_1c_3c_4 + a_{321}T_1T_3T_2T_1c_1c_3c_4 + a_{322}T_1T_2T_3T_2T_1c_3c_4 \\
& + a_{323}T_1T_2T_1T_3c_1c_3c_4 - qa_{382}T_2T_1T_3T_2c_1c_2c_3 - qa_{380}T_2T_1T_3T_2c_1c_2c_4 \\
& + a_{326}T_1T_2T_1T_3T_2c_1c_4 + qa_{379}T_2T_1T_3T_2c_1c_3c_4 + a_{328}T_1T_3T_2T_1c_2c_3c_4 \\
& + a_{329}T_2T_3T_2T_1c_1c_2c_3 + a_{330}T_2T_3T_2T_1c_1c_2c_4 + a_{331}T_1T_2T_1T_3T_2T_1c_2 \\
& + a_{332}T_2T_3T_2T_1c_1c_3c_4 + a_{333}T_1T_2T_3T_2c_1c_2c_3 + a_{334}T_2T_1T_3T_2c_2c_3c_4 \\
& + a_{335}T_1T_2T_3T_2c_1c_2c_4 + a_{336}T_2T_3T_2T_1c_2c_3c_4 + a_{337}T_1T_2T_1T_3T_2c_2c_3 \\
& + a_{338}T_1T_2T_3T_2c_1c_3c_4 + a_{339}T_1T_2T_1T_3c_2c_3c_4 + a_{340}T_1T_2T_1T_3T_2c_2c_4 \\
& + a_{341}T_1T_3T_2c_1c_2c_3c_4 + a_{342}T_1T_2T_1T_3T_2T_1c_3 + a_{343}T_2T_1T_3c_1c_2c_3c_4 \\
& - qa_{381}T_2T_3T_2c_1c_2c_3c_4 + a_{345}T_3T_2T_1c_1c_2c_3c_4 + a_{346}T_1T_2T_3T_2c_2c_3c_4 \\
& + a_{347}T_1T_2T_1T_3T_2c_3c_4 + a_{348}T_1T_2T_1T_3T_2T_1c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_1 \\
& + a_{350}T_1T_2T_1T_3T_2c_1c_2 + a_{351}T_1T_2T_1T_3c_1c_2c_3 + a_{352}T_1T_2T_1c_1c_2c_3c_4 \\
& + a_{353}T_1T_2T_3T_2T_1c_1c_2 + a_{354}T_2T_1T_3T_2T_1c_1c_2c_4 + a_{355}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& + a_{356}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{357}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{358}T_1T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{359}T_1T_2T_1T_3T_2c_1c_3c_4 + a_{360}T_2T_1T_3T_2T_1c_2c_3c_4 + a_{361}T_1T_3T_2T_1c_1c_2c_3c_4 \\
& + a_{362}T_1T_2T_3T_2c_1c_2c_3c_4 + a_{363}T_1T_2T_3T_2T_1c_1c_2c_3 + a_{364}T_1T_2T_3T_2T_1c_1c_2c_4 \\
& + a_{365}T_1T_2T_1T_3T_2T_1c_1c_3 + a_{366}T_1T_2T_3T_2T_1c_1c_3c_4 + a_{367}T_1T_2T_1T_3c_1c_2c_3c_4 \\
& - qa_{384}T_2T_1T_3T_2c_1c_2c_3c_4 + a_{369}T_1T_2T_1T_3T_2T_1c_3c_4 + a_{370}T_1T_2T_1T_3T_2T_1c_1c_4 \\
& + a_{371}T_1T_2T_3T_2T_1c_2c_3c_4 + a_{372}T_2T_3T_2T_1c_1c_2c_3c_4 + a_{373}T_1T_2T_1T_3T_2c_2c_3c_4 \\
& + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 + a_{375}T_1T_2T_1T_3T_2T_1c_2c_3 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 \\
& + a_{377}T_1T_2T_1T_3T_2T_1c_1c_3c_4 + a_{378}T_1T_2T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{379}T_1T_2T_1T_3T_2T_1c_2c_3c_4 + a_{380}T_1T_2T_1T_3T_2T_1c_1c_2c_4 \\
& + a_{381}T_1T_2T_3T_2T_1c_1c_2c_3c_4 + a_{382}T_1T_2T_1T_3T_2T_1c_1c_2c_3 \\
& + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4 + a_{384}T_1T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 3, Calculating $T_2z = zT_2$, We got 384 equations .

Totally 128 solutions, dup count: 0.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$\begin{aligned}
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= qa_{107} \\
a_{35} &= qa_{230} \\
a_{40} &= qa_{215} \\
a_{41} &= qa_{215} \\
a_{42} &= qa_{224} \\
a_{52} &= qa_{230} \\
a_{83} &= qa_{258} \\
a_{84} &= qa_{271} \\
a_{85} &= qa_{276} \\
a_{94} &= 0 \\
a_{95} &= qa_{269} \\
a_{97} &= qa_{269} \\
a_{114} &= qa_{271} \\
a_{115} &= qa_{258} \\
a_{116} &= qa_{276} \\
a_{150} &= qa_{301} \\
a_{153} &= qa_{339} \\
a_{165} &= 0 \\
a_{174} &= qa_{331} \\
a_{192} &= qa_{351} \\
a_{193} &= qa_{339} \\
a_{195} &= qa_{328} \\
a_{221} &= -qa_{353} \\
a_{222} &= 0 \\
a_{223} &= qa_{311} \\
a_{232} &= -qa_{351}
\end{aligned}$$

$$\begin{aligned}
a_{233} &= qa_{328} \\
a_{264} &= qa_{367} \\
a_{274} &= 0 \\
a_{275} &= -qa_{364} \\
a_{277} &= 0 \\
a_{287} &= -qa_{374} \\
a_{288} &= 0 \\
a_{289} &= -qa_{367} \\
a_{290} &= qa_{358} \\
a_{324} &= 0 \\
a_{325} &= -qa_{380} \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0 \\
a_{19} &= qa_{80} \\
a_{24} &= qa_{215} - q^2a_{215} \\
a_{26} &= qa_{120} \\
a_{168} &= a_{230} \\
a_{166} &= -a_{215} \\
a_{43} &= qa_{176} \\
a_{61} &= -qa_{225} \\
a_{62} &= qa_{228} \\
a_{65} &= -qa_{215}
\end{aligned}$$

$$\begin{aligned}
a_{66} &= qa_{152} \\
a_{71} &= qa_{269} - q^2 a_{269} \\
a_{63} &= a_{77} \\
a_{244} &= -a_{258} \\
a_{253} &= -a_{271} \\
a_{259} &= a_{276} \\
a_{89} &= qa_{294} \\
a_{91} &= -qa_{292} \\
a_{92} &= qa_{295} \\
a_{240} &= -a_{269} \\
a_{110} &= qa_{284} \\
a_{113} &= -qa_{269} \\
a_{131} &= a_{136} \\
a_{132} &= -qa_{281} \\
a_{104} &= a_{137} \\
a_{100} &= a_{138} \\
a_{106} &= a_{139} \\
a_{316} &= -a_{339} \\
a_{171} &= qa_{319} \\
a_{178} &= a_{179} \\
a_{172} &= a_{180} \\
a_{181} &= qa_{314} \\
a_{184} &= a_{187} \\
a_{185} &= -qa_{317} \\
a_{186} &= qa_{320} \\
a_{200} &= -a_{227} \\
a_{201} &= a_{231} \\
a_{203} &= a_{229} \\
a_{205} &= -qa_{337} \\
a_{206} &= qa_{347} \\
a_{220} &= -qa_{334} \\
a_{312} &= -a_{351} \\
a_{309} &= -a_{328} \\
a_{242} &= -a_{303} \\
a_{249} &= -qa_{376} \\
a_{250} &= qa_{356} \\
a_{251} &= -qa_{355} \\
a_{256} &= -qa_{360} \\
a_{257} &= qa_{359}
\end{aligned}$$

$$\begin{aligned}
a_{279} &= -qa_{373} \\
a_{361} &= -a_{367} \\
a_{272} &= -a_{299} \\
a_{278} &= a_{300} \\
a_{273} &= a_{302} \\
a_{306} &= -qa_{378} \\
a_{341} &= -a_{343} \\
a_{345} &= -qa_{383}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_4T_3 + a_5c_1 + a_6c_2 + a_7c_3 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{11}T_2T_3 + qa_{107}T_2c_1 + a_{13}T_2c_2 + a_{14}T_2c_3 + a_{15}T_2c_4 + a_{16}T_1T_3 + a_{17}T_3T_2 \\
& + a_{18}T_3c_1 + qa_{80}T_3c_2 + a_{20}T_3c_3 + a_{21}T_3c_4 + a_{22}T_1c_1 + qa_{215}c_1c_3 - q^2a_{215}c_1c_3 \\
& + a_{25}c_1c_4 + qa_{120}T_1c_2 + a_{28}c_2c_4 + a_{29}T_1c_3 + a_{30}c_3c_4 + a_{31}T_1c_4 + a_{32}T_2T_1c_4 \\
& + a_{33}T_1T_3T_2 + a_{34}T_2T_3T_2 + qa_{230}T_2T_3c_1 + a_{36}T_2T_3c_2 + a_{37}T_2T_3c_3 \\
& + a_{38}T_2T_3c_4 + a_{39}T_1T_3c_1 + qa_{215}T_2c_1c_2 + qa_{215}T_2c_1c_3 + qa_{224}T_2c_1c_4 \\
& + qa_{176}T_1T_3c_2 + a_{45}T_2c_2c_4 + a_{46}T_1T_3c_3 + a_{47}T_2c_3c_4 + a_{48}T_1T_3c_4 \\
& + a_{49}T_1T_2T_3 + a_{51}T_3T_2T_1 + qa_{230}T_3T_2c_1 + a_{53}T_3T_2c_2 + a_{54}T_3T_2c_3 \\
& + a_{55}T_3T_2c_4 + a_{56}T_1c_1c_3 + a_{58}T_3c_1c_3 + a_{59}T_3c_1c_4 + a_{60}T_1c_1c_4 \\
& - qa_{225}T_3c_2c_3 + qa_{228}T_3c_2c_4 + a_{77}T_1T_2c_1 + a_{64}T_3c_3c_4 - qa_{215}T_1c_2c_3 \\
& + qa_{152}T_1c_2c_4 + a_{67}T_1T_2c_2 + a_{70}T_1c_3c_4 + qa_{269}c_1c_3c_4 - q^2a_{269}c_1c_3c_4 \\
& + a_{72}T_1T_2c_3 + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 + a_{76}T_2T_1T_3 + a_{77}T_2T_1c_1 \\
& + a_{78}T_2T_1c_2 + a_{79}T_2T_1c_3 + a_{80}T_2T_3T_2c_3 + a_{81}T_2T_3T_2c_4 + a_{82}T_1T_3c_1c_3 \\
& + qa_{258}T_2T_3c_1c_2 + qa_{271}T_2T_3c_1c_3 + qa_{276}T_2T_3c_1c_4 + a_{86}T_1T_3c_1c_4 \\
& + a_{87}T_2T_3c_2c_3 + a_{88}T_2T_3c_2c_4 + qa_{294}T_1T_2T_3c_2 + a_{90}T_2T_3c_3c_4 \\
& - qa_{292}T_1T_3c_2c_3 + qa_{295}T_1T_3c_2c_4 + a_{93}T_1T_2T_3c_3 + qa_{269}T_2c_1c_2c_4 \\
& + a_{96}T_1T_3c_3c_4 + qa_{269}T_2c_1c_3c_4 + a_{98}T_1T_2T_3c_4 + a_{99}T_1T_2T_1c_1 \\
& + a_{138}T_1T_2c_1c_2 + a_{137}T_1T_2c_1c_3 + a_{105}T_1c_1c_3c_4 + a_{139}T_1T_2c_1c_4 \\
& + a_{107}T_1T_2T_1c_2 + a_{108}T_1T_2c_2c_3 + a_{109}T_3T_2T_1c_1 + qa_{284}T_3T_2T_1c_2 \\
& + a_{111}T_3T_2T_1c_3 + a_{112}T_3T_2T_1c_4 - qa_{269}T_1c_2c_3c_4 + qa_{271}T_3T_2c_1c_2 \\
& + qa_{258}T_3T_2c_1c_3 + qa_{276}T_3T_2c_1c_4 + a_{117}T_1T_2c_2c_4 + a_{118}T_3T_2c_2c_3 \\
& + a_{119}T_3T_2c_2c_4 + a_{120}T_1T_2T_1c_3 + a_{121}T_3T_2c_3c_4 + a_{122}T_1T_2c_3c_4 \\
& + a_{123}T_1T_2T_1c_4 + a_{124}T_1T_2T_1T_3 + a_{127}T_1T_2T_3T_2 + a_{128}T_3c_1c_3c_4 \\
& + a_{129}T_1T_3T_2T_1 + a_{130}T_2T_1T_3T_2 + a_{136}T_2T_1T_3c_1 - qa_{281}T_3c_2c_3c_4 \\
& + a_{133}T_2T_1T_3c_2 + a_{134}T_2T_1T_3c_3 + a_{135}T_2T_1T_3c_4 + a_{136}T_1T_3T_2c_1 \\
& + a_{137}T_2T_1c_1c_2 + a_{138}T_2T_1c_1c_3 + a_{139}T_2T_1c_1c_4 + a_{141}T_1T_3T_2c_2 \\
& + a_{142}T_2T_1c_2c_3 + a_{143}T_2T_1c_2c_4 + a_{144}T_1T_3T_2c_3 + a_{145}T_2T_1c_3c_4 \\
& + a_{146}T_1T_3T_2c_4 + a_{147}T_1T_2T_3c_1 + a_{149}T_2T_3T_2T_1 + qa_{301}T_2T_3T_2c_1
\end{aligned}$$

$$\begin{aligned}
& + a_{151}T_2T_3T_2c_2 + a_{152}T_1T_2T_1c_3c_4 + qa_{339}T_2T_3c_1c_3c_4 + a_{154}T_1T_2T_1T_3c_3 \\
& + a_{156}T_1T_2T_1T_3c_4 + a_{157}T_2T_3c_2c_3c_4 + a_{158}T_1T_2c_2c_3c_4 + a_{159}T_1T_2T_1T_3T_2 \\
& + a_{160}T_1T_2T_3T_2T_1 + a_{161}T_1T_2T_3T_2c_1 + a_{162}T_1T_2T_3T_2c_2 + a_{163}T_1T_2T_3T_2c_3 \\
& + a_{164}T_1T_2T_3T_2c_4 - a_{215}T_1T_2T_1c_1c_2 + a_{167}T_1T_3T_2T_1c_1 + a_{230}T_1T_3T_2T_1c_2 \\
& + a_{169}T_1T_3T_2T_1c_3 + a_{170}T_1T_3T_2T_1c_4 + qa_{319}T_1T_2T_3c_1c_2 + a_{180}T_1T_3T_2c_1c_2 \\
& + a_{173}T_2T_1T_3T_2T_1 + qa_{331}T_2T_1T_3T_2c_1 + a_{175}T_2T_1T_3T_2c_2 + a_{176}T_2T_1T_3T_2c_3 \\
& + a_{177}T_2T_1T_3T_2c_4 + a_{179}T_1T_3T_2c_1c_3 + a_{179}T_2T_1T_3c_1c_2 + a_{180}T_2T_1T_3c_1c_3 \\
& + qa_{314}T_3T_2T_1c_1c_2 + a_{182}T_3T_2T_1c_1c_3 + a_{183}T_3T_2T_1c_1c_4 + a_{187}T_2T_1T_3c_1c_4 \\
& - qa_{317}T_3T_2T_1c_2c_3 + qa_{320}T_3T_2T_1c_2c_4 + a_{187}T_1T_3T_2c_1c_4 + a_{188}T_3T_2T_1c_3c_4 \\
& + a_{189}T_2T_1T_3c_2c_3 + a_{190}T_2T_1T_3c_2c_4 + a_{191}T_1T_2T_3c_1c_3 + qa_{351}T_3T_2c_1c_2c_3 \\
& + qa_{339}T_3T_2c_1c_2c_4 + a_{194}T_2T_1T_3c_3c_4 + qa_{328}T_3T_2c_1c_3c_4 + a_{196}T_1T_3T_2c_2c_3 \\
& + a_{197}T_1T_3T_2c_2c_4 + a_{198}T_1T_2T_3c_1c_4 + a_{199}T_3T_2c_2c_3c_4 - a_{227}T_2T_1c_1c_2c_3 \\
& + a_{231}T_2T_1c_1c_2c_4 + a_{202}T_1T_3T_2c_3c_4 + a_{229}T_2T_1c_1c_3c_4 - qa_{337}T_1T_2T_3c_2c_3 \\
& + qa_{347}T_1T_2T_3c_2c_4 + a_{208}T_2T_1c_2c_3c_4 + a_{211}T_1T_2T_1c_1c_4 + a_{212}T_1T_3c_1c_3c_4 \\
& + a_{213}T_1T_2T_3c_3c_4 + a_{214}T_1T_2T_1T_3c_1 + a_{215}T_1T_2T_1c_2c_3 + a_{216}T_2T_3T_2T_1c_1 \\
& + a_{217}T_2T_3T_2T_1c_2 + a_{218}T_2T_3T_2T_1c_3 + a_{219}T_2T_3T_2T_1c_4 - qa_{334}T_1T_3c_2c_3c_4 \\
& - qa_{353}T_2T_3T_2c_1c_2 + qa_{311}T_2T_3T_2c_1c_4 + a_{224}T_1T_2T_1c_2c_4 + a_{225}T_2T_3T_2c_2c_3 \\
& + a_{226}T_2T_3T_2c_2c_4 + a_{227}T_1T_2c_1c_2c_3 + a_{228}T_2T_3T_2c_3c_4 + a_{229}T_1T_2c_1c_2c_4 \\
& + a_{230}T_1T_2T_1T_3c_2 + a_{231}T_1T_2c_1c_3c_4 - qa_{351}T_2T_3c_1c_2c_3 + qa_{328}T_2T_3c_1c_2c_4 \\
& + a_{234}T_2T_1T_3c_2c_3c_4 + a_{235}T_1T_2T_3T_2T_1c_4 + a_{237}T_1T_2T_3T_2c_1c_2 \\
& + a_{238}T_1T_2T_3T_2c_1c_3 + a_{239}T_1T_2T_3T_2c_1c_4 - a_{269}T_1T_2T_1c_1c_2c_4 \\
& + a_{241}T_1T_2T_3T_2c_2c_3 - a_{303}T_2T_1c_1c_2c_3c_4 + a_{243}T_1T_2T_3T_2c_2c_4 \\
& - a_{258}T_1T_2T_1T_3c_1c_2 + a_{245}T_1T_2T_3T_2c_3c_4 + a_{247}T_1T_2T_1T_3c_1c_3 \\
& + a_{248}T_1T_2T_1T_3c_1c_4 - qa_{376}T_3T_2T_1c_1c_2c_3 + qa_{356}T_3T_2T_1c_1c_2c_4 \\
& - qa_{355}T_1T_2T_3c_1c_2c_3 + a_{252}T_3T_2T_1c_1c_3c_4 - a_{271}T_1T_3T_2T_1c_1c_2 \\
& + a_{254}T_1T_3T_2T_1c_1c_3 + a_{255}T_1T_3T_2T_1c_1c_4 - qa_{360}T_3T_2T_1c_2c_3c_4 \\
& + qa_{359}T_1T_2T_3c_1c_2c_4 + a_{258}T_1T_3T_2T_1c_2c_3 + a_{276}T_1T_3T_2T_1c_2c_4 \\
& + a_{260}T_1T_2T_1T_3T_2c_1 + a_{261}T_1T_3T_2T_1c_3c_4 + a_{262}T_2T_3T_2T_1c_1c_2 \\
& + a_{263}T_2T_3T_2T_1c_1c_3 + qa_{367}T_3T_2c_1c_2c_3c_4 + a_{265}T_2T_3T_2T_1c_1c_4 \\
& + a_{266}T_1T_2T_3c_1c_3c_4 + a_{267}T_2T_3T_2T_1c_2c_3 + a_{268}T_2T_3T_2T_1c_2c_4 \\
& + a_{269}T_1T_2T_1c_2c_3c_4 + a_{270}T_2T_3T_2T_1c_3c_4 + a_{271}T_1T_2T_1T_3c_2c_3 \\
& - a_{299}T_1T_3T_2c_1c_2c_3 + a_{302}T_1T_3T_2c_1c_2c_4 - qa_{364}T_2T_3T_2c_1c_2c_4 \\
& + a_{276}T_1T_2T_1T_3c_2c_4 + a_{300}T_1T_3T_2c_1c_3c_4 - qa_{373}T_1T_2T_3c_2c_3c_4 \\
& + a_{280}T_1T_2T_1T_3T_2c_2 + a_{281}T_2T_3T_2c_2c_3c_4 + a_{282}T_2T_1T_3T_2T_1c_1 \\
& + a_{283}T_2T_1T_3T_2T_1c_2 + a_{284}T_2T_1T_3T_2T_1c_3 + a_{285}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - qa_{374}T_2T_1T_3T_2c_1c_2 - qa_{367}T_2T_3c_1c_2c_3c_4 \\
& + qa_{358}T_2T_1T_3T_2c_1c_4 + a_{291}T_1T_3T_2c_2c_3c_4 + a_{292}T_2T_1T_3T_2c_2c_3 \\
& + a_{293}T_2T_1T_3T_2c_2c_4 + a_{294}T_1T_2T_1T_3T_2c_3 + a_{295}T_2T_1T_3T_2c_3c_4 \\
& + a_{296}T_1T_2T_1T_3T_2c_4 + a_{297}T_1T_2T_1T_3T_2T_1 + a_{298}T_1T_2T_3T_2T_1c_1
\end{aligned}$$

$$\begin{aligned}
& + a_{299}T_2T_1T_3c_1c_2c_3 + a_{300}T_2T_1T_3c_1c_2c_4 + a_{301}T_1T_2T_3T_2T_1c_2 \\
& + a_{302}T_2T_1T_3c_1c_3c_4 + a_{303}T_1T_2c_1c_2c_3c_4 + a_{304}T_1T_2T_3T_2T_1c_3 \\
& - qa_{378}T_1T_2T_3c_1c_2c_3c_4 + a_{307}T_1T_2T_3T_2T_1c_1c_3 + a_{308}T_1T_2T_3T_2T_1c_1c_4 \\
& - a_{328}T_1T_2T_1T_3c_1c_2c_4 + a_{311}T_1T_2T_3T_2T_1c_2c_4 - a_{351}T_1T_3T_2T_1c_1c_2c_3 \\
& + a_{313}T_2T_1T_3T_2T_1c_1c_2 + a_{314}T_2T_1T_3T_2T_1c_1c_3 + a_{315}T_2T_1T_3T_2T_1c_1c_4 \\
& - a_{339}T_1T_3T_2T_1c_1c_2c_4 + a_{317}T_2T_1T_3T_2T_1c_2c_3 + a_{318}T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{319}T_1T_2T_1T_3T_2c_1c_3 + a_{320}T_2T_1T_3T_2T_1c_3c_4 + a_{321}T_1T_3T_2T_1c_1c_3c_4 \\
& + a_{322}T_1T_2T_3T_2T_1c_3c_4 + a_{323}T_1T_2T_1T_3c_1c_3c_4 - qa_{380}T_2T_1T_3T_2c_1c_2c_4 \\
& + a_{326}T_1T_2T_1T_3T_2c_1c_4 + a_{328}T_1T_3T_2T_1c_2c_3c_4 + a_{329}T_2T_3T_2T_1c_1c_2c_3 \\
& + a_{330}T_2T_3T_2T_1c_1c_2c_4 + a_{331}T_1T_2T_1T_3T_2T_1c_2 + a_{332}T_2T_3T_2T_1c_1c_3c_4 \\
& + a_{333}T_1T_2T_3T_2c_1c_2c_3 + a_{334}T_2T_1T_3T_2c_2c_3c_4 + a_{335}T_1T_2T_3T_2c_1c_2c_4 \\
& + a_{336}T_2T_3T_2T_1c_2c_3c_4 + a_{337}T_1T_2T_1T_3T_2c_2c_3 + a_{338}T_1T_2T_3T_2c_1c_3c_4 \\
& + a_{339}T_1T_2T_1T_3c_2c_3c_4 + a_{340}T_1T_2T_1T_3T_2c_2c_4 - a_{343}T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{342}T_1T_2T_1T_3T_2T_1c_3 + a_{343}T_2T_1T_3c_1c_2c_3c_4 - qa_{383}T_3T_2T_1c_1c_2c_3c_4 \\
& + a_{346}T_1T_2T_3T_2c_2c_3c_4 + a_{347}T_1T_2T_1T_3T_2c_3c_4 + a_{348}T_1T_2T_1T_3T_2T_1c_4 \\
& + a_{349}T_1T_2T_1T_3T_2T_1c_1 + a_{350}T_1T_2T_1T_3T_2c_1c_2 + a_{351}T_1T_2T_1T_3c_1c_2c_3 \\
& + a_{353}T_1T_2T_3T_2T_1c_1c_2 + a_{354}T_2T_1T_3T_2T_1c_1c_2c_4 + a_{355}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& + a_{356}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{357}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{358}T_1T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{359}T_1T_2T_1T_3T_2c_1c_3c_4 + a_{360}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{367}T_1T_3T_2T_1c_1c_2c_3c_4 \\
& + a_{362}T_1T_2T_3T_2c_1c_2c_3c_4 + a_{364}T_1T_2T_3T_2T_1c_1c_2c_4 + a_{365}T_1T_2T_1T_3T_2T_1c_1c_3 \\
& + a_{366}T_1T_2T_3T_2T_1c_1c_3c_4 + a_{367}T_1T_2T_1T_3c_1c_2c_3c_4 + a_{369}T_1T_2T_1T_3T_2T_1c_3c_4 \\
& + a_{370}T_1T_2T_1T_3T_2T_1c_1c_4 + a_{372}T_2T_3T_2T_1c_1c_2c_3c_4 + a_{373}T_1T_2T_1T_3T_2c_2c_3c_4 \\
& + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 + a_{377}T_1T_2T_1T_3T_2T_1c_1c_3c_4 \\
& + a_{378}T_1T_2T_1T_3T_2c_1c_2c_3c_4 + a_{380}T_1T_2T_1T_3T_2T_1c_1c_2c_4 \\
& + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 4, Calculating $T_3z = zT_3$, We got 356 equations .

Totally 193 solutions, dup count: 0.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$\begin{aligned}
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= qa_{107} \\
a_{35} &= qa_{230} \\
a_{40} &= q^2 a_{311} \\
a_{41} &= q^2 a_{311} \\
a_{42} &= qa_{224} \\
a_{52} &= qa_{230} \\
a_{83} &= qa_{271} \\
a_{84} &= qa_{271} \\
a_{85} &= qa_{276} \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= qa_{271} \\
a_{115} &= qa_{271} \\
a_{116} &= qa_{276} \\
a_{150} &= qa_{301} \\
a_{153} &= -qa_{351} \\
a_{165} &= 0 \\
a_{174} &= qa_{331} \\
a_{192} &= qa_{351} \\
a_{193} &= -qa_{351} \\
a_{195} &= qa_{351} \\
a_{221} &= -qa_{353} \\
a_{222} &= 0 \\
a_{223} &= qa_{311} \\
a_{232} &= -qa_{351} \\
a_{233} &= qa_{351} \\
a_{264} &= qa_{367} \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= -qa_{374} \\
a_{288} &= 0 \\
a_{289} &= -qa_{367}
\end{aligned}$$

$$\begin{aligned}
a_{290} &= qa_{358} \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0 \\
a_{19} &= qa_{80} \\
a_{24} &= q^2 a_{311} - qq^2 a_{311} \\
a_{26} &= q^2 a_{235} \\
a_{168} &= a_{230} \\
a_{166} &= -qa_{311} \\
a_{43} &= q^2 a_{348} \\
a_{61} &= qa_{228} \\
a_{62} &= qa_{228} \\
a_{65} &= -q^2 a_{311} \\
a_{66} &= -q^2 a_{322} \\
a_{71} &= 0 \\
a_{63} &= a_{77} \\
a_{244} &= -a_{271} \\
a_{253} &= -a_{271} \\
a_{259} &= a_{276} \\
a_{89} &= qa_{294} \\
a_{91} &= -q^2 a_{358}
\end{aligned}$$

$$a_{92} = -q^2 a_{369}$$

$$a_{240} = 0$$

$$a_{110} = qa_{284}$$

$$a_{113} = 0$$

$$a_{131} = a_{136}$$

$$a_{132} = 0$$

$$a_{104} = qa_{239}$$

$$a_{100} = qa_{265}$$

$$a_{106} = a_{139}$$

$$a_{316} = a_{351}$$

$$a_{171} = qa_{319}$$

$$a_{178} = a_{179}$$

$$a_{172} = a_{180}$$

$$a_{181} = qa_{326}$$

$$a_{184} = a_{187}$$

$$a_{185} = -qa_{317}$$

$$a_{186} = qa_{320}$$

$$a_{200} = qa_{330}$$

$$a_{201} = -qa_{338}$$

$$a_{203} = -qa_{332}$$

$$a_{205} = -qa_{337}$$

$$a_{206} = qa_{347}$$

$$a_{220} = 0$$

$$a_{312} = -a_{351}$$

$$a_{309} = -a_{351}$$

$$a_{242} = -qa_{372}$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{359}$$

$$a_{251} = -qa_{355}$$

$$a_{256} = qa_{373}$$

$$a_{257} = qa_{359}$$

$$a_{279} = -qa_{373}$$

$$a_{361} = -a_{367}$$

$$a_{272} = -a_{299}$$

$$a_{278} = a_{300}$$

$$a_{273} = a_{302}$$

$$a_{306} = qa_{383}$$

$$a_{341} = -a_{343}$$

$$a_{345} = -qa_{383}$$

$$\begin{aligned}
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= qa_{81} \\
a_{28} &= qa_{228} - q^2 a_{228} \\
a_{47} &= -qa_{228} \\
a_{36} &= a_{53} \\
a_{225} &= -a_{228} \\
a_{72} &= qa_{164} \\
a_{79} &= qa_{219} \\
a_{258} &= a_{271} \\
a_{137} &= qa_{239} \\
a_{108} &= qa_{243} \\
a_{88} &= a_{118} \\
a_{87} &= a_{119} \\
a_{120} &= qa_{235} \\
a_{122} &= -qa_{245} \\
a_{138} &= qa_{265} \\
a_{142} &= qa_{268} \\
a_{145} &= -qa_{270} \\
a_{152} &= -qa_{322} \\
a_{328} &= a_{351} \\
a_{158} &= -qa_{346} \\
a_{167} &= a_{214} \\
a_{176} &= qa_{348}
\end{aligned}$$

$$\begin{aligned}
a_{339} &= -a_{351} \\
a_{157} &= -a_{199} \\
a_{227} &= -qa_{330} \\
a_{229} &= -qa_{332} \\
a_{208} &= -qa_{336} \\
a_{215} &= qa_{311} \\
a_{227} &= qa_{335} \\
a_{231} &= -qa_{338} \\
a_{303} &= qa_{372} \\
a_{248} &= a_{254} \\
a_{247} &= a_{255} \\
a_{280} &= a_{283} \\
a_{260} &= a_{282} \\
a_{292} &= qa_{358} \\
a_{295} &= -qa_{369} \\
a_{303} &= -qa_{362} \\
a_{313} &= a_{350} \\
a_{314} &= a_{326} \\
a_{315} &= a_{319} \\
a_{321} &= -a_{323} \\
a_{328} &= -a_{339} \\
a_{354} &= a_{355} \\
a_{356} &= -a_{359} \\
a_{360} &= -a_{373} \\
a_{357} &= a_{376} \\
a_{378} &= -a_{383}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_4T_3 + a_5c_1 + a_6c_2 + a_7c_3 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{11}T_2T_3 + qa_{107}T_2c_1 + a_{13}T_2c_2 + qa_{81}T_2c_3 + a_{15}T_2c_4 + a_{16}T_1T_3 + a_{17}T_3T_2 \\
& + a_{18}T_3c_1 + qa_{80}T_3c_2 + a_{20}T_3c_3 + a_{21}T_3c_4 + a_{22}T_1c_1 + q^2a_{311}c_1c_3 \\
& - qq^2a_{311}c_1c_3 + a_{25}c_1c_4 + q^2a_{235}T_1c_2 + qa_{228}c_2c_4 - q^2a_{228}c_2c_4 \\
& + a_{29}T_1c_3 + a_{31}T_1c_4 + a_{32}T_2T_1c_4 + a_{33}T_1T_3T_2 + a_{34}T_2T_3T_2 + qa_{230}T_2T_3c_1 \\
& + a_{53}T_2T_3c_2 + a_{37}T_2T_3c_3 + a_{38}T_2T_3c_4 + a_{39}T_1T_3c_1 + q^2a_{311}T_2c_1c_2 \\
& + q^2a_{311}T_2c_1c_3 + qa_{224}T_2c_1c_4 + q^2a_{348}T_1T_3c_2 + a_{45}T_2c_2c_4 + a_{46}T_1T_3c_3 \\
& - qa_{228}T_2c_3c_4 + a_{48}T_1T_3c_4 + a_{49}T_1T_2T_3 + a_{51}T_3T_2T_1 + qa_{230}T_3T_2c_1 \\
& + a_{53}T_3T_2c_2 + a_{54}T_3T_2c_3 + a_{55}T_3T_2c_4 + a_{56}T_1c_1c_3 + a_{58}T_3c_1c_3 \\
& + a_{59}T_3c_1c_4 + a_{60}T_1c_1c_4 + qa_{228}T_3c_2c_3 + qa_{228}T_3c_2c_4 + a_{77}T_1T_2c_1
\end{aligned}$$

$$\begin{aligned}
& -q^2 a_{311} T_1 c_2 c_3 - q^2 a_{322} T_1 c_2 c_4 + a_{67} T_1 T_2 c_2 + q a_{164} T_1 T_2 c_3 + a_{73} T_1 T_2 c_4 \\
& + a_{74} T_1 T_2 T_1 + a_{76} T_2 T_1 T_3 + a_{77} T_2 T_1 c_1 + a_{78} T_2 T_1 c_2 + q a_{219} T_2 T_1 c_3 \\
& + a_{80} T_2 T_3 T_2 c_3 + a_{81} T_2 T_3 T_2 c_4 + a_{82} T_1 T_3 c_1 c_3 + q a_{271} T_2 T_3 c_1 c_2 \\
& + q a_{271} T_2 T_3 c_1 c_3 + q a_{276} T_2 T_3 c_1 c_4 + a_{86} T_1 T_3 c_1 c_4 + a_{119} T_2 T_3 c_2 c_3 \\
& + a_{118} T_2 T_3 c_2 c_4 + q a_{294} T_1 T_2 T_3 c_2 + a_{90} T_2 T_3 c_3 c_4 - q^2 a_{358} T_1 T_3 c_2 c_3 \\
& - q^2 a_{369} T_1 T_3 c_2 c_4 + a_{93} T_1 T_2 T_3 c_3 + a_{98} T_1 T_2 T_3 c_4 + a_{99} T_1 T_2 T_1 c_1 \\
& + q a_{265} T_1 T_2 c_1 c_2 + q a_{239} T_1 T_2 c_1 c_3 + a_{139} T_1 T_2 c_1 c_4 + a_{107} T_1 T_2 T_1 c_2 \\
& + q a_{243} T_1 T_2 c_2 c_3 + a_{109} T_3 T_2 T_1 c_1 + q a_{284} T_3 T_2 T_1 c_2 + a_{111} T_3 T_2 T_1 c_3 \\
& + a_{112} T_3 T_2 T_1 c_4 + q a_{271} T_3 T_2 c_1 c_2 + q a_{271} T_3 T_2 c_1 c_3 + q a_{276} T_3 T_2 c_1 c_4 \\
& + a_{117} T_1 T_2 c_2 c_4 + a_{118} T_3 T_2 c_2 c_3 + a_{119} T_3 T_2 c_2 c_4 + q a_{235} T_1 T_2 T_1 c_3 \\
& + a_{121} T_3 T_2 c_3 c_4 - q a_{245} T_1 T_2 c_3 c_4 + a_{123} T_1 T_2 T_1 c_4 + a_{124} T_1 T_2 T_1 T_3 \\
& + a_{127} T_1 T_2 T_3 T_2 + a_{129} T_1 T_3 T_2 T_1 + a_{130} T_2 T_1 T_3 T_2 + a_{136} T_2 T_1 T_3 c_1 \\
& + a_{133} T_2 T_1 T_3 c_2 + a_{134} T_2 T_1 T_3 c_3 + a_{135} T_2 T_1 T_3 c_4 + a_{136} T_1 T_3 T_2 c_1 \\
& + q a_{239} T_2 T_1 c_1 c_2 + q a_{265} T_2 T_1 c_1 c_3 + a_{139} T_2 T_1 c_1 c_4 + a_{141} T_1 T_3 T_2 c_2 \\
& + q a_{268} T_2 T_1 c_2 c_3 + a_{143} T_2 T_1 c_2 c_4 + a_{144} T_1 T_3 T_2 c_3 - q a_{270} T_2 T_1 c_3 c_4 \\
& + a_{146} T_1 T_3 T_2 c_4 + a_{147} T_1 T_2 T_3 c_1 + a_{149} T_2 T_3 T_2 T_1 + q a_{301} T_2 T_3 T_2 c_1 \\
& + a_{151} T_2 T_3 T_2 c_2 - q a_{322} T_1 T_2 T_1 c_3 c_4 - q a_{351} T_2 T_3 c_1 c_3 c_4 + a_{154} T_1 T_2 T_1 T_3 c_3 \\
& + a_{156} T_1 T_2 T_1 T_3 c_4 - a_{199} T_2 T_3 c_2 c_3 c_4 - q a_{346} T_1 T_2 c_2 c_3 c_4 + a_{159} T_1 T_2 T_1 T_3 T_2 \\
& + a_{160} T_1 T_2 T_3 T_2 T_1 + a_{161} T_1 T_2 T_3 T_2 c_1 + a_{162} T_1 T_2 T_3 T_2 c_2 + a_{163} T_1 T_2 T_3 T_2 c_3 \\
& + a_{164} T_1 T_2 T_3 T_2 c_4 - q a_{311} T_1 T_2 T_1 c_1 c_2 + a_{214} T_1 T_3 T_2 T_1 c_1 + a_{230} T_1 T_3 T_2 T_1 c_2 \\
& + a_{169} T_1 T_3 T_2 T_1 c_3 + a_{170} T_1 T_3 T_2 T_1 c_4 + q a_{319} T_1 T_2 T_3 c_1 c_2 + a_{180} T_1 T_3 T_2 c_1 c_2 \\
& + a_{173} T_2 T_1 T_3 T_2 T_1 + q a_{331} T_2 T_1 T_3 T_2 c_1 + a_{175} T_2 T_1 T_3 T_2 c_2 + q a_{348} T_2 T_1 T_3 T_2 c_3 \\
& + a_{177} T_2 T_1 T_3 T_2 c_4 + a_{179} T_1 T_3 T_2 c_1 c_3 + a_{179} T_2 T_1 T_3 c_1 c_2 + a_{180} T_2 T_1 T_3 c_1 c_3 \\
& + q a_{326} T_3 T_2 T_1 c_1 c_2 + a_{182} T_3 T_2 T_1 c_1 c_3 + a_{183} T_3 T_2 T_1 c_1 c_4 + a_{187} T_2 T_1 T_3 c_1 c_4 \\
& - q a_{317} T_3 T_2 T_1 c_2 c_3 + q a_{320} T_3 T_2 T_1 c_2 c_4 + a_{187} T_1 T_3 T_2 c_1 c_4 + a_{188} T_3 T_2 T_1 c_3 c_4 \\
& + a_{189} T_2 T_1 T_3 c_2 c_3 + a_{190} T_2 T_1 T_3 c_2 c_4 + a_{191} T_1 T_2 T_3 c_1 c_3 + q a_{351} T_3 T_2 c_1 c_2 c_3 \\
& - q a_{351} T_3 T_2 c_1 c_2 c_4 + a_{194} T_2 T_1 T_3 c_3 c_4 + q a_{351} T_3 T_2 c_1 c_3 c_4 + a_{196} T_1 T_3 T_2 c_2 c_3 \\
& + a_{197} T_1 T_3 T_2 c_2 c_4 + a_{198} T_1 T_2 T_3 c_1 c_4 + a_{199} T_3 T_2 c_2 c_3 c_4 + q a_{330} T_2 T_1 c_1 c_2 c_3 \\
& - q a_{338} T_2 T_1 c_1 c_2 c_4 + a_{202} T_1 T_3 T_2 c_3 c_4 - q a_{332} T_2 T_1 c_1 c_3 c_4 \\
& - q a_{337} T_1 T_2 T_3 c_2 c_3 + q a_{347} T_1 T_2 T_3 c_2 c_4 - q a_{336} T_2 T_1 c_2 c_3 c_4 \\
& + a_{211} T_1 T_2 T_1 c_1 c_4 + a_{213} T_1 T_2 T_3 c_3 c_4 + a_{214} T_1 T_2 T_1 T_3 c_1 + q a_{311} T_1 T_2 T_1 c_2 c_3 \\
& + a_{216} T_2 T_3 T_2 T_1 c_1 + a_{217} T_2 T_3 T_2 T_1 c_2 + a_{218} T_2 T_3 T_2 T_1 c_3 + a_{219} T_2 T_3 T_2 T_1 c_4 \\
& - q a_{353} T_2 T_3 T_2 c_1 c_2 + q a_{311} T_2 T_3 T_2 c_1 c_4 + a_{224} T_1 T_2 T_1 c_2 c_4 - a_{228} T_2 T_3 T_2 c_2 c_3 \\
& - q a_{330} T_1 T_2 c_1 c_2 c_3 + a_{228} T_2 T_3 T_2 c_3 c_4 - q a_{332} T_1 T_2 c_1 c_2 c_4 \\
& + a_{230} T_1 T_2 T_1 T_3 c_2 - q a_{338} T_1 T_2 c_1 c_3 c_4 - q a_{351} T_2 T_3 c_1 c_2 c_3 \\
& + q a_{351} T_2 T_3 c_1 c_2 c_4 + a_{234} T_2 T_1 T_3 c_2 c_3 c_4 + a_{235} T_1 T_2 T_3 T_2 T_1 c_4 \\
& + a_{237} T_1 T_2 T_3 T_2 c_1 c_2 + a_{238} T_1 T_2 T_3 T_2 c_1 c_3 + a_{239} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{241} T_1 T_2 T_3 T_2 c_2 c_3 - q a_{372} T_2 T_1 c_1 c_2 c_3 c_4 + a_{243} T_1 T_2 T_3 T_2 c_2 c_4 \\
& - a_{271} T_1 T_2 T_1 T_3 c_1 c_2 + a_{245} T_1 T_2 T_3 T_2 c_3 c_4 + a_{255} T_1 T_2 T_1 T_3 c_1 c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{254}T_1T_2T_1T_3c_1c_4 - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{359}T_3T_2T_1c_1c_2c_4 \\
& - qa_{355}T_1T_2T_3c_1c_2c_3 + a_{252}T_3T_2T_1c_1c_3c_4 - a_{271}T_1T_3T_2T_1c_1c_2 \\
& + a_{254}T_1T_3T_2T_1c_1c_3 + a_{255}T_1T_3T_2T_1c_1c_4 + qa_{373}T_3T_2T_1c_2c_3c_4 \\
& + qa_{359}T_1T_2T_3c_1c_2c_4 + a_{271}T_1T_3T_2T_1c_2c_3 + a_{276}T_1T_3T_2T_1c_2c_4 \\
& + a_{282}T_1T_2T_1T_3T_2c_1 + a_{261}T_1T_3T_2T_1c_3c_4 + a_{262}T_2T_3T_2T_1c_1c_2 \\
& + a_{263}T_2T_3T_2T_1c_1c_3 + qa_{367}T_3T_2c_1c_2c_3c_4 + a_{265}T_2T_3T_2T_1c_1c_4 \\
& + a_{266}T_1T_2T_3c_1c_3c_4 + a_{267}T_2T_3T_2T_1c_2c_3 + a_{268}T_2T_3T_2T_1c_2c_4 \\
& + a_{270}T_2T_3T_2T_1c_3c_4 + a_{271}T_1T_2T_1T_3c_2c_3 - a_{299}T_1T_3T_2c_1c_2c_3 \\
& + a_{302}T_1T_3T_2c_1c_2c_4 + a_{276}T_1T_2T_1T_3c_2c_4 + a_{300}T_1T_3T_2c_1c_3c_4 \\
& - qa_{373}T_1T_2T_3c_2c_3c_4 + a_{283}T_1T_2T_1T_3T_2c_2 + a_{282}T_2T_1T_3T_2T_1c_1 \\
& + a_{283}T_2T_1T_3T_2T_1c_2 + a_{284}T_2T_1T_3T_2T_1c_3 + a_{285}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - qa_{374}T_2T_1T_3T_2c_1c_2 - qa_{367}T_2T_3c_1c_2c_3c_4 \\
& + qa_{358}T_2T_1T_3T_2c_1c_4 + a_{291}T_1T_3T_2c_2c_3c_4 + qa_{358}T_2T_1T_3T_2c_2c_3 \\
& + a_{293}T_2T_1T_3T_2c_2c_4 + a_{294}T_1T_2T_1T_3T_2c_3 - qa_{369}T_2T_1T_3T_2c_3c_4 \\
& + a_{296}T_1T_2T_1T_3T_2c_4 + a_{297}T_1T_2T_1T_3T_2T_1 + a_{298}T_1T_2T_3T_2T_1c_1 \\
& + a_{299}T_2T_1T_3c_1c_2c_3 + a_{300}T_2T_1T_3c_1c_2c_4 + a_{301}T_1T_2T_3T_2T_1c_2 \\
& + a_{302}T_2T_1T_3c_1c_3c_4 + qa_{372}T_1T_2c_1c_2c_3c_4 + a_{304}T_1T_2T_3T_2T_1c_3 \\
& + qa_{383}T_1T_2T_3c_1c_2c_3c_4 + a_{307}T_1T_2T_3T_2T_1c_1c_3 - a_{351}T_1T_2T_1T_3c_1c_2c_4 \\
& + a_{311}T_1T_2T_3T_2T_1c_2c_4 - a_{351}T_1T_3T_2T_1c_1c_2c_3 + a_{350}T_2T_1T_3T_2T_1c_1c_2 \\
& + a_{326}T_2T_1T_3T_2T_1c_1c_3 + a_{319}T_2T_1T_3T_2T_1c_1c_4 + a_{351}T_1T_3T_2T_1c_1c_2c_4 \\
& + a_{317}T_2T_1T_3T_2T_1c_2c_3 + a_{318}T_2T_1T_3T_2T_1c_2c_4 + a_{319}T_1T_2T_1T_3T_2c_1c_3 \\
& + a_{320}T_2T_1T_3T_2T_1c_3c_4 - a_{323}T_1T_3T_2T_1c_1c_3c_4 + a_{322}T_1T_2T_3T_2T_1c_3c_4 \\
& + a_{323}T_1T_2T_1T_3c_1c_3c_4 + a_{326}T_1T_2T_1T_3T_2c_1c_4 + a_{351}T_1T_3T_2T_1c_2c_3c_4 \\
& + a_{329}T_2T_3T_2T_1c_1c_2c_3 + a_{330}T_2T_3T_2T_1c_1c_2c_4 + a_{331}T_1T_2T_1T_3T_2T_1c_2 \\
& + a_{332}T_2T_3T_2T_1c_1c_3c_4 + a_{333}T_1T_2T_3T_2c_1c_2c_3 + a_{335}T_1T_2T_3T_2c_1c_2c_4 \\
& + a_{336}T_2T_3T_2T_1c_2c_3c_4 + a_{337}T_1T_2T_1T_3T_2c_2c_3 + a_{338}T_1T_2T_3T_2c_1c_3c_4 \\
& - a_{351}T_1T_2T_1T_3c_2c_3c_4 + a_{340}T_1T_2T_1T_3T_2c_2c_4 - a_{343}T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{342}T_1T_2T_1T_3T_2T_1c_3 + a_{343}T_2T_1T_3c_1c_2c_3c_4 - qa_{383}T_3T_2T_1c_1c_2c_3c_4 \\
& + a_{346}T_1T_2T_3T_2c_2c_3c_4 + a_{347}T_1T_2T_1T_3T_2c_3c_4 + a_{348}T_1T_2T_1T_3T_2T_1c_4 \\
& + a_{349}T_1T_2T_1T_3T_2T_1c_1 + a_{350}T_1T_2T_1T_3T_2c_1c_2 + a_{351}T_1T_2T_1T_3c_1c_2c_3 \\
& + a_{353}T_1T_2T_3T_2T_1c_1c_2 + a_{355}T_2T_1T_3T_2T_1c_1c_2c_4 + a_{355}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{359}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{358}T_1T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{359}T_1T_2T_1T_3T_2c_1c_3c_4 - a_{373}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{367}T_1T_3T_2T_1c_1c_2c_3c_4 \\
& + a_{362}T_1T_2T_3T_2c_1c_2c_3c_4 + a_{365}T_1T_2T_1T_3T_2T_1c_1c_3 + a_{367}T_1T_2T_1T_3c_1c_2c_3c_4 \\
& + a_{369}T_1T_2T_1T_3T_2T_1c_3c_4 + a_{372}T_2T_3T_2T_1c_1c_2c_3c_4 + a_{373}T_1T_2T_1T_3T_2c_2c_3c_4 \\
& + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 - a_{383}T_1T_2T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 5, Calculating $c_1z = zc_1$, We got 310 equations .

Totally 228 solutions, dup count: 0.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= -2qa_{351} + 2q^2a_{351} \\
a_{35} &= -qa_{351} \\
a_{40} &= q^2a_{353} \\
a_{41} &= q^2a_{353} \\
a_{42} &= qa_{224} \\
a_{52} &= -qa_{351} \\
a_{83} &= -qa_{276} \\
a_{84} &= -qa_{276} \\
a_{85} &= qa_{276} \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= -qa_{276} \\
a_{115} &= -qa_{276} \\
a_{116} &= qa_{276} \\
a_{150} &= qa_{301} \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= qa_{331} \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0
\end{aligned}$$

$$a_{221} = -qa_{353}$$

$$a_{222} = 0$$

$$a_{223} = qa_{353}$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = qa_{367}$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = -qa_{374}$$

$$a_{288} = 0$$

$$a_{289} = -qa_{367}$$

$$a_{290} = qa_{374}$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = qa_{80}$$

$$a_{24} = q^2a_{353} - qq^2a_{353}$$

$$a_{26} = q^2a_{298}$$

$$a_{168} = -a_{351}$$

$$a_{166} = -qa_{353}$$

$$\begin{aligned}
a_{43} &= q^2 a_{349} \\
a_{61} &= qa_{228} \\
a_{62} &= qa_{228} \\
a_{65} &= -q^2 a_{353} \\
a_{66} &= -q^2 a_{322} \\
a_{71} &= 0 \\
a_{63} &= a_{77} \\
a_{244} &= a_{276} \\
a_{253} &= a_{276} \\
a_{259} &= a_{276} \\
a_{89} &= qa_{359} \\
a_{91} &= -q^2 a_{374} \\
a_{92} &= -q^2 a_{369} \\
a_{240} &= 0 \\
a_{110} &= qa_{284} \\
a_{113} &= 0 \\
a_{131} &= a_{136} \\
a_{132} &= 0 \\
a_{104} &= qa_{239} \\
a_{100} &= qa_{265} \\
a_{106} &= a_{139} \\
a_{316} &= 0 \\
a_{171} &= qa_{347} \\
a_{178} &= a_{179} \\
a_{172} &= a_{180} \\
a_{181} &= qa_{326} \\
a_{184} &= a_{187} \\
a_{185} &= -qa_{317} \\
a_{186} &= qa_{320} \\
a_{200} &= qa_{330} \\
a_{201} &= -qa_{338} \\
a_{203} &= -qa_{332} \\
a_{205} &= qa_{383} \\
a_{206} &= qa_{347} \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= -qa_{372} \\
a_{249} &= -qa_{376}
\end{aligned}$$

$$a_{250} = -qa_{359}$$

$$a_{251} = -qa_{373}$$

$$a_{256} = qa_{373}$$

$$a_{257} = qa_{359}$$

$$a_{279} = -qa_{373}$$

$$a_{361} = -a_{367}$$

$$a_{272} = -a_{299}$$

$$a_{278} = a_{300}$$

$$a_{273} = a_{302}$$

$$a_{306} = qa_{383}$$

$$a_{341} = -a_{343}$$

$$a_{345} = -qa_{383}$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = qa_{81}$$

$$a_{28} = qa_{228} - q^2a_{228}$$

$$a_{47} = -qa_{228}$$

$$a_{36} = a_{53}$$

$$a_{225} = -a_{228}$$

$$a_{72} = qa_{164}$$

$$a_{79} = qa_{219}$$

$$a_{258} = -a_{276}$$

$$a_{137} = qa_{239}$$

$$a_{108} = qa_{243}$$

$$\begin{aligned}
a_{88} &= a_{118} \\
a_{87} &= a_{119} \\
a_{120} &= qa_{298} \\
a_{122} &= -qa_{245} \\
a_{138} &= qa_{265} \\
a_{142} &= qa_{268} \\
a_{145} &= -qa_{270} \\
a_{152} &= -qa_{322} \\
a_{328} &= 0 \\
a_{158} &= -qa_{346} \\
a_{167} &= a_{214} \\
a_{176} &= qa_{349} \\
a_{339} &= 0 \\
a_{157} &= -a_{199} \\
a_{227} &= -qa_{330} \\
a_{229} &= -qa_{332} \\
a_{208} &= -qa_{336} \\
a_{215} &= qa_{353} \\
a_{227} &= qa_{335} \\
a_{231} &= -qa_{338} \\
a_{303} &= qa_{372} \\
a_{248} &= a_{254} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{296} \\
a_{292} &= qa_{374} \\
a_{295} &= -qa_{369} \\
a_{303} &= -qa_{362} \\
a_{313} &= a_{350} \\
a_{314} &= a_{326} \\
a_{315} &= a_{347} \\
a_{321} &= -a_{323} \\
a_{328} &= -a_{339} \\
a_{354} &= a_{373} \\
a_{356} &= -a_{359} \\
a_{360} &= -a_{373} \\
a_{357} &= a_{376} \\
a_{378} &= -a_{383} \\
a_{351} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{49} &= a_{198} \\
a_{294} &= a_{359} \\
a_{93} &= a_{266} \\
a_{98} &= a_{147} \\
a_{124} &= a_{254} \\
a_{127} &= a_{239} \\
a_{154} &= a_{323} \\
a_{156} &= a_{214} \\
a_{159} &= a_{326} \\
a_{161} &= a_{164} \\
a_{162} &= a_{335} \\
a_{163} &= a_{338} \\
a_{319} &= a_{347} \\
a_{191} &= a_{213} \\
a_{337} &= -a_{383} \\
a_{230} &= -a_{351} \\
a_{235} &= a_{298} \\
a_{237} &= a_{243} \\
a_{238} &= a_{245} \\
a_{241} &= a_{362} \\
a_{271} &= -a_{276} \\
a_{255} &= a_{286} \\
a_{355} &= a_{373} \\
a_{107} &= -2a_{351} + 2qa_{351} \\
a_{282} &= a_{296} \\
a_{271} &= a_{367} \\
a_{283} &= a_{376} \\
a_{307} &= a_{322} \\
a_{311} &= a_{353} \\
a_{333} &= a_{346} \\
a_{340} &= a_{350} \\
a_{348} &= a_{349} \\
a_{358} &= a_{374} \\
a_{365} &= a_{369}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_4T_3 + a_5c_1 + a_6c_2 + a_7c_3 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{11}T_2T_3 - 2qa_{351}T_2c_1 + 2q^2a_{351}T_2c_1 + a_{13}T_2c_2 + qa_{81}T_2c_3 + a_{15}T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{16}T_1T_3 + a_{17}T_3T_2 + a_{18}T_3c_1 + qa_{80}T_3c_2 + a_{20}T_3c_3 + a_{21}T_3c_4 + a_{22}T_1c_1 \\
& + q^2a_{353}c_1c_3 - qq^2a_{353}c_1c_3 + a_{25}c_1c_4 + q^2a_{298}T_1c_2 + qa_{228}c_2c_4 \\
& - q^2a_{228}c_2c_4 + a_{29}T_1c_3 + a_{31}T_1c_4 + a_{32}T_2T_1c_4 + a_{33}T_1T_3T_2 + a_{34}T_2T_3T_2 \\
& - qa_{351}T_2T_3c_1 + a_{53}T_2T_3c_2 + a_{37}T_2T_3c_3 + a_{38}T_2T_3c_4 + a_{39}T_1T_3c_1 \\
& + q^2a_{353}T_2c_1c_2 + q^2a_{353}T_2c_1c_3 + qa_{224}T_2c_1c_4 + q^2a_{349}T_1T_3c_2 \\
& + a_{45}T_2c_2c_4 + a_{46}T_1T_3c_3 - qa_{228}T_2c_3c_4 + a_{48}T_1T_3c_4 + a_{198}T_1T_2T_3 \\
& + a_{51}T_3T_2T_1 - qa_{351}T_3T_2c_1 + a_{53}T_3T_2c_2 + a_{54}T_3T_2c_3 + a_{55}T_3T_2c_4 \\
& + a_{56}T_1c_1c_3 + a_{58}T_3c_1c_3 + a_{59}T_3c_1c_4 + a_{60}T_1c_1c_4 + qa_{228}T_3c_2c_3 \\
& + qa_{228}T_3c_2c_4 + a_{77}T_1T_2c_1 - q^2a_{353}T_1c_2c_3 - q^2a_{322}T_1c_2c_4 + a_{67}T_1T_2c_2 \\
& + qa_{164}T_1T_2c_3 + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 + a_{76}T_2T_1T_3 + a_{77}T_2T_1c_1 \\
& + a_{78}T_2T_1c_2 + qa_{219}T_2T_1c_3 + a_{80}T_2T_3T_2c_3 + a_{81}T_2T_3T_2c_4 + a_{82}T_1T_3c_1c_3 \\
& - qa_{276}T_2T_3c_1c_2 - qa_{276}T_2T_3c_1c_3 + qa_{276}T_2T_3c_1c_4 + a_{86}T_1T_3c_1c_4 \\
& + a_{119}T_2T_3c_2c_3 + a_{118}T_2T_3c_2c_4 + qa_{359}T_1T_2T_3c_2 + a_{90}T_2T_3c_3c_4 \\
& - q^2a_{374}T_1T_3c_2c_3 - q^2a_{369}T_1T_3c_2c_4 + a_{266}T_1T_2T_3c_3 + a_{147}T_1T_2T_3c_4 \\
& + a_{99}T_1T_2T_1c_1 + qa_{265}T_1T_2c_1c_2 + qa_{239}T_1T_2c_1c_3 + a_{139}T_1T_2c_1c_4 \\
& - 2a_{351}T_1T_2T_1c_2 + 2qa_{351}T_1T_2T_1c_2 + qa_{243}T_1T_2c_2c_3 + a_{109}T_3T_2T_1c_1 \\
& + qa_{284}T_3T_2T_1c_2 + a_{111}T_3T_2T_1c_3 + a_{112}T_3T_2T_1c_4 - qa_{276}T_3T_2c_1c_2 \\
& - qa_{276}T_3T_2c_1c_3 + qa_{276}T_3T_2c_1c_4 + a_{117}T_1T_2c_2c_4 + a_{118}T_3T_2c_2c_3 \\
& + a_{119}T_3T_2c_2c_4 + qa_{298}T_1T_2T_1c_3 + a_{121}T_3T_2c_3c_4 - qa_{245}T_1T_2c_3c_4 \\
& + a_{123}T_1T_2T_1c_4 + a_{254}T_1T_2T_1T_3 + a_{239}T_1T_2T_3T_2 + a_{129}T_1T_3T_2T_1 \\
& + a_{130}T_2T_1T_3T_2 + a_{136}T_2T_1T_3c_1 + a_{133}T_2T_1T_3c_2 + a_{134}T_2T_1T_3c_3 \\
& + a_{135}T_2T_1T_3c_4 + a_{136}T_1T_3T_2c_1 + qa_{239}T_2T_1c_1c_2 + qa_{265}T_2T_1c_1c_3 \\
& + a_{139}T_2T_1c_1c_4 + a_{141}T_1T_3T_2c_2 + qa_{268}T_2T_1c_2c_3 + a_{143}T_2T_1c_2c_4 \\
& + a_{144}T_1T_3T_2c_3 - qa_{270}T_2T_1c_3c_4 + a_{146}T_1T_3T_2c_4 + a_{147}T_1T_2T_3c_1 \\
& + a_{149}T_2T_3T_2T_1 + qa_{301}T_2T_3T_2c_1 + a_{151}T_2T_3T_2c_2 - qa_{322}T_1T_2T_1c_3c_4 \\
& + a_{323}T_1T_2T_1T_3c_3 + a_{214}T_1T_2T_1T_3c_4 - a_{199}T_2T_3c_2c_3c_4 - qa_{346}T_1T_2c_2c_3c_4 \\
& + a_{326}T_1T_2T_1T_3T_2 + a_{160}T_1T_2T_3T_2T_1 + a_{164}T_1T_2T_3T_2c_1 + a_{335}T_1T_2T_3T_2c_2 \\
& + a_{338}T_1T_2T_3T_2c_3 + a_{164}T_1T_2T_3T_2c_4 - qa_{353}T_1T_2T_1c_1c_2 + a_{214}T_1T_3T_2T_1c_1 \\
& - a_{351}T_1T_3T_2T_1c_2 + a_{169}T_1T_3T_2T_1c_3 + a_{170}T_1T_3T_2T_1c_4 + qa_{347}T_1T_2T_3c_1c_2 \\
& + a_{180}T_1T_3T_2c_1c_2 + a_{173}T_2T_1T_3T_2T_1 + qa_{331}T_2T_1T_3T_2c_1 + a_{175}T_2T_1T_3T_2c_2 \\
& + qa_{349}T_2T_1T_3T_2c_3 + a_{177}T_2T_1T_3T_2c_4 + a_{179}T_1T_3T_2c_1c_3 + a_{179}T_2T_1T_3c_1c_2 \\
& + a_{180}T_2T_1T_3c_1c_3 + qa_{326}T_3T_2T_1c_1c_2 + a_{182}T_3T_2T_1c_1c_3 + a_{183}T_3T_2T_1c_1c_4 \\
& + a_{187}T_2T_1T_3c_1c_4 - qa_{317}T_3T_2T_1c_2c_3 + qa_{320}T_3T_2T_1c_2c_4 + a_{187}T_1T_3T_2c_1c_4 \\
& + a_{188}T_3T_2T_1c_3c_4 + a_{189}T_2T_1T_3c_2c_3 + a_{190}T_2T_1T_3c_2c_4 + a_{213}T_1T_2T_3c_1c_3 \\
& + a_{194}T_2T_1T_3c_3c_4 + a_{196}T_1T_3T_2c_2c_3 + a_{197}T_1T_3T_2c_2c_4 + a_{198}T_1T_2T_3c_1c_4 \\
& + a_{199}T_3T_2c_2c_3c_4 + qa_{330}T_2T_1c_1c_2c_3 - qa_{338}T_2T_1c_1c_2c_4 + a_{202}T_1T_3T_2c_3c_4 \\
& - qa_{332}T_2T_1c_1c_3c_4 + qa_{383}T_1T_2T_3c_2c_3 + qa_{347}T_1T_2T_3c_2c_4 \\
& - qa_{336}T_2T_1c_2c_3c_4 + a_{211}T_1T_2T_1c_1c_4 + a_{213}T_1T_2T_3c_3c_4 + a_{214}T_1T_2T_1T_3c_1 \\
& + qa_{353}T_1T_2T_1c_2c_3 + a_{216}T_2T_3T_2T_1c_1 + a_{217}T_2T_3T_2T_1c_2 + a_{218}T_2T_3T_2T_1c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{219}T_2T_3T_2T_1c_4 - qa_{353}T_2T_3T_2c_1c_2 + qa_{353}T_2T_3T_2c_1c_4 + a_{224}T_1T_2T_1c_2c_4 \\
& - a_{228}T_2T_3T_2c_2c_3 - qa_{330}T_1T_2c_1c_2c_3 + a_{228}T_2T_3T_2c_3c_4 - qa_{332}T_1T_2c_1c_2c_4 \\
& - a_{351}T_1T_2T_1T_3c_2 - qa_{338}T_1T_2c_1c_3c_4 + a_{234}T_2T_1T_3c_2c_3c_4 \\
& + a_{298}T_1T_2T_3T_2T_1c_4 + a_{243}T_1T_2T_3T_2c_1c_2 + a_{245}T_1T_2T_3T_2c_1c_3 \\
& + a_{239}T_1T_2T_3T_2c_1c_4 + a_{362}T_1T_2T_3T_2c_2c_3 - qa_{372}T_2T_1c_1c_2c_3c_4 \\
& + a_{243}T_1T_2T_3T_2c_2c_4 + a_{276}T_1T_2T_1T_3c_1c_2 + a_{245}T_1T_2T_3T_2c_3c_4 \\
& + a_{286}T_1T_2T_1T_3c_1c_3 + a_{254}T_1T_2T_1T_3c_1c_4 - qa_{376}T_3T_2T_1c_1c_2c_3 \\
& - qa_{359}T_3T_2T_1c_1c_2c_4 - qa_{373}T_1T_2T_3c_1c_2c_3 + a_{252}T_3T_2T_1c_1c_3c_4 \\
& + a_{276}T_1T_3T_2T_1c_1c_2 + a_{254}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 \\
& + qa_{373}T_3T_2T_1c_2c_3c_4 + qa_{359}T_1T_2T_3c_1c_2c_4 - a_{276}T_1T_3T_2T_1c_2c_3 \\
& + a_{276}T_1T_3T_2T_1c_2c_4 + a_{296}T_1T_2T_1T_3T_2c_1 + a_{261}T_1T_3T_2T_1c_3c_4 \\
& + a_{262}T_2T_3T_2T_1c_1c_2 + a_{263}T_2T_3T_2T_1c_1c_3 + qa_{367}T_3T_2c_1c_2c_3c_4 \\
& + a_{265}T_2T_3T_2T_1c_1c_4 + a_{266}T_1T_2T_3c_1c_3c_4 + a_{267}T_2T_3T_2T_1c_2c_3 \\
& + a_{268}T_2T_3T_2T_1c_2c_4 + a_{270}T_2T_3T_2T_1c_3c_4 - a_{276}T_1T_2T_1T_3c_2c_3 \\
& - a_{299}T_1T_3T_2c_1c_2c_3 + a_{302}T_1T_3T_2c_1c_2c_4 + a_{276}T_1T_2T_1T_3c_2c_4 \\
& + a_{300}T_1T_3T_2c_1c_3c_4 - qa_{373}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 \\
& + a_{296}T_2T_1T_3T_2T_1c_1 + a_{376}T_2T_1T_3T_2T_1c_2 + a_{284}T_2T_1T_3T_2T_1c_3 \\
& + a_{285}T_2T_1T_3T_2T_1c_4 + a_{286}T_1T_2T_1T_3c_3c_4 - qa_{374}T_2T_1T_3T_2c_1c_2 \\
& - qa_{367}T_2T_3c_1c_2c_3c_4 + qa_{374}T_2T_1T_3T_2c_1c_4 + a_{291}T_1T_3T_2c_2c_3c_4 \\
& + qa_{374}T_2T_1T_3T_2c_2c_3 + a_{293}T_2T_1T_3T_2c_2c_4 + a_{359}T_1T_2T_1T_3T_2c_3 \\
& - qa_{369}T_2T_1T_3T_2c_3c_4 + a_{296}T_1T_2T_1T_3T_2c_4 + a_{297}T_1T_2T_1T_3T_2T_1 \\
& + a_{298}T_1T_2T_3T_2T_1c_1 + a_{299}T_2T_1T_3c_1c_2c_3 + a_{300}T_2T_1T_3c_1c_2c_4 \\
& + a_{301}T_1T_2T_3T_2T_1c_2 + a_{302}T_2T_1T_3c_1c_3c_4 + qa_{372}T_1T_2c_1c_2c_3c_4 \\
& + a_{304}T_1T_2T_3T_2T_1c_3 + qa_{383}T_1T_2T_3c_1c_2c_3c_4 + a_{322}T_1T_2T_3T_2T_1c_1c_3 \\
& + a_{353}T_1T_2T_3T_2T_1c_2c_4 + a_{350}T_2T_1T_3T_2T_1c_1c_2 + a_{326}T_2T_1T_3T_2T_1c_1c_3 \\
& + a_{347}T_2T_1T_3T_2T_1c_1c_4 + a_{317}T_2T_1T_3T_2T_1c_2c_3 + a_{318}T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{347}T_1T_2T_1T_3T_2c_1c_3 + a_{320}T_2T_1T_3T_2T_1c_3c_4 - a_{323}T_1T_3T_2T_1c_1c_3c_4 \\
& + a_{322}T_1T_2T_3T_2T_1c_3c_4 + a_{323}T_1T_2T_1T_3c_1c_3c_4 + a_{326}T_1T_2T_1T_3T_2c_1c_4 \\
& + a_{329}T_2T_3T_2T_1c_1c_2c_3 + a_{330}T_2T_3T_2T_1c_1c_2c_4 + a_{331}T_1T_2T_1T_3T_2T_1c_2 \\
& + a_{332}T_2T_3T_2T_1c_1c_3c_4 + a_{346}T_1T_2T_3T_2c_1c_2c_3 + a_{335}T_1T_2T_3T_2c_1c_2c_4 \\
& + a_{336}T_2T_3T_2T_1c_2c_3c_4 - a_{383}T_1T_2T_1T_3T_2c_2c_3 + a_{338}T_1T_2T_3T_2c_1c_3c_4 \\
& + a_{350}T_1T_2T_1T_3T_2c_2c_4 - a_{343}T_1T_3T_2c_1c_2c_3c_4 + a_{342}T_1T_2T_1T_3T_2T_1c_3 \\
& + a_{343}T_2T_1T_3c_1c_2c_3c_4 - qa_{383}T_3T_2T_1c_1c_2c_3c_4 + a_{346}T_1T_2T_3T_2c_2c_3c_4 \\
& + a_{347}T_1T_2T_1T_3T_2c_3c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_1 \\
& + a_{350}T_1T_2T_1T_3T_2c_1c_2 + a_{353}T_1T_2T_3T_2T_1c_1c_2 + a_{373}T_2T_1T_3T_2T_1c_1c_2c_4 \\
& + a_{373}T_1T_2T_1T_3T_2c_1c_2c_3 - a_{359}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 \\
& + a_{374}T_1T_2T_1T_3T_2T_1c_2c_4 + a_{359}T_1T_2T_1T_3T_2c_1c_3c_4 - a_{373}T_2T_1T_3T_2T_1c_2c_3c_4 \\
& - a_{367}T_1T_3T_2T_1c_1c_2c_3c_4 + a_{362}T_1T_2T_3T_2c_1c_2c_3c_4 + a_{369}T_1T_2T_1T_3T_2T_1c_1c_3 \\
& + a_{367}T_1T_2T_1T_3c_1c_2c_3c_4 + a_{369}T_1T_2T_1T_3T_2T_1c_3c_4 + a_{372}T_2T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{373}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 \\
& - a_{383}T_1T_2T_1T_3T_2c_1c_2c_3c_4 + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 6, Calculating $c_2z = zc_2$, We got 294 equations .

Totally 263 solutions, dup count: 0.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= q^2a_{353} \\
a_{41} &= q^2a_{353} \\
a_{42} &= qa_{224} \\
a_{52} &= 0 \\
a_{83} &= qa_{367} \\
a_{84} &= qa_{367} \\
a_{85} &= -qa_{367} \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= qa_{367} \\
a_{115} &= qa_{367} \\
a_{116} &= -qa_{367} \\
a_{150} &= qa_{301} \\
a_{153} &= 0 \\
a_{165} &= 0
\end{aligned}$$

$$a_{174} = qa_{342}$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = -qa_{353}$$

$$a_{222} = 0$$

$$a_{223} = qa_{353}$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = qa_{367}$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = -qa_{374}$$

$$a_{288} = 0$$

$$a_{289} = -qa_{367}$$

$$a_{290} = qa_{374}$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = qa_{80}$$

$$a_{24} = q^2 a_{353} - qq^2 a_{353}$$

$$a_{26} = q^2 a_{298}$$

$$a_{168} = 0$$

$$a_{166} = -qa_{353}$$

$$a_{43} = q^2 a_{349}$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = -q^2 a_{353}$$

$$a_{66} = -q^2 a_{322}$$

$$a_{71} = 0$$

$$a_{63} = a_{77}$$

$$a_{244} = -a_{367}$$

$$a_{253} = -a_{367}$$

$$a_{259} = -a_{367}$$

$$a_{89} = qa_{376}$$

$$a_{91} = -q^2 a_{374}$$

$$a_{92} = q^2 a_{374}$$

$$a_{240} = 0$$

$$a_{110} = -qa_{373}$$

$$a_{113} = 0$$

$$a_{131} = -a_{300}$$

$$a_{132} = 0$$

$$a_{104} = qa_{239}$$

$$a_{100} = qa_{265}$$

$$a_{106} = a_{139}$$

$$a_{316} = 0$$

$$a_{171} = -qa_{350}$$

$$a_{178} = -a_{187}$$

$$a_{172} = -a_{343}$$

$$a_{181} = -qa_{383}$$

$$a_{184} = a_{187}$$

$$a_{185} = -qa_{320}$$

$$a_{186} = qa_{320}$$

$$a_{200} = qa_{330}$$

$$a_{201} = -qa_{338}$$

$$a_{203} = -qa_{332}$$

$$a_{205} = qa_{383}$$

$$a_{206} = -qa_{350}$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = -qa_{372}$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = -qa_{373}$$

$$a_{256} = qa_{373}$$

$$a_{257} = qa_{376}$$

$$a_{279} = -qa_{373}$$

$$a_{361} = -a_{367}$$

$$a_{272} = a_{302}$$

$$a_{278} = a_{300}$$

$$a_{273} = a_{302}$$

$$a_{306} = qa_{383}$$

$$a_{341} = -a_{343}$$

$$a_{345} = -qa_{383}$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = qa_{151}$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{53}$$

$$a_{225} = 0$$

$$a_{72} = qa_{164}$$

$$\begin{aligned}
a_{79} &= qa_{219} \\
a_{258} &= a_{367} \\
a_{137} &= qa_{239} \\
a_{108} &= qa_{243} \\
a_{88} &= a_{118} \\
a_{87} &= a_{119} \\
a_{120} &= qa_{298} \\
a_{122} &= -qa_{245} \\
a_{138} &= qa_{265} \\
a_{142} &= qa_{268} \\
a_{145} &= -qa_{270} \\
a_{152} &= -qa_{322} \\
a_{328} &= 0 \\
a_{158} &= -qa_{346} \\
a_{167} &= a_{214} \\
a_{176} &= qa_{349} \\
a_{339} &= 0 \\
a_{157} &= -a_{199} \\
a_{227} &= -qa_{330} \\
a_{229} &= -qa_{332} \\
a_{208} &= -qa_{336} \\
a_{215} &= qa_{353} \\
a_{227} &= qa_{335} \\
a_{231} &= -qa_{338} \\
a_{303} &= qa_{372} \\
a_{248} &= a_{254} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= -a_{373} \\
a_{292} &= qa_{374} \\
a_{295} &= qa_{374} \\
a_{303} &= -qa_{362} \\
a_{313} &= a_{350} \\
a_{314} &= -a_{383} \\
a_{315} &= -a_{350} \\
a_{321} &= -a_{323} \\
a_{328} &= -a_{339} \\
a_{354} &= a_{373} \\
a_{356} &= -a_{376}
\end{aligned}$$

$$a_{360} = -a_{373}$$

$$a_{357} = a_{376}$$

$$a_{378} = -a_{383}$$

$$a_{351} = 0$$

$$a_{49} = a_{198}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{266}$$

$$a_{98} = a_{147}$$

$$a_{124} = a_{254}$$

$$a_{127} = a_{239}$$

$$a_{154} = a_{323}$$

$$a_{156} = a_{214}$$

$$a_{159} = -a_{383}$$

$$a_{161} = a_{164}$$

$$a_{162} = a_{335}$$

$$a_{163} = a_{338}$$

$$a_{319} = -a_{350}$$

$$a_{191} = a_{213}$$

$$a_{337} = -a_{383}$$

$$a_{230} = 0$$

$$a_{235} = a_{298}$$

$$a_{237} = a_{243}$$

$$a_{238} = a_{245}$$

$$a_{241} = a_{362}$$

$$a_{271} = a_{367}$$

$$a_{255} = a_{286}$$

$$a_{355} = a_{373}$$

$$a_{107} = 0$$

$$a_{282} = -a_{373}$$

$$a_{283} = a_{376}$$

$$a_{307} = a_{322}$$

$$a_{311} = a_{353}$$

$$a_{333} = a_{346}$$

$$a_{340} = a_{350}$$

$$a_{348} = a_{349}$$

$$a_{358} = a_{374}$$

$$a_{365} = -a_{374}$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$\begin{aligned}
a_{11} &= a_{118} \\
a_{38} &= a_{53} \\
a_{37} &= -a_{199} \\
a_{130} &= a_{293} \\
a_{76} &= a_{190} \\
a_{81} &= a_{151} \\
a_{276} &= -a_{367} \\
a_{90} &= a_{119} \\
a_{175} &= a_{177} \\
a_{326} &= -a_{383} \\
a_{173} &= a_{318} \\
a_{136} &= -a_{300} \\
a_{133} &= a_{135} \\
a_{134} &= a_{234} \\
a_{149} &= a_{268} \\
a_{369} &= -a_{374} \\
a_{285} &= a_{376} \\
a_{179} &= -a_{187} \\
a_{180} &= -a_{343} \\
a_{189} &= a_{194} \\
a_{216} &= -a_{330} \\
a_{217} &= a_{219} \\
a_{218} &= a_{336} \\
a_{359} &= a_{376} \\
a_{347} &= -a_{350} \\
a_{296} &= -a_{373} \\
a_{317} &= a_{320} \\
a_{262} &= -a_{265} \\
a_{263} &= -a_{372} \\
a_{267} &= a_{270} \\
a_{284} &= -a_{373} \\
a_{299} &= -a_{302} \\
a_{331} &= a_{342} \\
a_{329} &= -a_{332}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_4T_3 + a_5c_1 + a_6c_2 + a_7c_3 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{118}T_2T_3 + a_{13}T_2c_2 + qa_{151}T_2c_3 + a_{15}T_2c_4 + a_{16}T_1T_3 + a_{17}T_3T_2 + a_{18}T_3c_1
\end{aligned}$$

$$\begin{aligned}
& + qa_{80}T_3c_2 + a_{20}T_3c_3 + a_{21}T_3c_4 + a_{22}T_1c_1 + q^2a_{353}c_1c_3 - qq^2a_{353}c_1c_3 \\
& + a_{25}c_1c_4 + q^2a_{298}T_1c_2 + a_{29}T_1c_3 + a_{31}T_1c_4 + a_{32}T_2T_1c_4 + a_{33}T_1T_3T_2 \\
& + a_{34}T_2T_3T_2 + a_{53}T_2T_3c_2 - a_{199}T_2T_3c_3 + a_{53}T_2T_3c_4 + a_{39}T_1T_3c_1 \\
& + q^2a_{353}T_2c_1c_2 + q^2a_{353}T_2c_1c_3 + qa_{224}T_2c_1c_4 + q^2a_{349}T_1T_3c_2 \\
& + a_{45}T_2c_2c_4 + a_{46}T_1T_3c_3 + a_{48}T_1T_3c_4 + a_{198}T_1T_2T_3 + a_{51}T_3T_2T_1 \\
& + a_{53}T_3T_2c_2 + a_{54}T_3T_2c_3 + a_{55}T_3T_2c_4 + a_{56}T_1c_1c_3 + a_{58}T_3c_1c_3 \\
& + a_{59}T_3c_1c_4 + a_{60}T_1c_1c_4 + a_{77}T_1T_2c_1 - q^2a_{353}T_1c_2c_3 - q^2a_{322}T_1c_2c_4 \\
& + a_{67}T_1T_2c_2 + qa_{164}T_1T_2c_3 + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 + a_{190}T_2T_1T_3 \\
& + a_{77}T_2T_1c_1 + a_{78}T_2T_1c_2 + qa_{219}T_2T_1c_3 + a_{80}T_2T_3T_2c_3 + a_{151}T_2T_3T_2c_4 \\
& + a_{82}T_1T_3c_1c_3 + qa_{367}T_2T_3c_1c_2 + qa_{367}T_2T_3c_1c_3 - qa_{367}T_2T_3c_1c_4 \\
& + a_{86}T_1T_3c_1c_4 + a_{119}T_2T_3c_2c_3 + a_{118}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 \\
& + a_{119}T_2T_3c_3c_4 - q^2a_{374}T_1T_3c_2c_3 + q^2a_{374}T_1T_3c_2c_4 + a_{266}T_1T_2T_3c_3 \\
& + a_{147}T_1T_2T_3c_4 + a_{99}T_1T_2T_1c_1 + qa_{265}T_1T_2c_1c_2 + qa_{239}T_1T_2c_1c_3 \\
& + a_{139}T_1T_2c_1c_4 + qa_{243}T_1T_2c_2c_3 + a_{109}T_3T_2T_1c_1 - qa_{373}T_3T_2T_1c_2 \\
& + a_{111}T_3T_2T_1c_3 + a_{112}T_3T_2T_1c_4 + qa_{367}T_3T_2c_1c_2 + qa_{367}T_3T_2c_1c_3 \\
& - qa_{367}T_3T_2c_1c_4 + a_{117}T_1T_2c_2c_4 + a_{118}T_3T_2c_2c_3 + a_{119}T_3T_2c_2c_4 \\
& + qa_{298}T_1T_2T_1c_3 + a_{121}T_3T_2c_3c_4 - qa_{245}T_1T_2c_3c_4 + a_{123}T_1T_2T_1c_4 \\
& + a_{254}T_1T_2T_1T_3 + a_{239}T_1T_2T_3T_2 + a_{129}T_1T_3T_2T_1 + a_{293}T_2T_1T_3T_2 \\
& - a_{300}T_2T_1T_3c_1 + a_{135}T_2T_1T_3c_2 + a_{234}T_2T_1T_3c_3 + a_{135}T_2T_1T_3c_4 \\
& - a_{300}T_1T_3T_2c_1 + qa_{239}T_2T_1c_1c_2 + qa_{265}T_2T_1c_1c_3 + a_{139}T_2T_1c_1c_4 \\
& + a_{141}T_1T_3T_2c_2 + qa_{268}T_2T_1c_2c_3 + a_{143}T_2T_1c_2c_4 + a_{144}T_1T_3T_2c_3 \\
& - qa_{270}T_2T_1c_3c_4 + a_{146}T_1T_3T_2c_4 + a_{147}T_1T_2T_3c_1 + a_{268}T_2T_3T_2T_1 \\
& + qa_{301}T_2T_3T_2c_1 + a_{151}T_2T_3T_2c_2 - qa_{322}T_1T_2T_1c_3c_4 + a_{323}T_1T_2T_1T_3c_3 \\
& + a_{214}T_1T_2T_1T_3c_4 - a_{199}T_2T_3c_2c_3c_4 - qa_{346}T_1T_2c_2c_3c_4 - a_{383}T_1T_2T_1T_3T_2 \\
& + a_{160}T_1T_2T_3T_2T_1 + a_{164}T_1T_2T_3T_2c_1 + a_{335}T_1T_2T_3T_2c_2 + a_{338}T_1T_2T_3T_2c_3 \\
& + a_{164}T_1T_2T_3T_2c_4 - qa_{353}T_1T_2T_1c_1c_2 + a_{214}T_1T_3T_2T_1c_1 + a_{169}T_1T_3T_2T_1c_3 \\
& + a_{170}T_1T_3T_2T_1c_4 - qa_{350}T_1T_2T_3c_1c_2 - a_{343}T_1T_3T_2c_1c_2 + a_{318}T_2T_1T_3T_2T_1 \\
& + qa_{342}T_2T_1T_3T_2c_1 + a_{177}T_2T_1T_3T_2c_2 + qa_{349}T_2T_1T_3T_2c_3 + a_{177}T_2T_1T_3T_2c_4 \\
& - a_{187}T_1T_3T_2c_1c_3 - a_{187}T_2T_1T_3c_1c_2 - a_{343}T_2T_1T_3c_1c_3 - qa_{383}T_3T_2T_1c_1c_2 \\
& + a_{182}T_3T_2T_1c_1c_3 + a_{183}T_3T_2T_1c_1c_4 + a_{187}T_2T_1T_3c_1c_4 - qa_{320}T_3T_2T_1c_2c_3 \\
& + qa_{320}T_3T_2T_1c_2c_4 + a_{187}T_1T_3T_2c_1c_4 + a_{188}T_3T_2T_1c_3c_4 + a_{194}T_2T_1T_3c_2c_3 \\
& + a_{190}T_2T_1T_3c_2c_4 + a_{213}T_1T_2T_3c_1c_3 + a_{194}T_2T_1T_3c_3c_4 + a_{196}T_1T_3T_2c_2c_3 \\
& + a_{197}T_1T_3T_2c_2c_4 + a_{198}T_1T_2T_3c_1c_4 + a_{199}T_3T_2c_2c_3c_4 + qa_{330}T_2T_1c_1c_2c_3 \\
& - qa_{338}T_2T_1c_1c_2c_4 + a_{202}T_1T_3T_2c_3c_4 - qa_{332}T_2T_1c_1c_3c_4 \\
& + qa_{383}T_1T_2T_3c_2c_3 - qa_{350}T_1T_2T_3c_2c_4 - qa_{336}T_2T_1c_2c_3c_4 \\
& + a_{211}T_1T_2T_1c_1c_4 + a_{213}T_1T_2T_3c_3c_4 + a_{214}T_1T_2T_1T_3c_1 + qa_{353}T_1T_2T_1c_2c_3 \\
& - a_{330}T_2T_3T_2T_1c_1 + a_{219}T_2T_3T_2T_1c_2 + a_{336}T_2T_3T_2T_1c_3 + a_{219}T_2T_3T_2T_1c_4 \\
& - qa_{353}T_2T_3T_2c_1c_2 + qa_{353}T_2T_3T_2c_1c_4 + a_{224}T_1T_2T_1c_2c_4 - qa_{330}T_1T_2c_1c_2c_3 \\
& - qa_{332}T_1T_2c_1c_2c_4 - qa_{338}T_1T_2c_1c_3c_4 + a_{234}T_2T_1T_3c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{298}T_1T_2T_3T_2T_1c_4 + a_{243}T_1T_2T_3T_2c_1c_2 + a_{245}T_1T_2T_3T_2c_1c_3 \\
& + a_{239}T_1T_2T_3T_2c_1c_4 + a_{362}T_1T_2T_3T_2c_2c_3 - qa_{372}T_2T_1c_1c_2c_3c_4 \\
& + a_{243}T_1T_2T_3T_2c_2c_4 - a_{367}T_1T_2T_1T_3c_1c_2 + a_{245}T_1T_2T_3T_2c_3c_4 \\
& + a_{286}T_1T_2T_1T_3c_1c_3 + a_{254}T_1T_2T_1T_3c_1c_4 - qa_{376}T_3T_2T_1c_1c_2c_3 \\
& - qa_{376}T_3T_2T_1c_1c_2c_4 - qa_{373}T_1T_2T_3c_1c_2c_3 + a_{252}T_3T_2T_1c_1c_3c_4 \\
& - a_{367}T_1T_3T_2T_1c_1c_2 + a_{254}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 \\
& + qa_{373}T_3T_2T_1c_2c_3c_4 + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{367}T_1T_3T_2T_1c_2c_3 \\
& - a_{367}T_1T_3T_2T_1c_2c_4 - a_{373}T_1T_2T_1T_3T_2c_1 + a_{261}T_1T_3T_2T_1c_3c_4 \\
& - a_{265}T_2T_3T_2T_1c_1c_2 - a_{372}T_2T_3T_2T_1c_1c_3 + qa_{367}T_3T_2c_1c_2c_3c_4 \\
& + a_{265}T_2T_3T_2T_1c_1c_4 + a_{266}T_1T_2T_3c_1c_3c_4 + a_{270}T_2T_3T_2T_1c_2c_3 \\
& + a_{268}T_2T_3T_2T_1c_2c_4 + a_{270}T_2T_3T_2T_1c_3c_4 + a_{367}T_1T_2T_1T_3c_2c_3 \\
& + a_{302}T_1T_3T_2c_1c_2c_3 + a_{302}T_1T_3T_2c_1c_2c_4 - a_{367}T_1T_2T_1T_3c_2c_4 \\
& + a_{300}T_1T_3T_2c_1c_3c_4 - qa_{373}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 \\
& - a_{373}T_2T_1T_3T_2T_1c_1 + a_{376}T_2T_1T_3T_2T_1c_2 - a_{373}T_2T_1T_3T_2T_1c_3 \\
& + a_{376}T_2T_1T_3T_2T_1c_4 + a_{286}T_1T_2T_1T_3c_3c_4 - qa_{374}T_2T_1T_3T_2c_1c_2 \\
& - qa_{367}T_2T_3c_1c_2c_3c_4 + qa_{374}T_2T_1T_3T_2c_1c_4 + a_{291}T_1T_3T_2c_2c_3c_4 \\
& + qa_{374}T_2T_1T_3T_2c_2c_3 + a_{293}T_2T_1T_3T_2c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_3 \\
& + qa_{374}T_2T_1T_3T_2c_3c_4 - a_{373}T_1T_2T_1T_3T_2c_4 + a_{298}T_1T_2T_3T_2T_1c_1 \\
& - a_{302}T_2T_1T_3c_1c_2c_3 + a_{300}T_2T_1T_3c_1c_2c_4 + a_{301}T_1T_2T_3T_2T_1c_2 \\
& + a_{302}T_2T_1T_3c_1c_3c_4 + qa_{372}T_1T_2c_1c_2c_3c_4 + a_{304}T_1T_2T_3T_2T_1c_3 \\
& + qa_{383}T_1T_2T_3c_1c_2c_3c_4 + a_{322}T_1T_2T_3T_2T_1c_1c_3 + a_{353}T_1T_2T_3T_2T_1c_2c_4 \\
& + a_{350}T_2T_1T_3T_2T_1c_1c_2 - a_{383}T_2T_1T_3T_2T_1c_1c_3 - a_{350}T_2T_1T_3T_2T_1c_1c_4 \\
& + a_{320}T_2T_1T_3T_2T_1c_2c_3 + a_{318}T_2T_1T_3T_2T_1c_2c_4 - a_{350}T_1T_2T_1T_3T_2c_1c_3 \\
& + a_{320}T_2T_1T_3T_2T_1c_3c_4 - a_{323}T_1T_3T_2T_1c_1c_3c_4 + a_{322}T_1T_2T_3T_2T_1c_3c_4 \\
& + a_{323}T_1T_2T_1T_3c_1c_3c_4 - a_{383}T_1T_2T_1T_3T_2c_1c_4 - a_{332}T_2T_3T_2T_1c_1c_2c_3 \\
& + a_{330}T_2T_3T_2T_1c_1c_2c_4 + a_{342}T_1T_2T_1T_3T_2T_1c_2 + a_{332}T_2T_3T_2T_1c_1c_3c_4 \\
& + a_{346}T_1T_2T_3T_2c_1c_2c_3 + a_{335}T_1T_2T_3T_2c_1c_2c_4 + a_{336}T_2T_3T_2T_1c_2c_3c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_2c_3 + a_{338}T_1T_2T_3T_2c_1c_3c_4 + a_{350}T_1T_2T_1T_3T_2c_2c_4 \\
& - a_{343}T_1T_3T_2c_1c_2c_3c_4 + a_{342}T_1T_2T_1T_3T_2T_1c_3 + a_{343}T_2T_1T_3c_1c_2c_3c_4 \\
& - qa_{383}T_3T_2T_1c_1c_2c_3c_4 + a_{346}T_1T_2T_3T_2c_2c_3c_4 - a_{350}T_1T_2T_1T_3T_2c_3c_4 \\
& + a_{349}T_1T_2T_1T_3T_2T_1c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_1 + a_{350}T_1T_2T_1T_3T_2c_1c_2 \\
& + a_{353}T_1T_2T_3T_2T_1c_1c_2 + a_{373}T_2T_1T_3T_2T_1c_1c_2c_4 + a_{373}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{374}T_1T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 - a_{373}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{367}T_1T_3T_2T_1c_1c_2c_3c_4 \\
& + a_{362}T_1T_2T_3T_2c_1c_2c_3c_4 - a_{374}T_1T_2T_1T_3T_2T_1c_1c_3 + a_{367}T_1T_2T_1T_3c_1c_2c_3c_4 \\
& - a_{374}T_1T_2T_1T_3T_2T_1c_3c_4 + a_{372}T_2T_3T_2T_1c_1c_2c_3c_4 + a_{373}T_1T_2T_1T_3T_2c_2c_3c_4 \\
& + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 - a_{383}T_1T_2T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 7, Calculating $c_3z = zc_3$, We got 283 equations .

Totally 299 solutions, dup count: 0.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= q^2 a_{353} \\
a_{41} &= q^2 a_{353} \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= q a_{367} \\
a_{84} &= q a_{367} \\
a_{85} &= -q a_{367} \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= q a_{367} \\
a_{115} &= q a_{367} \\
a_{116} &= -q a_{367} \\
a_{150} &= 0 \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= q a_{342} \\
a_{192} &= 0 \\
a_{193} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{195} &= 0 \\
a_{221} &= -qa_{353} \\
a_{222} &= 0 \\
a_{223} &= qa_{353} \\
a_{232} &= 0 \\
a_{233} &= 0 \\
a_{264} &= qa_{367} \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= -qa_{374} \\
a_{288} &= 0 \\
a_{289} &= -qa_{367} \\
a_{290} &= qa_{374} \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0 \\
a_{19} &= qa_{80} \\
a_{24} &= q^2a_{353} - qq^2a_{353} \\
a_{26} &= 0 \\
a_{168} &= 0
\end{aligned}$$

$$a_{166} = -qa_{353}$$

$$a_{43} = q^2 a_{349}$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = -q^2 a_{353}$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = a_{77}$$

$$a_{244} = -a_{367}$$

$$a_{253} = -a_{367}$$

$$a_{259} = -a_{367}$$

$$a_{89} = qa_{376}$$

$$a_{91} = -q^2 a_{374}$$

$$a_{92} = q^2 a_{374}$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = -a_{300}$$

$$a_{132} = 0$$

$$a_{104} = qa_{239}$$

$$a_{100} = qa_{265}$$

$$a_{106} = a_{139}$$

$$a_{316} = 0$$

$$a_{171} = -qa_{383}$$

$$a_{178} = -a_{187}$$

$$a_{172} = -a_{343}$$

$$a_{181} = -qa_{383}$$

$$a_{184} = a_{187}$$

$$a_{185} = -qa_{320}$$

$$a_{186} = qa_{320}$$

$$a_{200} = 0$$

$$a_{201} = -qa_{338}$$

$$a_{203} = -qa_{332}$$

$$a_{205} = qa_{383}$$

$$a_{206} = -qa_{383}$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = -a_{367}$$

$$a_{272} = a_{302}$$

$$a_{278} = a_{300}$$

$$a_{273} = a_{302}$$

$$a_{306} = qa_{383}$$

$$a_{341} = -a_{343}$$

$$a_{345} = -qa_{383}$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = -a_{199}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = a_{367}$$

$$a_{137} = qa_{239}$$

$$\begin{aligned}
a_{108} &= qa_{243} \\
a_{88} &= -a_{119} \\
a_{87} &= a_{119} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= qa_{265} \\
a_{142} &= qa_{268} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= -qa_{346} \\
a_{167} &= a_{323} \\
a_{176} &= qa_{349} \\
a_{339} &= 0 \\
a_{157} &= -a_{199} \\
a_{227} &= 0 \\
a_{229} &= -qa_{332} \\
a_{208} &= -qa_{336} \\
a_{215} &= qa_{353} \\
a_{231} &= -qa_{338} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= qa_{374} \\
a_{295} &= qa_{374} \\
a_{313} &= a_{383} \\
a_{314} &= -a_{383} \\
a_{315} &= -a_{383} \\
a_{321} &= -a_{323} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= -a_{383} \\
a_{351} &= 0 \\
a_{49} &= a_{198}
\end{aligned}$$

$$\begin{aligned}
a_{294} &= a_{376} \\
a_{93} &= a_{266} \\
a_{98} &= a_{147} \\
a_{124} &= -a_{286} \\
a_{127} &= a_{239} \\
a_{154} &= a_{323} \\
a_{156} &= a_{323} \\
a_{159} &= -a_{383} \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{338} \\
a_{319} &= -a_{383} \\
a_{191} &= a_{213} \\
a_{337} &= -a_{383} \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{243} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= a_{367} \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= a_{353} \\
a_{333} &= a_{346} \\
a_{340} &= a_{383} \\
a_{348} &= a_{349} \\
a_{358} &= a_{374} \\
a_{365} &= -a_{374} \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{119} \\
a_{38} &= -a_{199} \\
a_{37} &= -a_{199} \\
a_{130} &= a_{293} \\
a_{76} &= a_{190}
\end{aligned}$$

$$\begin{aligned}
a_{81} &= 0 \\
a_{276} &= -a_{367} \\
a_{90} &= a_{119} \\
a_{175} &= a_{177} \\
a_{326} &= -a_{383} \\
a_{173} &= -a_{320} \\
a_{136} &= -a_{300} \\
a_{133} &= a_{135} \\
a_{134} &= a_{234} \\
a_{149} &= a_{268} \\
a_{369} &= -a_{374} \\
a_{285} &= a_{376} \\
a_{179} &= -a_{187} \\
a_{180} &= -a_{343} \\
a_{189} &= a_{194} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{336} \\
a_{359} &= a_{376} \\
a_{347} &= -a_{383} \\
a_{296} &= a_{376} \\
a_{317} &= a_{320} \\
a_{262} &= -a_{265} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -a_{302} \\
a_{331} &= a_{342} \\
a_{329} &= -a_{332} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= a_{21} \\
a_{17} &= a_{121} \\
a_{58} &= -a_{59} \\
a_{46} &= a_{48} \\
a_{33} &= a_{202} \\
a_{51} &= a_{188} \\
a_{53} &= -a_{199} \\
a_{54} &= a_{55} \\
a_{82} &= -a_{86} \\
a_{118} &= -a_{119} \\
a_{109} &= -a_{252} \\
a_{111} &= a_{112} \\
a_{129} &= a_{261} \\
a_{141} &= -a_{291} \\
a_{144} &= a_{146} \\
a_{214} &= a_{323} \\
a_{169} &= a_{170} \\
a_{318} &= -a_{320} \\
a_{182} &= -a_{183} \\
a_{196} &= -a_{197} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= a_{383}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_5c_1 + a_6c_2 + a_7c_3 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 - a_{119}T_2T_3 \\
& + a_{13}T_2c_2 + a_{15}T_2c_4 + a_{121}T_3T_2 + a_{18}T_3c_1 + qa_{80}T_3c_2 + a_{21}T_3c_3 + a_{21}T_3c_4 \\
& + a_{22}T_1c_1 + q^2a_{353}c_1c_3 - qq^2a_{353}c_1c_3 + a_{25}c_1c_4 + a_{29}T_1c_3 + a_{31}T_1c_4 \\
& + a_{32}T_2T_1c_4 + a_{202}T_1T_3T_2 + a_{34}T_2T_3T_2 - a_{199}T_2T_3c_2 - a_{199}T_2T_3c_3 \\
& - a_{199}T_2T_3c_4 + a_{39}T_1T_3c_1 + q^2a_{353}T_2c_1c_2 + q^2a_{353}T_2c_1c_3 + q^2a_{349}T_1T_3c_2 \\
& + a_{45}T_2c_2c_4 + a_{48}T_1T_3c_3 + a_{48}T_1T_3c_4 + a_{198}T_1T_2T_3 + a_{188}T_3T_2T_1 \\
& - a_{199}T_3T_2c_2 + a_{55}T_3T_2c_3 + a_{55}T_3T_2c_4 + a_{56}T_1c_1c_3 - a_{59}T_3c_1c_3 \\
& + a_{59}T_3c_1c_4 + a_{60}T_1c_1c_4 + a_{77}T_1T_2c_1 - q^2a_{353}T_1c_2c_3 + a_{67}T_1T_2c_2
\end{aligned}$$

$$\begin{aligned}
& + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 + a_{190}T_2T_1T_3 + a_{77}T_2T_1c_1 + a_{78}T_2T_1c_2 \\
& + a_{80}T_2T_3T_2c_3 - a_{86}T_1T_3c_1c_3 + qa_{367}T_2T_3c_1c_2 + qa_{367}T_2T_3c_1c_3 \\
& - qa_{367}T_2T_3c_1c_4 + a_{86}T_1T_3c_1c_4 + a_{119}T_2T_3c_2c_3 - a_{119}T_2T_3c_2c_4 \\
& + qa_{376}T_1T_2T_3c_2 + a_{119}T_2T_3c_3c_4 - q^2a_{374}T_1T_3c_2c_3 + q^2a_{374}T_1T_3c_2c_4 \\
& + a_{266}T_1T_2T_3c_3 + a_{147}T_1T_2T_3c_4 + a_{99}T_1T_2T_1c_1 + qa_{265}T_1T_2c_1c_2 \\
& + qa_{239}T_1T_2c_1c_3 + a_{139}T_1T_2c_1c_4 + qa_{243}T_1T_2c_2c_3 - a_{252}T_3T_2T_1c_1 \\
& + qa_{376}T_3T_2T_1c_2 + a_{112}T_3T_2T_1c_3 + a_{112}T_3T_2T_1c_4 + qa_{367}T_3T_2c_1c_2 \\
& + qa_{367}T_3T_2c_1c_3 - qa_{367}T_3T_2c_1c_4 + a_{117}T_1T_2c_2c_4 - a_{119}T_3T_2c_2c_3 \\
& + a_{119}T_3T_2c_2c_4 + a_{121}T_3T_2c_3c_4 + a_{123}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 \\
& + a_{239}T_1T_2T_3T_2 + a_{261}T_1T_3T_2T_1 + a_{293}T_2T_1T_3T_2 - a_{300}T_2T_1T_3c_1 \\
& + a_{135}T_2T_1T_3c_2 + a_{234}T_2T_1T_3c_3 + a_{135}T_2T_1T_3c_4 - a_{300}T_1T_3T_2c_1 \\
& + qa_{239}T_2T_1c_1c_2 + qa_{265}T_2T_1c_1c_3 + a_{139}T_2T_1c_1c_4 - a_{291}T_1T_3T_2c_2 \\
& + qa_{268}T_2T_1c_2c_3 + a_{143}T_2T_1c_2c_4 + a_{146}T_1T_3T_2c_3 + a_{146}T_1T_3T_2c_4 \\
& + a_{147}T_1T_2T_3c_1 + a_{268}T_2T_3T_2T_1 + a_{323}T_1T_2T_1T_3c_3 + a_{323}T_1T_2T_1T_3c_4 \\
& - a_{199}T_2T_3c_2c_3c_4 - qa_{346}T_1T_2c_2c_3c_4 - a_{383}T_1T_2T_1T_3T_2 + a_{160}T_1T_2T_3T_2T_1 \\
& + a_{338}T_1T_2T_3T_2c_3 - qa_{353}T_1T_2T_1c_1c_2 + a_{323}T_1T_3T_2T_1c_1 + a_{170}T_1T_3T_2T_1c_3 \\
& + a_{170}T_1T_3T_2T_1c_4 - qa_{383}T_1T_2T_3c_1c_2 - a_{343}T_1T_3T_2c_1c_2 - a_{320}T_2T_1T_3T_2T_1 \\
& + qa_{342}T_2T_1T_3T_2c_1 + a_{177}T_2T_1T_3T_2c_2 + qa_{349}T_2T_1T_3T_2c_3 + a_{177}T_2T_1T_3T_2c_4 \\
& - a_{187}T_1T_3T_2c_1c_3 - a_{187}T_2T_1T_3c_1c_2 - a_{343}T_2T_1T_3c_1c_3 - qa_{383}T_3T_2T_1c_1c_2 \\
& - a_{183}T_3T_2T_1c_1c_3 + a_{183}T_3T_2T_1c_1c_4 + a_{187}T_2T_1T_3c_1c_4 - qa_{320}T_3T_2T_1c_2c_3 \\
& + qa_{320}T_3T_2T_1c_2c_4 + a_{187}T_1T_3T_2c_1c_4 + a_{188}T_3T_2T_1c_3c_4 + a_{194}T_2T_1T_3c_2c_3 \\
& + a_{190}T_2T_1T_3c_2c_4 + a_{213}T_1T_2T_3c_1c_3 + a_{194}T_2T_1T_3c_3c_4 - a_{197}T_1T_3T_2c_2c_3 \\
& + a_{197}T_1T_3T_2c_2c_4 + a_{198}T_1T_2T_3c_1c_4 + a_{199}T_3T_2c_2c_3c_4 - qa_{338}T_2T_1c_1c_2c_4 \\
& + a_{202}T_1T_3T_2c_3c_4 - qa_{332}T_2T_1c_1c_3c_4 + qa_{383}T_1T_2T_3c_2c_3 - qa_{383}T_1T_2T_3c_2c_4 \\
& - qa_{336}T_2T_1c_2c_3c_4 + a_{211}T_1T_2T_1c_1c_4 + a_{213}T_1T_2T_3c_3c_4 + a_{323}T_1T_2T_1T_3c_1 \\
& + qa_{353}T_1T_2T_1c_2c_3 + a_{336}T_2T_3T_2T_1c_3 - qa_{353}T_2T_3T_2c_1c_2 + qa_{353}T_2T_3T_2c_1c_4 \\
& - qa_{332}T_1T_2c_1c_2c_4 - qa_{338}T_1T_2c_1c_3c_4 + a_{234}T_2T_1T_3c_2c_3c_4 \\
& + a_{243}T_1T_2T_3T_2c_1c_2 + a_{239}T_1T_2T_3T_2c_1c_4 + a_{243}T_1T_2T_3T_2c_2c_4 \\
& - a_{367}T_1T_2T_1T_3c_1c_2 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& + a_{252}T_3T_2T_1c_1c_3c_4 - a_{367}T_1T_3T_2T_1c_1c_2 - a_{286}T_1T_3T_2T_1c_1c_3 \\
& + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 + qa_{376}T_1T_2T_3c_1c_2c_4 \\
& + a_{367}T_1T_3T_2T_1c_2c_3 - a_{367}T_1T_3T_2T_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 \\
& + a_{261}T_1T_3T_2T_1c_3c_4 - a_{265}T_2T_3T_2T_1c_1c_2 + qa_{367}T_3T_2c_1c_2c_3c_4 \\
& + a_{265}T_2T_3T_2T_1c_1c_4 + a_{266}T_1T_2T_3c_1c_3c_4 + a_{268}T_2T_3T_2T_1c_2c_4 \\
& + a_{367}T_1T_2T_1T_3c_2c_3 + a_{302}T_1T_3T_2c_1c_2c_3 + a_{302}T_1T_3T_2c_1c_2c_4 \\
& - a_{367}T_1T_2T_1T_3c_2c_4 + a_{300}T_1T_3T_2c_1c_3c_4 + qa_{376}T_1T_2T_3c_2c_3c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 + a_{376}T_2T_1T_3T_2T_1c_2 \\
& + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 + a_{286}T_1T_2T_1T_3c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -qa_{374}T_2T_1T_3T_2c_1c_2 - qa_{367}T_2T_3c_1c_2c_3c_4 + qa_{374}T_2T_1T_3T_2c_1c_4 \\
& + a_{291}T_1T_3T_2c_2c_3c_4 + qa_{374}T_2T_1T_3T_2c_2c_3 + a_{293}T_2T_1T_3T_2c_2c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_3 + qa_{374}T_2T_1T_3T_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - a_{302}T_2T_1T_3c_1c_2c_3 + a_{300}T_2T_1T_3c_1c_2c_4 + a_{302}T_2T_1T_3c_1c_3c_4 \\
& + a_{304}T_1T_2T_3T_2T_1c_3 + qa_{383}T_1T_2T_3c_1c_2c_3c_4 + a_{353}T_1T_2T_3T_2T_1c_2c_4 \\
& + a_{383}T_2T_1T_3T_2T_1c_1c_2 - a_{383}T_2T_1T_3T_2T_1c_1c_3 - a_{383}T_2T_1T_3T_2T_1c_1c_4 \\
& + a_{320}T_2T_1T_3T_2T_1c_2c_3 - a_{320}T_2T_1T_3T_2T_1c_2c_4 - a_{383}T_1T_2T_1T_3T_2c_1c_3 \\
& + a_{320}T_2T_1T_3T_2T_1c_3c_4 - a_{323}T_1T_3T_2T_1c_1c_3c_4 + a_{323}T_1T_2T_1T_3c_1c_3c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_1c_4 - a_{332}T_2T_3T_2T_1c_1c_2c_3 + a_{342}T_1T_2T_1T_3T_2T_1c_2 \\
& + a_{332}T_2T_3T_2T_1c_1c_3c_4 + a_{346}T_1T_2T_3T_2c_1c_2c_3 + a_{336}T_2T_3T_2T_1c_2c_3c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_2c_3 + a_{338}T_1T_2T_3T_2c_1c_3c_4 + a_{383}T_1T_2T_1T_3T_2c_2c_4 \\
& - a_{343}T_1T_3T_2c_1c_2c_3c_4 + a_{342}T_1T_2T_1T_3T_2T_1c_3 + a_{343}T_2T_1T_3c_1c_2c_3c_4 \\
& - qa_{383}T_3T_2T_1c_1c_2c_3c_4 + a_{346}T_1T_2T_3T_2c_2c_3c_4 - a_{383}T_1T_2T_1T_3T_2c_3c_4 \\
& + a_{349}T_1T_2T_1T_3T_2T_1c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_1 + a_{383}T_1T_2T_1T_3T_2c_1c_2 \\
& + a_{353}T_1T_2T_3T_2T_1c_1c_2 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{374}T_1T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{367}T_1T_3T_2T_1c_1c_2c_3c_4 \\
& - a_{374}T_1T_2T_1T_3T_2T_1c_1c_3 + a_{367}T_1T_2T_1T_3c_1c_2c_3c_4 - a_{374}T_1T_2T_1T_3T_2T_1c_3c_4 \\
& - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 \\
& - a_{383}T_1T_2T_1T_3T_2c_1c_2c_3c_4 + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 8, Calculating $c_4z = zc_4$, We got 238 equations .

Totally 336 solutions, dup count: 0.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$\begin{aligned}
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= q^2 a_{353} \\
a_{41} &= q^2 a_{353} \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= qa_{367} \\
a_{84} &= qa_{367} \\
a_{85} &= -qa_{367} \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= qa_{367} \\
a_{115} &= qa_{367} \\
a_{116} &= -qa_{367} \\
a_{150} &= 0 \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= qa_{342} \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0 \\
a_{221} &= -qa_{353} \\
a_{222} &= 0 \\
a_{223} &= qa_{353} \\
a_{232} &= 0 \\
a_{233} &= 0 \\
a_{264} &= qa_{367} \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= -qa_{374} \\
a_{288} &= 0 \\
a_{289} &= -qa_{367} \\
a_{290} &= qa_{374} \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0 \\
a_{19} &= qa_{80} \\
a_{24} &= q^2 a_{353} - qq^2 a_{353} \\
a_{26} &= 0 \\
a_{168} &= 0 \\
a_{166} &= -qa_{353} \\
a_{43} &= q^2 a_{349} \\
a_{61} &= 0 \\
a_{62} &= 0 \\
a_{65} &= -q^2 a_{353} \\
a_{66} &= 0 \\
a_{71} &= 0 \\
a_{63} &= 0 \\
a_{244} &= -a_{367} \\
a_{253} &= -a_{367} \\
a_{259} &= -a_{367} \\
a_{89} &= qa_{376} \\
a_{91} &= -q^2 a_{374} \\
a_{92} &= q^2 a_{374} \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= a_{302}
\end{aligned}$$

$$\begin{aligned}
a_{132} &= 0 \\
a_{104} &= -qa_{243} \\
a_{100} &= -qa_{268} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= -qa_{383} \\
a_{178} &= -a_{343} \\
a_{172} &= -a_{343} \\
a_{181} &= -qa_{383} \\
a_{184} &= a_{343} \\
a_{185} &= qa_{383} \\
a_{186} &= -qa_{383} \\
a_{200} &= 0 \\
a_{201} &= qa_{346} \\
a_{203} &= qa_{336} \\
a_{205} &= qa_{383} \\
a_{206} &= -qa_{383} \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= -a_{367} \\
a_{272} &= a_{302} \\
a_{278} &= -a_{302} \\
a_{273} &= a_{302} \\
a_{306} &= qa_{383} \\
a_{341} &= -a_{343} \\
a_{345} &= -qa_{383} \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= -a_{199} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= a_{367} \\
a_{137} &= -qa_{243} \\
a_{108} &= qa_{243} \\
a_{88} &= a_{121} \\
a_{87} &= -a_{121} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= -qa_{268} \\
a_{142} &= qa_{268} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= -qa_{346} \\
a_{167} &= a_{323} \\
a_{176} &= qa_{349} \\
a_{339} &= 0 \\
a_{157} &= -a_{199} \\
a_{227} &= 0 \\
a_{229} &= qa_{336} \\
a_{208} &= -qa_{336}
\end{aligned}$$

$$a_{215} = qa_{353}$$

$$a_{231} = qa_{346}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = qa_{374}$$

$$a_{295} = qa_{374}$$

$$a_{313} = a_{383}$$

$$a_{314} = -a_{383}$$

$$a_{315} = -a_{383}$$

$$a_{321} = -a_{323}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = -a_{383}$$

$$a_{351} = 0$$

$$a_{49} = -a_{213}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{266}$$

$$a_{98} = a_{266}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{243}$$

$$a_{154} = a_{323}$$

$$a_{156} = a_{323}$$

$$a_{159} = -a_{383}$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = -a_{346}$$

$$a_{319} = -a_{383}$$

$$a_{191} = a_{213}$$

$$a_{337} = -a_{383}$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{243}$$

$$a_{238} = 0$$

$$\begin{aligned}
a_{241} &= 0 \\
a_{271} &= a_{367} \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= a_{353} \\
a_{333} &= a_{346} \\
a_{340} &= a_{383} \\
a_{348} &= a_{349} \\
a_{358} &= a_{374} \\
a_{365} &= -a_{374} \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= a_{121} \\
a_{38} &= -a_{199} \\
a_{37} &= -a_{199} \\
a_{130} &= 0 \\
a_{76} &= -a_{194} \\
a_{81} &= 0 \\
a_{276} &= -a_{367} \\
a_{90} &= -a_{121} \\
a_{175} &= a_{177} \\
a_{326} &= -a_{383} \\
a_{173} &= a_{383} \\
a_{136} &= a_{302} \\
a_{133} &= a_{234} \\
a_{134} &= a_{234} \\
a_{149} &= a_{268} \\
a_{369} &= -a_{374} \\
a_{285} &= a_{376} \\
a_{179} &= -a_{343} \\
a_{180} &= -a_{343} \\
a_{189} &= a_{194} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{336}
\end{aligned}$$

$$\begin{aligned}
a_{359} &= a_{376} \\
a_{347} &= -a_{383} \\
a_{296} &= a_{376} \\
a_{317} &= -a_{383} \\
a_{262} &= a_{268} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -a_{302} \\
a_{331} &= a_{342} \\
a_{329} &= a_{336} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= a_{21} \\
a_{17} &= a_{121} \\
a_{58} &= -a_{59} \\
a_{46} &= a_{48} \\
a_{33} &= a_{202} \\
a_{51} &= a_{188} \\
a_{53} &= -a_{199} \\
a_{54} &= -a_{199} \\
a_{82} &= -a_{86} \\
a_{118} &= a_{121} \\
a_{109} &= -a_{252} \\
a_{111} &= -a_{252} \\
a_{129} &= -a_{286}
\end{aligned}$$

$$a_{141} = -a_{291}$$

$$a_{144} = -a_{291}$$

$$a_{214} = a_{323}$$

$$a_{169} = a_{323}$$

$$a_{318} = a_{383}$$

$$a_{182} = a_{188}$$

$$a_{196} = a_{202}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = a_{383}$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = -a_{121}$$

$$a_{197} = -a_{202}$$

$$a_{198} = -a_{213}$$

$$a_{183} = -a_{188}$$

$$a_{55} = -a_{199}$$

$$a_{190} = -a_{194}$$

$$a_{147} = a_{266}$$

$$a_{112} = -a_{252}$$

$$a_{239} = -a_{243}$$

$$a_{261} = -a_{286}$$

$$a_{300} = -a_{302}$$

$$\begin{aligned}
a_{135} &= a_{234} \\
a_{146} &= -a_{291} \\
a_{265} &= -a_{268} \\
a_{338} &= -a_{346} \\
a_{170} &= a_{323} \\
a_{187} &= a_{343} \\
a_{320} &= -a_{383} \\
a_{332} &= -a_{336}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 + a_{121}T_2T_3 + a_{15}T_2c_4 + a_{121}T_3T_2 \\
& + a_{18}T_3c_1 + qa_{80}T_3c_2 + a_{21}T_3c_3 + a_{21}T_3c_4 + q^2a_{353}c_1c_3 - qq^2a_{353}c_1c_3 \\
& + a_{31}T_1c_4 + a_{32}T_2T_1c_4 + a_{202}T_1T_3T_2 + a_{34}T_2T_3T_2 - a_{199}T_2T_3c_2 \\
& - a_{199}T_2T_3c_3 - a_{199}T_2T_3c_4 + a_{39}T_1T_3c_1 + q^2a_{353}T_2c_1c_2 + q^2a_{353}T_2c_1c_3 \\
& + q^2a_{349}T_1T_3c_2 + a_{48}T_1T_3c_3 + a_{48}T_1T_3c_4 - a_{213}T_1T_2T_3 + a_{188}T_3T_2T_1 \\
& - a_{199}T_3T_2c_2 - a_{199}T_3T_2c_3 - a_{199}T_3T_2c_4 + a_{56}T_1c_1c_3 - a_{59}T_3c_1c_3 \\
& + a_{59}T_3c_1c_4 - q^2a_{353}T_1c_2c_3 + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 - a_{194}T_2T_1T_3 \\
& + a_{80}T_2T_3T_2c_3 - a_{86}T_1T_3c_1c_3 + qa_{367}T_2T_3c_1c_2 + qa_{367}T_2T_3c_1c_3 \\
& - qa_{367}T_2T_3c_1c_4 + a_{86}T_1T_3c_1c_4 - a_{121}T_2T_3c_2c_3 + a_{121}T_2T_3c_2c_4 \\
& + qa_{376}T_1T_2T_3c_2 - a_{121}T_2T_3c_3c_4 - q^2a_{374}T_1T_3c_2c_3 + q^2a_{374}T_1T_3c_2c_4 \\
& + a_{266}T_1T_2T_3c_3 + a_{266}T_1T_2T_3c_4 - qa_{268}T_1T_2c_1c_2 - qa_{243}T_1T_2c_1c_3 \\
& + qa_{243}T_1T_2c_2c_3 - a_{252}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 - a_{252}T_3T_2T_1c_3 \\
& - a_{252}T_3T_2T_1c_4 + qa_{367}T_3T_2c_1c_2 + qa_{367}T_3T_2c_1c_3 - qa_{367}T_3T_2c_1c_4 \\
& + a_{121}T_3T_2c_2c_3 - a_{121}T_3T_2c_2c_4 + a_{121}T_3T_2c_3c_4 + a_{123}T_1T_2T_1c_4 \\
& - a_{286}T_1T_2T_1T_3 - a_{243}T_1T_2T_3T_2 - a_{286}T_1T_3T_2T_1 + a_{302}T_2T_1T_3c_1 \\
& + a_{234}T_2T_1T_3c_2 + a_{234}T_2T_1T_3c_3 + a_{234}T_2T_1T_3c_4 + a_{302}T_1T_3T_2c_1 \\
& - qa_{243}T_2T_1c_1c_2 - qa_{268}T_2T_1c_1c_3 - a_{291}T_1T_3T_2c_2 + qa_{268}T_2T_1c_2c_3 \\
& - a_{291}T_1T_3T_2c_3 - a_{291}T_1T_3T_2c_4 + a_{266}T_1T_2T_3c_1 + a_{268}T_2T_3T_2T_1 \\
& + a_{323}T_1T_2T_1T_3c_3 + a_{323}T_1T_2T_1T_3c_4 - a_{199}T_2T_3c_2c_3c_4 - qa_{346}T_1T_2c_2c_3c_4 \\
& - a_{383}T_1T_2T_1T_3T_2 + a_{160}T_1T_2T_3T_2T_1 - a_{346}T_1T_2T_3T_2c_3 - qa_{353}T_1T_2T_1c_1c_2 \\
& + a_{323}T_1T_3T_2T_1c_1 + a_{323}T_1T_3T_2T_1c_3 + a_{323}T_1T_3T_2T_1c_4 - qa_{383}T_1T_2T_3c_1c_2 \\
& - a_{343}T_1T_3T_2c_1c_2 + a_{383}T_2T_1T_3T_2T_1 + qa_{342}T_2T_1T_3T_2c_1 + a_{177}T_2T_1T_3T_2c_2 \\
& + qa_{349}T_2T_1T_3T_2c_3 + a_{177}T_2T_1T_3T_2c_4 - a_{343}T_1T_3T_2c_1c_3 - a_{343}T_2T_1T_3c_1c_2 \\
& - a_{343}T_2T_1T_3c_1c_3 - qa_{383}T_3T_2T_1c_1c_2 + a_{188}T_3T_2T_1c_1c_3 - a_{188}T_3T_2T_1c_1c_4 \\
& + a_{343}T_2T_1T_3c_1c_4 + qa_{383}T_3T_2T_1c_2c_3 - qa_{383}T_3T_2T_1c_2c_4 + a_{343}T_1T_3T_2c_1c_4 \\
& + a_{188}T_3T_2T_1c_3c_4 + a_{194}T_2T_1T_3c_2c_3 - a_{194}T_2T_1T_3c_2c_4 + a_{213}T_1T_2T_3c_1c_3 \\
& + a_{194}T_2T_1T_3c_3c_4 + a_{202}T_1T_3T_2c_2c_3 - a_{202}T_1T_3T_2c_2c_4 - a_{213}T_1T_2T_3c_1c_4 \\
& + a_{199}T_3T_2c_2c_3c_4 + qa_{346}T_2T_1c_1c_2c_4 + a_{202}T_1T_3T_2c_3c_4 + qa_{336}T_2T_1c_1c_3c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{383}T_1T_2T_3c_2c_3 - qa_{383}T_1T_2T_3c_2c_4 - qa_{336}T_2T_1c_2c_3c_4 \\
& + a_{213}T_1T_2T_3c_3c_4 + a_{323}T_1T_2T_1T_3c_1 + qa_{353}T_1T_2T_1c_2c_3 + a_{336}T_2T_3T_2T_1c_3 \\
& - qa_{353}T_2T_3T_2c_1c_2 + qa_{353}T_2T_3T_2c_1c_4 + qa_{336}T_1T_2c_1c_2c_4 \\
& + qa_{346}T_1T_2c_1c_3c_4 + a_{234}T_2T_1T_3c_2c_3c_4 + a_{243}T_1T_2T_3T_2c_1c_2 \\
& - a_{243}T_1T_2T_3T_2c_1c_4 + a_{243}T_1T_2T_3T_2c_2c_4 - a_{367}T_1T_2T_1T_3c_1c_2 \\
& + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 - qa_{376}T_3T_2T_1c_1c_2c_3 \\
& - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 + a_{252}T_3T_2T_1c_1c_3c_4 \\
& - a_{367}T_1T_3T_2T_1c_1c_2 - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 \\
& - qa_{376}T_3T_2T_1c_2c_3c_4 + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{367}T_1T_3T_2T_1c_2c_3 \\
& - a_{367}T_1T_3T_2T_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& + a_{268}T_2T_3T_2T_1c_1c_2 + qa_{367}T_3T_2c_1c_2c_3c_4 - a_{268}T_2T_3T_2T_1c_1c_4 \\
& + a_{266}T_1T_2T_3c_1c_3c_4 + a_{268}T_2T_3T_2T_1c_2c_4 + a_{367}T_1T_2T_1T_3c_2c_3 \\
& + a_{302}T_1T_3T_2c_1c_2c_3 + a_{302}T_1T_3T_2c_1c_2c_4 - a_{367}T_1T_2T_1T_3c_2c_4 \\
& - a_{302}T_1T_3T_2c_1c_3c_4 + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 \\
& + a_{376}T_2T_1T_3T_2T_1c_1 + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 \\
& + a_{376}T_2T_1T_3T_2T_1c_4 + a_{286}T_1T_2T_1T_3c_3c_4 - qa_{374}T_2T_1T_3T_2c_1c_2 \\
& - qa_{367}T_2T_3c_1c_2c_3c_4 + qa_{374}T_2T_1T_3T_2c_1c_4 + a_{291}T_1T_3T_2c_2c_3c_4 \\
& + qa_{374}T_2T_1T_3T_2c_2c_3 + a_{376}T_1T_2T_1T_3T_2c_3 + qa_{374}T_2T_1T_3T_2c_3c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_4 - a_{302}T_2T_1T_3c_1c_2c_3 - a_{302}T_2T_1T_3c_1c_2c_4 \\
& + a_{302}T_2T_1T_3c_1c_3c_4 + a_{304}T_1T_2T_3T_2T_1c_3 + qa_{383}T_1T_2T_3c_1c_2c_3c_4 \\
& + a_{353}T_1T_2T_3T_2T_1c_2c_4 + a_{383}T_2T_1T_3T_2T_1c_1c_2 - a_{383}T_2T_1T_3T_2T_1c_1c_3 \\
& - a_{383}T_2T_1T_3T_2T_1c_1c_4 - a_{383}T_2T_1T_3T_2T_1c_2c_3 + a_{383}T_2T_1T_3T_2T_1c_2c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_1c_3 - a_{383}T_2T_1T_3T_2T_1c_3c_4 - a_{323}T_1T_3T_2T_1c_1c_3c_4 \\
& + a_{323}T_1T_2T_1T_3c_1c_3c_4 - a_{383}T_1T_2T_1T_3T_2c_1c_4 + a_{336}T_2T_3T_2T_1c_1c_2c_3 \\
& + a_{342}T_1T_2T_1T_3T_2T_1c_2 - a_{336}T_2T_3T_2T_1c_1c_3c_4 + a_{346}T_1T_2T_3T_2c_1c_2c_3 \\
& + a_{336}T_2T_3T_2T_1c_2c_3c_4 - a_{383}T_1T_2T_1T_3T_2c_2c_3 - a_{346}T_1T_2T_3T_2c_1c_3c_4 \\
& + a_{383}T_1T_2T_1T_3T_2c_2c_4 - a_{343}T_1T_3T_2c_1c_2c_3c_4 + a_{342}T_1T_2T_1T_3T_2T_1c_3 \\
& + a_{343}T_2T_1T_3c_1c_2c_3c_4 - qa_{383}T_3T_2T_1c_1c_2c_3c_4 + a_{346}T_1T_2T_3T_2c_2c_3c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_3c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_1 \\
& + a_{383}T_1T_2T_1T_3T_2c_1c_2 + a_{353}T_1T_2T_3T_2T_1c_1c_2 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 \\
& - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 \\
& + a_{374}T_1T_2T_1T_3T_2T_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 \\
& - a_{367}T_1T_3T_2T_1c_1c_2c_3c_4 - a_{374}T_1T_2T_1T_3T_2T_1c_1c_3 + a_{367}T_1T_2T_1T_3c_1c_2c_3c_4 \\
& - a_{374}T_1T_2T_1T_3T_2T_1c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 \\
& + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 - a_{383}T_1T_2T_1T_3T_2c_1c_2c_3c_4 + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 9, Calculating $T_1T_2z = zT_1T_2$, We got 293 equations .

Totally 348 solutions, dup count: 0.

$$a_{50} = 0$$

$$\begin{aligned}
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= q^2 a_{353} \\
a_{41} &= q^2 a_{353} \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= -qa_{383} + q^2 a_{383} \\
a_{84} &= -qa_{383} + q^2 a_{383} \\
a_{85} &= qa_{383} - q^2 a_{383} \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= -qa_{383} + q^2 a_{383} \\
a_{115} &= -qa_{383} + q^2 a_{383} \\
a_{116} &= qa_{383} - q^2 a_{383} \\
a_{150} &= 0 \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= qa_{349} \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0 \\
a_{221} &= -qa_{353}
\end{aligned}$$

$$\begin{aligned}
a_{222} &= 0 \\
a_{223} &= qa_{353} \\
a_{232} &= 0 \\
a_{233} &= 0 \\
a_{264} &= -qa_{383} + q^2a_{383} \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= -qa_{374} \\
a_{288} &= 0 \\
a_{289} &= qa_{383} - q^2a_{383} \\
a_{290} &= qa_{374} \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0 \\
a_{19} &= q^2a_{349} - qq^2a_{349} \\
a_{24} &= q^2a_{353} - qq^2a_{353} \\
a_{26} &= 0 \\
a_{168} &= 0 \\
a_{166} &= -qa_{353} \\
a_{43} &= q^2a_{349}
\end{aligned}$$

$$\begin{aligned}
a_{61} &= 0 \\
a_{62} &= 0 \\
a_{65} &= -q^2 a_{353} \\
a_{66} &= 0 \\
a_{71} &= 0 \\
a_{63} &= 0 \\
a_{244} &= a_{383} - qa_{383} \\
a_{253} &= a_{383} - qa_{383} \\
a_{259} &= a_{383} - qa_{383} \\
a_{89} &= qa_{376} \\
a_{91} &= -q^2 a_{374} \\
a_{92} &= q^2 a_{374} \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= a_{302} \\
a_{132} &= 0 \\
a_{104} &= -qa_{243} \\
a_{100} &= -qa_{268} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= -qa_{383} \\
a_{178} &= a_{383} - qa_{383} + q^2 a_{383} \\
a_{172} &= a_{383} - qa_{383} + q^2 a_{383} \\
a_{181} &= -qa_{383} \\
a_{184} &= -a_{383} + qa_{383} - q^2 a_{383} \\
a_{185} &= qa_{383} \\
a_{186} &= -qa_{383} \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2 a_{376} \\
a_{203} &= qa_{376} - q^2 a_{376} \\
a_{205} &= qa_{383} \\
a_{206} &= -qa_{383} \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= a_{383} - qa_{383} \\
a_{272} &= a_{302} \\
a_{278} &= -a_{302} \\
a_{273} &= a_{302} \\
a_{306} &= qa_{383} \\
a_{341} &= a_{383} - qa_{383} + q^2 a_{383} \\
a_{345} &= -qa_{383} \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= -a_{199} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= -a_{383} + qa_{383} \\
a_{137} &= -qa_{243} \\
a_{108} &= qa_{243}
\end{aligned}$$

$$\begin{aligned}
a_{88} &= a_{121} \\
a_{87} &= -a_{121} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= -qa_{268} \\
a_{142} &= qa_{268} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= qa_{349} \\
a_{339} &= 0 \\
a_{157} &= -a_{199} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= qa_{353} \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= qa_{374} \\
a_{295} &= qa_{374} \\
a_{313} &= a_{383} \\
a_{314} &= -a_{383} \\
a_{315} &= -a_{383} \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= -a_{383} \\
a_{351} &= 0 \\
a_{49} &= -a_{213} \\
a_{294} &= a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{93} &= a_{266} \\
a_{98} &= a_{266} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{243} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= -a_{383} \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= -a_{383} \\
a_{191} &= a_{213} \\
a_{337} &= -a_{383} \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{243} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= -a_{383} + qa_{383} \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= a_{353} \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= a_{383} \\
a_{348} &= a_{349} \\
a_{358} &= a_{374} \\
a_{365} &= -a_{374} \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= a_{121} \\
a_{38} &= -a_{199} \\
a_{37} &= -a_{199} \\
a_{130} &= 0 \\
a_{76} &= -a_{194} \\
a_{81} &= 0
\end{aligned}$$

$$a_{276} = a_{383} - qa_{383}$$

$$a_{90} = -a_{121}$$

$$a_{175} = a_{177}$$

$$a_{326} = -a_{383}$$

$$a_{173} = a_{383}$$

$$a_{136} = a_{302}$$

$$a_{133} = -a_{252}$$

$$a_{134} = -a_{252}$$

$$a_{149} = a_{268}$$

$$a_{369} = -a_{374}$$

$$a_{285} = a_{376}$$

$$a_{179} = a_{383} - qa_{383} + q^2a_{383}$$

$$a_{180} = a_{383} - qa_{383} + q^2a_{383}$$

$$a_{189} = a_{194}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = -a_{383}$$

$$a_{296} = a_{376}$$

$$a_{317} = -a_{383}$$

$$a_{262} = a_{268}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -a_{302}$$

$$a_{331} = a_{349}$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$\begin{aligned}
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= a_{21} \\
a_{17} &= a_{121} \\
a_{58} &= -q^2 a_{374} + q^2 a_{374} \\
a_{46} &= a_{48} \\
a_{33} &= a_{202} \\
a_{51} &= a_{188} \\
a_{53} &= -a_{199} \\
a_{54} &= -a_{199} \\
a_{82} &= -a_{86} \\
a_{118} &= a_{121} \\
a_{109} &= -a_{252} \\
a_{111} &= -a_{252} \\
a_{129} &= -a_{286} \\
a_{141} &= -a_{291} \\
a_{144} &= -a_{291} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= a_{383} \\
a_{182} &= a_{188} \\
a_{196} &= a_{202} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= a_{383} \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= -a_{121} \\
a_{197} &= -a_{202} \\
a_{198} &= -a_{213} \\
a_{183} &= -a_{188} \\
a_{55} &= -a_{199} \\
a_{190} &= -a_{194} \\
a_{147} &= a_{266} \\
a_{112} &= -a_{252} \\
a_{239} &= -a_{243} \\
a_{261} &= -a_{286} \\
a_{300} &= -a_{302} \\
a_{135} &= -a_{252} \\
a_{146} &= -a_{291} \\
a_{265} &= -a_{268} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= -a_{383} + qa_{383} - q^2a_{383} \\
a_{320} &= -a_{383} \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= -a_{252} \\
a_{336} &= a_{376} - qa_{376} \\
a_{34} &= qa_{160} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= -a_{383} + qa_{383} - q^2a_{383} \\
a_{234} &= a_{266} \\
a_{367} &= -a_{383} + qa_{383} \\
a_{59} &= qq^2a_{374} - q^2a_{374} \\
a_{342} &= a_{349} \\
a_{80} &= qa_{349} - q^2a_{349} \\
a_{346} &= -a_{376} + qa_{376}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 + a_{121}T_2T_3 + a_{15}T_2c_4 + a_{121}T_3T_2 \\
& + a_{18}T_3c_1 + q^2a_{349}T_3c_2 - qq^2a_{349}T_3c_2 + a_{21}T_3c_3 + a_{21}T_3c_4 + q^2a_{353}c_1c_3 \\
& - qq^2a_{353}c_1c_3 + a_{31}T_1c_4 + a_{32}T_2T_1c_4 + a_{202}T_1T_3T_2 - a_{199}T_2T_3c_2 \\
& - a_{199}T_2T_3c_3 - a_{199}T_2T_3c_4 + a_{39}T_1T_3c_1 + q^2a_{353}T_2c_1c_2 + q^2a_{353}T_2c_1c_3 \\
& + q^2a_{349}T_1T_3c_2 + a_{48}T_1T_3c_3 + a_{48}T_1T_3c_4 - a_{213}T_1T_2T_3 + a_{188}T_3T_2T_1 \\
& - a_{199}T_3T_2c_2 - a_{199}T_3T_2c_3 - a_{199}T_3T_2c_4 + a_{56}T_1c_1c_3 - qq^2a_{374}T_3c_1c_3 \\
& + q^2a_{374}T_3c_1c_3 + qq^2a_{374}T_3c_1c_4 - q^2a_{374}T_3c_1c_4 - q^2a_{353}T_1c_2c_3 \\
& + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 - a_{194}T_2T_1T_3 + qa_{349}T_2T_3T_2c_3 - q^2a_{349}T_2T_3T_2c_3 \\
& - a_{86}T_1T_3c_1c_3 - qa_{383}T_2T_3c_1c_2 + q^2a_{383}T_2T_3c_1c_2 - qa_{383}T_2T_3c_1c_3 \\
& + q^2a_{383}T_2T_3c_1c_3 + qa_{383}T_2T_3c_1c_4 - q^2a_{383}T_2T_3c_1c_4 + a_{86}T_1T_3c_1c_4 \\
& - a_{121}T_2T_3c_2c_3 + a_{121}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 - a_{121}T_2T_3c_3c_4 \\
& - q^2a_{374}T_1T_3c_2c_3 + q^2a_{374}T_1T_3c_2c_4 + a_{266}T_1T_2T_3c_3 + a_{266}T_1T_2T_3c_4 \\
& - qa_{268}T_1T_2c_1c_2 - qa_{243}T_1T_2c_1c_3 + qa_{243}T_1T_2c_2c_3 - a_{252}T_3T_2T_1c_1 \\
& + qa_{376}T_3T_2T_1c_2 - a_{252}T_3T_2T_1c_3 - a_{252}T_3T_2T_1c_4 - qa_{383}T_3T_2c_1c_2 \\
& + q^2a_{383}T_3T_2c_1c_2 - qa_{383}T_3T_2c_1c_3 + q^2a_{383}T_3T_2c_1c_3 + qa_{383}T_3T_2c_1c_4 \\
& - q^2a_{383}T_3T_2c_1c_4 + a_{121}T_3T_2c_2c_3 - a_{121}T_3T_2c_2c_4 + a_{121}T_3T_2c_3c_4 \\
& + a_{123}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{243}T_1T_2T_3T_2 - a_{286}T_1T_3T_2T_1 \\
& + a_{302}T_2T_1T_3c_1 - a_{252}T_2T_1T_3c_2 - a_{252}T_2T_1T_3c_3 - a_{252}T_2T_1T_3c_4 \\
& + a_{302}T_1T_3T_2c_1 - qa_{243}T_2T_1c_1c_2 - qa_{268}T_2T_1c_1c_3 - a_{291}T_1T_3T_2c_2 \\
& + qa_{268}T_2T_1c_2c_3 - a_{291}T_1T_3T_2c_3 - a_{291}T_1T_3T_2c_4 + a_{266}T_1T_2T_3c_1 \\
& + a_{268}T_2T_3T_2T_1 + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_4 - a_{199}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 - a_{383}T_1T_2T_1T_3T_2 + a_{160}T_1T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 - qa_{353}T_1T_2T_1c_1c_2 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 - qa_{383}T_1T_2T_3c_1c_2 \\
& + a_{383}T_1T_3T_2c_1c_2 - qa_{383}T_1T_3T_2c_1c_2 + q^2a_{383}T_1T_3T_2c_1c_2 \\
& + a_{383}T_2T_1T_3T_2T_1 + qa_{349}T_2T_1T_3T_2c_1 + a_{177}T_2T_1T_3T_2c_2 + qa_{349}T_2T_1T_3T_2c_3 \\
& + a_{177}T_2T_1T_3T_2c_4 + a_{383}T_1T_3T_2c_1c_3 - qa_{383}T_1T_3T_2c_1c_3 + q^2a_{383}T_1T_3T_2c_1c_3 \\
& + a_{383}T_2T_1T_3c_1c_2 - qa_{383}T_2T_1T_3c_1c_2 + q^2a_{383}T_2T_1T_3c_1c_2 \\
& + a_{383}T_2T_1T_3c_1c_3 - qa_{383}T_2T_1T_3c_1c_3 + q^2a_{383}T_2T_1T_3c_1c_3 \\
& - qa_{383}T_3T_2T_1c_1c_2 + a_{188}T_3T_2T_1c_1c_3 - a_{188}T_3T_2T_1c_1c_4 - a_{383}T_2T_1T_3c_1c_4 \\
& + qa_{383}T_2T_1T_3c_1c_4 - q^2a_{383}T_2T_1T_3c_1c_4 + qa_{383}T_3T_2T_1c_2c_3 \\
& - qa_{383}T_3T_2T_1c_2c_4 - a_{383}T_1T_3T_2c_1c_4 + qa_{383}T_1T_3T_2c_1c_4 \\
& - q^2a_{383}T_1T_3T_2c_1c_4 + a_{188}T_3T_2T_1c_3c_4 + a_{194}T_2T_1T_3c_2c_3 \\
& - a_{194}T_2T_1T_3c_2c_4 + a_{213}T_1T_2T_3c_1c_3 + a_{194}T_2T_1T_3c_3c_4 + a_{202}T_1T_3T_2c_2c_3
\end{aligned}$$

$$\begin{aligned}
& -a_{202}T_1T_3T_2c_2c_4 - a_{213}T_1T_2T_3c_1c_4 + a_{199}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 + a_{202}T_1T_3T_2c_3c_4 + qa_{376}T_2T_1c_1c_3c_4 \\
& - q^2a_{376}T_2T_1c_1c_3c_4 + qa_{383}T_1T_2T_3c_2c_3 - qa_{383}T_1T_2T_3c_2c_4 \\
& - qa_{376}T_2T_1c_2c_3c_4 + q^2a_{376}T_2T_1c_2c_3c_4 + a_{213}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + qa_{353}T_1T_2T_1c_2c_3 + a_{376}T_2T_3T_2T_1c_3 \\
& - qa_{376}T_2T_3T_2T_1c_3 - qa_{353}T_2T_3T_2c_1c_2 + qa_{353}T_2T_3T_2c_1c_4 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 - a_{252}T_2T_1T_3c_2c_3c_4 + a_{243}T_1T_2T_3T_2c_1c_2 \\
& - a_{243}T_1T_2T_3T_2c_1c_4 + a_{243}T_1T_2T_3T_2c_2c_4 + a_{383}T_1T_2T_1T_3c_1c_2 \\
& - qa_{383}T_1T_2T_1T_3c_1c_2 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& + a_{252}T_3T_2T_1c_1c_3c_4 + a_{383}T_1T_3T_2T_1c_1c_2 - qa_{383}T_1T_3T_2T_1c_1c_2 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 - a_{383}T_1T_3T_2T_1c_2c_3 + qa_{383}T_1T_3T_2T_1c_2c_3 \\
& + a_{383}T_1T_3T_2T_1c_2c_4 - qa_{383}T_1T_3T_2T_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 \\
& - a_{286}T_1T_3T_2T_1c_3c_4 + a_{268}T_2T_3T_2T_1c_1c_2 - qa_{383}T_3T_2c_1c_2c_3c_4 \\
& + q^2a_{383}T_3T_2c_1c_2c_3c_4 - a_{268}T_2T_3T_2T_1c_1c_4 + a_{266}T_1T_2T_3c_1c_3c_4 \\
& + a_{268}T_2T_3T_2T_1c_2c_4 - a_{383}T_1T_2T_1T_3c_2c_3 + qa_{383}T_1T_2T_1T_3c_2c_3 \\
& + a_{302}T_1T_3T_2c_1c_2c_3 + a_{302}T_1T_3T_2c_1c_2c_4 + a_{383}T_1T_2T_1T_3c_2c_4 \\
& - qa_{383}T_1T_2T_1T_3c_2c_4 - a_{302}T_1T_3T_2c_1c_3c_4 + qa_{376}T_1T_2T_3c_2c_3c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 + a_{376}T_2T_1T_3T_2T_1c_2 \\
& + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 + a_{286}T_1T_2T_1T_3c_3c_4 \\
& - qa_{374}T_2T_1T_3T_2c_1c_2 + qa_{383}T_2T_3c_1c_2c_3c_4 - q^2a_{383}T_2T_3c_1c_2c_3c_4 \\
& + qa_{374}T_2T_1T_3T_2c_1c_4 + a_{291}T_1T_3T_2c_2c_3c_4 + qa_{374}T_2T_1T_3T_2c_2c_3 \\
& + a_{376}T_1T_2T_1T_3T_2c_3 + qa_{374}T_2T_1T_3T_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - a_{302}T_2T_1T_3c_1c_2c_3 - a_{302}T_2T_1T_3c_1c_2c_4 + a_{302}T_2T_1T_3c_1c_3c_4 \\
& + a_{304}T_1T_2T_3T_2T_1c_3 + qa_{383}T_1T_2T_3c_1c_2c_3c_4 + a_{353}T_1T_2T_3T_2T_1c_2c_4 \\
& + a_{383}T_2T_1T_3T_2T_1c_1c_2 - a_{383}T_2T_1T_3T_2T_1c_1c_3 - a_{383}T_2T_1T_3T_2T_1c_1c_4 \\
& - a_{383}T_2T_1T_3T_2T_1c_2c_3 + a_{383}T_2T_1T_3T_2T_1c_2c_4 - a_{383}T_1T_2T_1T_3T_2c_1c_3 \\
& - a_{383}T_2T_1T_3T_2T_1c_3c_4 - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1c_3c_4 - qa_{376}T_1T_2T_1T_3c_1c_3c_4 - a_{383}T_1T_2T_1T_3T_2c_1c_4 \\
& + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 + a_{349}T_1T_2T_1T_3T_2T_1c_2 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_2c_3 + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 \\
& + a_{383}T_1T_2T_1T_3T_2c_2c_4 + a_{383}T_1T_3T_2c_1c_2c_3c_4 - qa_{383}T_1T_3T_2c_1c_2c_3c_4 \\
& + q^2a_{383}T_1T_3T_2c_1c_2c_3c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_3 - a_{383}T_2T_1T_3c_1c_2c_3c_4 \\
& + qa_{383}T_2T_1T_3c_1c_2c_3c_4 - q^2a_{383}T_2T_1T_3c_1c_2c_3c_4 - qa_{383}T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -a_{376}T_1T_2T_3T_2c_2c_3c_4 + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{383}T_1T_2T_1T_3T_2c_3c_4 \\
& + a_{349}T_1T_2T_1T_3T_2T_1c_4 + a_{349}T_1T_2T_1T_3T_2T_1c_1 + a_{383}T_1T_2T_1T_3T_2c_1c_2 \\
& + a_{353}T_1T_2T_3T_2T_1c_1c_2 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{374}T_1T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 + a_{383}T_1T_3T_2T_1c_1c_2c_3c_4 \\
& - qa_{383}T_1T_3T_2T_1c_1c_2c_3c_4 - a_{374}T_1T_2T_1T_3T_2T_1c_1c_3 - a_{383}T_1T_2T_1T_3c_1c_2c_3c_4 \\
& + qa_{383}T_1T_2T_1T_3c_1c_2c_3c_4 - a_{374}T_1T_2T_1T_3T_2T_1c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 \\
& + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 - a_{383}T_1T_2T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 10, Calculating $T_2T_1z = zT_2T_1$, We got 290 equations .

Totally 355 solutions, dup count: 0.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= q^2a_{353} \\
a_{41} &= q^2a_{353} \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= -qa_{383} + q^2a_{383} \\
a_{84} &= -qa_{383} + q^2a_{383} \\
a_{85} &= qa_{383} - q^2a_{383} \\
a_{94} &= 0 \\
a_{95} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{97} &= 0 \\
a_{114} &= -qa_{383} + q^2a_{383} \\
a_{115} &= -qa_{383} + q^2a_{383} \\
a_{116} &= qa_{383} - q^2a_{383} \\
a_{150} &= 0 \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= 0 \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0 \\
a_{221} &= -qa_{353} \\
a_{222} &= 0 \\
a_{223} &= qa_{353} \\
a_{232} &= 0 \\
a_{233} &= 0 \\
a_{264} &= -qa_{383} + q^2a_{383} \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= -qa_{374} \\
a_{288} &= 0 \\
a_{289} &= qa_{383} - q^2a_{383} \\
a_{290} &= qa_{374} \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0 \\
a_{19} &= 0 \\
a_{24} &= q^2 a_{353} - qq^2 a_{353} \\
a_{26} &= 0 \\
a_{168} &= 0 \\
a_{166} &= -qa_{353} \\
a_{43} &= 0 \\
a_{61} &= 0 \\
a_{62} &= 0 \\
a_{65} &= -q^2 a_{353} \\
a_{66} &= 0 \\
a_{71} &= 0 \\
a_{63} &= 0 \\
a_{244} &= a_{383} - qa_{383} \\
a_{253} &= a_{383} - qa_{383} \\
a_{259} &= a_{383} - qa_{383} \\
a_{89} &= qa_{376} \\
a_{91} &= -q^2 a_{374} \\
a_{92} &= q^2 a_{374} \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{243} \\
a_{100} &= -qa_{268} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= -qa_{383} \\
a_{178} &= a_{383} - qa_{383} + q^2 a_{383} \\
a_{172} &= a_{383} - qa_{383} + q^2 a_{383} \\
a_{181} &= -qa_{383} \\
a_{184} &= -a_{383} + qa_{383} - q^2 a_{383}
\end{aligned}$$

$$\begin{aligned}
a_{185} &= qa_{383} \\
a_{186} &= -qa_{383} \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= qa_{383} \\
a_{206} &= -qa_{383} \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= a_{383} - qa_{383} \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= qa_{383} \\
a_{341} &= a_{383} - qa_{383} + q^2a_{383} \\
a_{345} &= -qa_{383} \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= a_{376} - qq^2 a_{376} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= -a_{383} + qa_{383} \\
a_{137} &= -qa_{243} \\
a_{108} &= qa_{243} \\
a_{88} &= a_{121} \\
a_{87} &= -a_{121} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= -qa_{268} \\
a_{142} &= qa_{268} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2 a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2 a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2 a_{376} \\
a_{208} &= -qa_{376} + q^2 a_{376} \\
a_{215} &= qa_{353} \\
a_{231} &= -qa_{376} + q^2 a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= qa_{374} \\
a_{295} &= qa_{374} \\
a_{313} &= a_{383}
\end{aligned}$$

$$\begin{aligned}
a_{314} &= -a_{383} \\
a_{315} &= -a_{383} \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= -a_{383} \\
a_{351} &= 0 \\
a_{49} &= -a_{213} \\
a_{294} &= a_{376} \\
a_{93} &= -a_{291} \\
a_{98} &= -a_{291} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{243} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= -a_{383} \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= -a_{383} \\
a_{191} &= a_{213} \\
a_{337} &= -a_{383} \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{243} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= -a_{383} + qa_{383} \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= a_{353} \\
a_{333} &= -a_{376} + qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_{340} &= a_{383} \\
a_{348} &= 0 \\
a_{358} &= a_{374} \\
a_{365} &= -a_{374} \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= a_{121} \\
a_{38} &= a_{376} - qq^2 a_{376} \\
a_{37} &= a_{376} - qq^2 a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{194} \\
a_{81} &= 0 \\
a_{276} &= a_{383} - qa_{383} \\
a_{90} &= -a_{121} \\
a_{175} &= a_{177} \\
a_{326} &= -a_{383} \\
a_{173} &= a_{383} \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{149} &= a_{268} \\
a_{369} &= -a_{374} \\
a_{285} &= a_{376} \\
a_{179} &= a_{383} - qa_{383} + q^2 a_{383} \\
a_{180} &= a_{383} - qa_{383} + q^2 a_{383} \\
a_{189} &= a_{194} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= -a_{383} \\
a_{296} &= a_{376} \\
a_{317} &= -a_{383} \\
a_{262} &= a_{268} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0
\end{aligned}$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = a_{21}$$

$$a_{17} = a_{121}$$

$$a_{58} = -qq^2a_{374} + q^2a_{374}$$

$$a_{46} = a_{48}$$

$$a_{33} = a_{202}$$

$$a_{51} = a_{188}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = -a_{86}$$

$$a_{118} = a_{121}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = -a_{291}$$

$$a_{144} = -a_{291}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = a_{383}$$

$$a_{182} = a_{188}$$

$$a_{196} = a_{202}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = a_{383}$$

$$\begin{aligned}
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= -a_{121} \\
a_{197} &= -a_{202} \\
a_{198} &= -a_{213} \\
a_{183} &= -a_{188} \\
a_{55} &= a_{376} - qq^2 a_{376} \\
a_{190} &= -a_{194} \\
a_{147} &= -a_{291} \\
a_{112} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{239} &= -a_{243} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{146} &= -a_{291} \\
a_{265} &= -a_{268} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= -a_{383} + qa_{383} - q^2 a_{383} \\
a_{320} &= -a_{383} \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2 a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= -a_{383} + qa_{383} - q^2a_{383} \\
a_{234} &= -a_{291} \\
a_{367} &= -a_{383} + qa_{383} \\
a_{59} &= qq^2a_{374} - q^2a_{374} \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= -a_{291} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{39} &= q^2a_{349}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + a_3T_2 + a_8c_4 + a_9T_1T_2 + a_{10}T_2T_1 + a_{121}T_2T_3 + a_{15}T_2c_4 + a_{121}T_3T_2 \\
& + a_{18}T_3c_1 + a_{21}T_3c_3 + a_{21}T_3c_4 + q^2a_{353}c_1c_3 - qq^2a_{353}c_1c_3 + a_{31}T_1c_4 \\
& + a_{32}T_2T_1c_4 + a_{202}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 \\
& - qq^2a_{376}T_2T_3c_3 + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + q^2a_{349}T_1T_3c_1 \\
& + q^2a_{353}T_2c_1c_2 + q^2a_{353}T_2c_1c_3 + a_{48}T_1T_3c_3 + a_{48}T_1T_3c_4 - a_{213}T_1T_2T_3 \\
& + a_{188}T_3T_2T_1 + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + a_{56}T_1c_1c_3 - qq^2a_{374}T_3c_1c_3 \\
& + q^2a_{374}T_3c_1c_3 + qq^2a_{374}T_3c_1c_4 - q^2a_{374}T_3c_1c_4 - q^2a_{353}T_1c_2c_3 \\
& + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 - a_{194}T_2T_1T_3 - a_{86}T_1T_3c_1c_3 - qa_{383}T_2T_3c_1c_2 \\
& + q^2a_{383}T_2T_3c_1c_2 - qa_{383}T_2T_3c_1c_3 + q^2a_{383}T_2T_3c_1c_3 + qa_{383}T_2T_3c_1c_4 \\
& - q^2a_{383}T_2T_3c_1c_4 + a_{86}T_1T_3c_1c_4 - a_{121}T_2T_3c_2c_3 + a_{121}T_2T_3c_2c_4 \\
& + qa_{376}T_1T_2T_3c_2 - a_{121}T_2T_3c_3c_4 - q^2a_{374}T_1T_3c_2c_3 + q^2a_{374}T_1T_3c_2c_4 \\
& - a_{291}T_1T_2T_3c_3 - a_{291}T_1T_2T_3c_4 - qa_{268}T_1T_2c_1c_2 - qa_{243}T_1T_2c_1c_3 \\
& + qa_{243}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 \\
& + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 \\
& + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 + q^2a_{376}T_3T_2T_1c_4 - qa_{383}T_3T_2c_1c_2 \\
& + q^2a_{383}T_3T_2c_1c_2 - qa_{383}T_3T_2c_1c_3 + q^2a_{383}T_3T_2c_1c_3 + qa_{383}T_3T_2c_1c_4
\end{aligned}$$

$$\begin{aligned}
& -q^2 a_{383} T_3 T_2 c_1 c_4 + a_{121} T_3 T_2 c_2 c_3 - a_{121} T_3 T_2 c_2 c_4 + a_{121} T_3 T_2 c_3 c_4 \\
& + a_{123} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{243} T_1 T_2 T_3 T_2 - a_{286} T_1 T_3 T_2 T_1 \\
& + q a_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - q a_{376} T_2 T_1 T_3 c_2 + q^2 a_{376} T_2 T_1 T_3 c_2 \\
& + a_{376} T_2 T_1 T_3 c_3 - q a_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 + a_{376} T_2 T_1 T_3 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + q a_{376} T_1 T_3 T_2 c_1 - q a_{243} T_2 T_1 c_1 c_2 \\
& - q a_{268} T_2 T_1 c_1 c_3 - a_{291} T_1 T_3 T_2 c_2 + q a_{268} T_2 T_1 c_2 c_3 - a_{291} T_1 T_3 T_2 c_3 \\
& - a_{291} T_1 T_3 T_2 c_4 - a_{291} T_1 T_2 T_3 c_1 + a_{268} T_2 T_3 T_2 T_1 + a_{376} T_1 T_2 T_1 T_3 c_3 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - q a_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - q q^2 a_{376} T_2 T_3 c_2 c_3 c_4 + q a_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 - a_{383} T_1 T_2 T_1 T_3 T_2 + a_{376} T_1 T_2 T_3 T_2 c_3 \\
& - q a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{353} T_1 T_2 T_1 c_1 c_2 + a_{376} T_1 T_3 T_2 T_1 c_1 \\
& - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{383} T_1 T_2 T_3 c_1 c_2 \\
& + a_{383} T_1 T_3 T_2 c_1 c_2 - q a_{383} T_1 T_3 T_2 c_1 c_2 + q^2 a_{383} T_1 T_3 T_2 c_1 c_2 \\
& + a_{383} T_2 T_1 T_3 T_2 T_1 + a_{177} T_2 T_1 T_3 T_2 c_2 + a_{177} T_2 T_1 T_3 T_2 c_4 + a_{383} T_1 T_3 T_2 c_1 c_3 \\
& - q a_{383} T_1 T_3 T_2 c_1 c_3 + q^2 a_{383} T_1 T_3 T_2 c_1 c_3 + a_{383} T_2 T_1 T_3 c_1 c_2 \\
& - q a_{383} T_2 T_1 T_3 c_1 c_2 + q^2 a_{383} T_2 T_1 T_3 c_1 c_2 + a_{383} T_2 T_1 T_3 c_1 c_3 \\
& - q a_{383} T_2 T_1 T_3 c_1 c_3 + q^2 a_{383} T_2 T_1 T_3 c_1 c_3 - q a_{383} T_3 T_2 T_1 c_1 c_2 \\
& + a_{188} T_3 T_2 T_1 c_1 c_3 - a_{188} T_3 T_2 T_1 c_1 c_4 - a_{383} T_2 T_1 T_3 c_1 c_4 + q a_{383} T_2 T_1 T_3 c_1 c_4 \\
& - q^2 a_{383} T_2 T_1 T_3 c_1 c_4 + q a_{383} T_3 T_2 T_1 c_2 c_3 - q a_{383} T_3 T_2 T_1 c_2 c_4 \\
& - a_{383} T_1 T_3 T_2 c_1 c_4 + q a_{383} T_1 T_3 T_2 c_1 c_4 - q^2 a_{383} T_1 T_3 T_2 c_1 c_4 \\
& + a_{188} T_3 T_2 T_1 c_3 c_4 + a_{194} T_2 T_1 T_3 c_2 c_3 - a_{194} T_2 T_1 T_3 c_2 c_4 + a_{213} T_1 T_2 T_3 c_1 c_3 \\
& + a_{194} T_2 T_1 T_3 c_3 c_4 + a_{202} T_1 T_3 T_2 c_2 c_3 - a_{202} T_1 T_3 T_2 c_2 c_4 - a_{213} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 - q a_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 + a_{202} T_1 T_3 T_2 c_3 c_4 + q a_{376} T_2 T_1 c_1 c_3 c_4 \\
& - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 + q a_{383} T_1 T_2 T_3 c_2 c_3 - q a_{383} T_1 T_2 T_3 c_2 c_4 \\
& - q a_{376} T_2 T_1 c_2 c_3 c_4 + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{213} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + q a_{353} T_1 T_2 T_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_3 \\
& - q a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{353} T_2 T_3 T_2 c_1 c_2 + q a_{353} T_2 T_3 T_2 c_1 c_4 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{243} T_1 T_2 T_3 T_2 c_1 c_2 - a_{243} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{243} T_1 T_2 T_3 T_2 c_2 c_4 + a_{383} T_1 T_2 T_1 T_3 c_1 c_2 - q a_{383} T_1 T_2 T_1 T_3 c_1 c_2 \\
& + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + a_{383} T_1 T_3 T_2 T_1 c_1 c_2 \\
& - q a_{383} T_1 T_3 T_2 T_1 c_1 c_2 - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4
\end{aligned}$$

$$\begin{aligned}
& -qa_{376}T_3T_2T_1c_2c_3c_4 + qa_{376}T_1T_2T_3c_1c_2c_4 - a_{383}T_1T_3T_2T_1c_2c_3 \\
& + qa_{383}T_1T_3T_2T_1c_2c_3 + a_{383}T_1T_3T_2T_1c_2c_4 - qa_{383}T_1T_3T_2T_1c_2c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 + a_{268}T_2T_3T_2T_1c_1c_2 \\
& - qa_{383}T_3T_2c_1c_2c_3c_4 + q^2a_{383}T_3T_2c_1c_2c_3c_4 - a_{268}T_2T_3T_2T_1c_1c_4 \\
& - a_{291}T_1T_2T_3c_1c_3c_4 + a_{268}T_2T_3T_2T_1c_2c_4 - a_{383}T_1T_2T_1T_3c_2c_3 \\
& + qa_{383}T_1T_2T_1T_3c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 \\
& + a_{383}T_1T_2T_1T_3c_2c_4 - qa_{383}T_1T_2T_1T_3c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - qa_{374}T_2T_1T_3T_2c_1c_2 + qa_{383}T_2T_3c_1c_2c_3c_4 \\
& - q^2a_{383}T_2T_3c_1c_2c_3c_4 + qa_{374}T_2T_1T_3T_2c_1c_4 + a_{291}T_1T_3T_2c_2c_3c_4 \\
& + qa_{374}T_2T_1T_3T_2c_2c_3 + a_{376}T_1T_2T_1T_3T_2c_3 + qa_{374}T_2T_1T_3T_2c_3c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_4 - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 \\
& + qa_{376}T_2T_1T_3c_1c_3c_4 + a_{304}T_1T_2T_3T_2T_1c_3 + qa_{383}T_1T_2T_3c_1c_2c_3c_4 \\
& + a_{353}T_1T_2T_3T_2T_1c_2c_4 + a_{383}T_2T_1T_3T_2T_1c_1c_2 - a_{383}T_2T_1T_3T_2T_1c_1c_3 \\
& - a_{383}T_2T_1T_3T_2T_1c_1c_4 - a_{383}T_2T_1T_3T_2T_1c_2c_3 + a_{383}T_2T_1T_3T_2T_1c_2c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_1c_3 - a_{383}T_2T_1T_3T_2T_1c_3c_4 - a_{376}T_1T_3T_2T_1c_1c_3c_4 \\
& + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 - qa_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_1c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& - a_{383}T_1T_2T_1T_3T_2c_2c_3 + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 \\
& + a_{383}T_1T_2T_1T_3T_2c_2c_4 + a_{383}T_1T_3T_2c_1c_2c_3c_4 - qa_{383}T_1T_3T_2c_1c_2c_3c_4 \\
& + q^2a_{383}T_1T_3T_2c_1c_2c_3c_4 - a_{383}T_2T_1T_3c_1c_2c_3c_4 + qa_{383}T_2T_1T_3c_1c_2c_3c_4 \\
& - q^2a_{383}T_2T_1T_3c_1c_2c_3c_4 - qa_{383}T_3T_2T_1c_1c_2c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{383}T_1T_2T_1T_3T_2c_3c_4 + a_{383}T_1T_2T_1T_3T_2c_1c_2 \\
& + a_{353}T_1T_2T_3T_2T_1c_1c_2 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{374}T_1T_2T_1T_3T_2T_1c_2c_4 \\
& + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 + a_{383}T_1T_3T_2T_1c_1c_2c_3c_4 \\
& - qa_{383}T_1T_3T_2T_1c_1c_2c_3c_4 - a_{374}T_1T_2T_1T_3T_2T_1c_1c_3 - a_{383}T_1T_2T_1T_3c_1c_2c_3c_4 \\
& + qa_{383}T_1T_2T_1T_3c_1c_2c_3c_4 - a_{374}T_1T_2T_1T_3T_2T_1c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 \\
& + a_{374}T_1T_2T_1T_3T_2T_1c_1c_2 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3 - a_{383}T_1T_2T_1T_3T_2c_1c_2c_3c_4 \\
& + a_{383}T_2T_1T_3T_2T_1c_1c_2c_3c_4
\end{aligned}$$

Round 11, Calculating $T_2T_3z = zT_2T_3$, We got 295 equations .

Totally 365 solutions, dup count: 0.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = q^2 a_{353}$$

$$a_{41} = q^2 a_{353}$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = -q a_{353}$$

$$a_{222} = 0$$

$$a_{223} = q a_{353}$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = -qa_{374}$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = qa_{374}$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = q^2a_{353} - qq^2a_{353}$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = -qa_{353}$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = -q^2a_{353}$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = -q^2a_{374}$$

$$a_{92} = q^2a_{374}$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{243}$$

$$a_{100} = -qa_{268}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$\begin{aligned}
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= a_{376} - qq^2 a_{376} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= 0 \\
a_{137} &= -qa_{243} \\
a_{108} &= qa_{243} \\
a_{88} &= a_{121} \\
a_{87} &= -a_{121} \\
a_{120} &= 0 \\
a_{122} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{138} &= -qa_{268} \\
a_{142} &= qa_{268} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= qa_{353} \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= qa_{374} \\
a_{295} &= qa_{374} \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{213} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286}
\end{aligned}$$

$$\begin{aligned}
a_{127} &= -a_{243} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{213} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{243} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= a_{353} \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= a_{374} \\
a_{365} &= -a_{374} \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= a_{121} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{194} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= -a_{121} \\
a_{175} &= a_{177}
\end{aligned}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = a_{268}$$

$$a_{369} = -a_{374}$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{194}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = a_{268}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$\begin{aligned}
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= a_{121} \\
a_{58} &= -qq^2a_{374} + q^2a_{374} \\
a_{46} &= a_{48} \\
a_{33} &= a_{202} \\
a_{51} &= -a_{194} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= -a_{86} \\
a_{118} &= a_{121} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{194} \\
a_{196} &= a_{202} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= -a_{121} \\
a_{197} &= -a_{202} \\
a_{198} &= -a_{213} \\
a_{183} &= a_{194} \\
a_{55} &= a_{376} - qq^2 a_{376} \\
a_{190} &= -a_{194} \\
a_{147} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{239} &= -a_{243} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{265} &= -a_{268} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= qq^2 a_{374} - q^2 a_{374} \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2 a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= 2a_{121} - 2qa_{121} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= a_{48} - qa_{48} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{194} \\
a_{56} &= -a_{86} + qa_{86} \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= a_{177} - qa_{177}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + 2a_{121}T_2 - 2qa_{121}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{121}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 + 2q^4a_{376}T_2c_4 \\
& + a_{121}T_3T_2 + a_{18}T_3c_1 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 \\
& + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 + 2q^4a_{376}T_3c_4 + q^2a_{353}c_1c_3 \\
& - qq^2a_{353}c_1c_3 + a_{48}T_1c_4 - qa_{48}T_1c_4 + 2a_{376}T_2T_1c_4 - 3qa_{376}T_2T_1c_4 \\
& - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 + a_{202}T_1T_3T_2 + a_{376}T_2T_3c_2 \\
& - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 + a_{376}T_2T_3c_4 \\
& - qq^2a_{376}T_2T_3c_4 + q^2a_{353}T_2c_1c_2 + q^2a_{353}T_2c_1c_3 + a_{48}T_1T_3c_3 \\
& + a_{48}T_1T_3c_4 - a_{213}T_1T_2T_3 - a_{194}T_3T_2T_1 + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 \\
& + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 \\
& - a_{86}T_1c_1c_3 + qa_{86}T_1c_1c_3 - qq^2a_{374}T_3c_1c_3 + q^2a_{374}T_3c_1c_3 \\
& + qq^2a_{374}T_3c_1c_4 - q^2a_{374}T_3c_1c_4 - q^2a_{353}T_1c_2c_3 + a_{73}T_1T_2c_4 \\
& + a_{74}T_1T_2T_1 - a_{194}T_2T_1T_3 - a_{86}T_1T_3c_1c_3 + a_{86}T_1T_3c_1c_4 - a_{121}T_2T_3c_2c_3 \\
& + a_{121}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 - a_{121}T_2T_3c_3c_4 - q^2a_{374}T_1T_3c_2c_3 \\
& + q^2a_{374}T_1T_3c_2c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 + q^2a_{376}T_1T_2T_3c_3 \\
& + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 - qa_{268}T_1T_2c_1c_2 \\
& - qa_{243}T_1T_2c_1c_3 + qa_{243}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 - qa_{376}T_3T_2T_1c_1 \\
& + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 - qa_{376}T_3T_2T_1c_3 \\
& + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 + q^2a_{376}T_3T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{121}T_3T_2c_2c_3 - a_{121}T_3T_2c_2c_4 + a_{121}T_3T_2c_3c_4 + a_{177}T_1T_2T_1c_4 \\
& - qa_{177}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{243}T_1T_2T_3T_2 - a_{286}T_1T_3T_2T_1 \\
& + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 + q^2a_{376}T_2T_1T_3c_2 \\
& + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 + a_{376}T_2T_1T_3c_4 \\
& - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 - qa_{243}T_2T_1c_1c_2 \\
& - qa_{268}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 + q^2a_{376}T_1T_3T_2c_2 \\
& + qa_{268}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 + q^2a_{376}T_1T_3T_2c_3 \\
& + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 + a_{376}T_1T_2T_3c_1 \\
& - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 + a_{268}T_2T_3T_2T_1 + a_{376}T_1T_2T_1T_3c_3 \\
& - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& - qa_{353}T_1T_2T_1c_1c_2 + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 \\
& + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 \\
& + a_{177}T_2T_1T_3T_2c_2 + a_{177}T_2T_1T_3T_2c_4 - a_{194}T_3T_2T_1c_1c_3 + a_{194}T_3T_2T_1c_1c_4 \\
& - a_{194}T_3T_2T_1c_3c_4 + a_{194}T_2T_1T_3c_2c_3 - a_{194}T_2T_1T_3c_2c_4 + a_{213}T_1T_2T_3c_1c_3 \\
& + a_{194}T_2T_1T_3c_3c_4 + a_{202}T_1T_3T_2c_2c_3 - a_{202}T_1T_3T_2c_2c_4 - a_{213}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 + a_{202}T_1T_3T_2c_3c_4 + qa_{376}T_2T_1c_1c_3c_4 \\
& - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 + q^2a_{376}T_2T_1c_2c_3c_4 \\
& + a_{213}T_1T_2T_3c_3c_4 + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + qa_{353}T_1T_2T_1c_2c_3 \\
& + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 - qa_{353}T_2T_3T_2c_1c_2 \\
& + qa_{353}T_2T_3T_2c_1c_4 + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 \\
& - qa_{376}T_1T_2c_1c_3c_4 + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 \\
& - qa_{376}T_2T_1T_3c_2c_3c_4 + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{243}T_1T_2T_3T_2c_1c_2 \\
& - a_{243}T_1T_2T_3T_2c_1c_4 + a_{243}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 \\
& - a_{286}T_1T_2T_1T_3c_1c_4 - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_3 - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 \\
& - q^2a_{376}T_3T_2T_1c_1c_3c_4 - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 \\
& - qa_{376}T_3T_2T_1c_2c_3c_4 + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 \\
& - a_{286}T_1T_3T_2T_1c_3c_4 + a_{268}T_2T_3T_2T_1c_1c_2 - a_{268}T_2T_3T_2T_1c_1c_4 \\
& + a_{376}T_1T_2T_3c_1c_3c_4 - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 \\
& + a_{268}T_2T_3T_2T_1c_2c_4 + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 \\
& - qa_{376}T_1T_3T_2c_1c_3c_4 + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 \\
& + a_{376}T_2T_1T_3T_2T_1c_1 + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 \\
& + a_{376}T_2T_1T_3T_2T_1c_4 + a_{286}T_1T_2T_1T_3c_3c_4 - qa_{374}T_2T_1T_3T_2c_1c_2 \\
& + qa_{374}T_2T_1T_3T_2c_1c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{374} T_2 T_1 T_3 T_2 c_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 \\
& + q a_{374} T_2 T_1 T_3 T_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 + a_{353} T_1 T_2 T_3 T_2 T_1 c_2 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 + a_{353} T_1 T_2 T_3 T_2 T_1 c_1 c_2 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 \\
& - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 \\
& + a_{374} T_1 T_2 T_1 T_3 T_2 T_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 \\
& - a_{374} T_1 T_2 T_1 T_3 T_2 T_1 c_1 c_3 - a_{374} T_1 T_2 T_1 T_3 T_2 T_1 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 \\
& + a_{374} T_1 T_2 T_1 T_3 T_2 T_1 c_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 12, Calculating $T_2 c_1 z = z T_2 c_1$, We got 221 equations .
 Totally 373 solutions, dup count: 0.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0 \\
a_{115} &= 0 \\
a_{116} &= 0 \\
a_{150} &= 0 \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= 0 \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0 \\
a_{221} &= 0 \\
a_{222} &= 0 \\
a_{223} &= 0 \\
a_{232} &= 0 \\
a_{233} &= 0 \\
a_{264} &= 0 \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= 0 \\
a_{288} &= 0 \\
a_{289} &= 0 \\
a_{290} &= 0 \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0
\end{aligned}$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = -qa_{268}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = a_{121}$$

$$a_{87} = -a_{121}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = -qa_{268}$$

$$a_{142} = qa_{268}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$\begin{aligned}
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{213} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{213} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376}
\end{aligned}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = a_{121}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{194}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = -a_{121}$$

$$a_{175} = a_{177}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = a_{268}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{194}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = a_{268}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$\begin{aligned}
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= a_{121} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{194} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= q^2a_{374} \\
a_{118} &= a_{121} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{194}
\end{aligned}$$

$$\begin{aligned}
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= -a_{121} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{213} \\
a_{183} &= a_{194} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{194} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= -a_{268} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= 2a_{121} - 2qa_{121} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{194} \\
a_{56} &= q^2a_{374} - qq^2a_{374} \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= a_{177} - qa_{177} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= -q^2a_{374}
\end{aligned}$$

$$a_{353} = a_{374} - qa_{374}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + 2a_{121}T_2 - 2qa_{121}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{121}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 + 2q^4a_{376}T_2c_4 \\
& + a_{121}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 \\
& + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 \\
& + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 \\
& + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 \\
& + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 + 2q^2a_{376}T_1T_3c_3 \\
& + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 + 2q^2a_{376}T_1T_3c_4 \\
& - a_{213}T_1T_2T_3 - a_{194}T_3T_2T_1 + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 \\
& - qq^2a_{376}T_3T_2c_3 + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + q^2a_{374}T_1c_1c_3 \\
& - qq^2a_{374}T_1c_1c_3 + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 - a_{194}T_2T_1T_3 + q^2a_{374}T_1T_3c_1c_3 \\
& - q^2a_{374}T_1T_3c_1c_4 - a_{121}T_2T_3c_2c_3 + a_{121}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 \\
& - a_{121}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 + q^2a_{376}T_1T_2T_3c_3 \\
& + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 - qa_{268}T_1T_2c_1c_2 \\
& - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 - qa_{376}T_3T_2T_1c_1 \\
& + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 - qa_{376}T_3T_2T_1c_3 \\
& + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 + q^2a_{376}T_3T_2T_1c_4 \\
& + a_{121}T_3T_2c_2c_3 - a_{121}T_3T_2c_2c_4 + a_{121}T_3T_2c_3c_4 + a_{177}T_1T_2T_1c_4 \\
& - qa_{177}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 - a_{286}T_1T_3T_2T_1 \\
& + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 + q^2a_{376}T_2T_1T_3c_2 \\
& + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 + a_{376}T_2T_1T_3c_4 \\
& - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 - qa_{286}T_2T_1c_1c_2 \\
& - qa_{268}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 + q^2a_{376}T_1T_3T_2c_2 \\
& + qa_{268}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 + q^2a_{376}T_1T_3T_2c_3 \\
& + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 + a_{376}T_1T_2T_3c_1 \\
& - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 + a_{268}T_2T_3T_2T_1 + a_{376}T_1T_2T_1T_3c_3 \\
& - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + a_{177}T_2T_1T_3T_2c_2 + a_{177}T_2T_1T_3T_2c_4 \\
& - a_{194}T_3T_2T_1c_1c_3 + a_{194}T_3T_2T_1c_1c_4 - a_{194}T_3T_2T_1c_3c_4 + a_{194}T_2T_1T_3c_2c_3 \\
& - a_{194}T_2T_1T_3c_2c_4 + a_{213}T_1T_2T_3c_1c_3 + a_{194}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 \\
& + qa_{286}T_1T_3T_2c_2c_3 + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{213}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{213}T_1T_2T_3c_3c_4 + a_{376}T_1T_2T_1T_3c_1 \\
& - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& + a_{268}T_2T_3T_2T_1c_1c_2 - a_{268}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 + a_{268}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 13, Calculating $T_2c_2z = zT_2c_2$, We got 172 equations .

Totally 374 solutions, dup count: 0.

$$a_{50} = 0$$

$$\begin{aligned}
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0 \\
a_{115} &= 0 \\
a_{116} &= 0 \\
a_{150} &= 0 \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= 0 \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0 \\
a_{221} &= 0 \\
a_{222} &= 0
\end{aligned}$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$\begin{aligned}
a_{62} &= 0 \\
a_{65} &= 0 \\
a_{66} &= 0 \\
a_{71} &= 0 \\
a_{63} &= 0 \\
a_{244} &= 0 \\
a_{253} &= 0 \\
a_{259} &= 0 \\
a_{89} &= qa_{376} \\
a_{91} &= 0 \\
a_{92} &= 0 \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{286} \\
a_{100} &= qa_{286} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= 0 \\
a_{178} &= 0 \\
a_{172} &= 0 \\
a_{181} &= 0 \\
a_{184} &= 0 \\
a_{185} &= 0 \\
a_{186} &= 0 \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376}
\end{aligned}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = a_{121}$$

$$a_{87} = -a_{121}$$

$$\begin{aligned}
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= qa_{286} \\
a_{142} &= -qa_{286} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{213} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$a_{98} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{213}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = a_{121}$$

$$a_{38} = a_{376} - qq^2 a_{376}$$

$$a_{37} = a_{376} - qq^2 a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = -a_{121}$$

$$a_{175} = a_{177}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$\begin{aligned}
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= a_{121} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= a_{121} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= -a_{121} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{213} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= 2a_{121} - 2qa_{121} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= a_{177} - qa_{177} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + 2a_{121}T_2 - 2qa_{121}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 + a_9T_1T_2 + a_{10}T_2T_1 \\
& + a_{121}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 + 2q^4a_{376}T_2c_4 \\
& + a_{121}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 \\
& + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 \\
& + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 \\
& + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4
\end{aligned}$$

$$\begin{aligned}
& + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 + 2q^2a_{376}T_1T_3c_3 \\
& + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 + 2q^2a_{376}T_1T_3c_4 \\
& - a_{213}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 \\
& + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 \\
& + a_{73}T_1T_2c_4 + a_{74}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 - a_{121}T_2T_3c_2c_3 \\
& + a_{121}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 - a_{121}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 \\
& - qa_{376}T_1T_2T_3c_3 + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 \\
& + q^2a_{376}T_1T_2T_3c_4 + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 \\
& + a_{376}T_3T_2T_1c_1 - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 \\
& + a_{376}T_3T_2T_1c_3 - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 \\
& - qa_{376}T_3T_2T_1c_4 + q^2a_{376}T_3T_2T_1c_4 + a_{121}T_3T_2c_2c_3 - a_{121}T_3T_2c_2c_4 \\
& + a_{121}T_3T_2c_3c_4 + a_{177}T_1T_2T_1c_4 - qa_{177}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 \\
& - a_{286}T_1T_2T_3T_2 - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 \\
& - qa_{376}T_2T_1T_3c_2 + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 \\
& + q^2a_{376}T_2T_1T_3c_3 + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 \\
& + qa_{376}T_1T_3T_2c_1 - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 \\
& - qa_{376}T_1T_3T_2c_2 + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 \\
& - qa_{376}T_1T_3T_2c_3 + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 \\
& + q^2a_{376}T_1T_3T_2c_4 + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 \\
& - a_{286}T_2T_3T_2T_1 + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_4 + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 \\
& + qa_{376}T_1T_2c_2c_3c_4 - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 \\
& - qa_{376}T_1T_2T_3T_2c_3 + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 \\
& + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 \\
& + a_{177}T_2T_1T_3T_2c_2 + a_{177}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 + qa_{286}T_3T_2T_1c_1c_3 \\
& + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 + qa_{286}T_3T_2T_1c_3c_4 \\
& + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 + qa_{286}T_2T_1T_3c_2c_4 \\
& + a_{213}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 \\
& + qa_{286}T_1T_3T_2c_2c_3 + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{213}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{213}T_1T_2T_3c_3c_4 + a_{376}T_1T_2T_1T_3c_1 \\
& - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 14, Calculating $T_2c_3z = zT_2c_3$, We got 176 equations .

Totally 376 solutions, dup count: 0.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0 \\
a_{115} &= 0 \\
a_{116} &= 0 \\
a_{150} &= 0 \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= 0 \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0 \\
a_{221} &= 0 \\
a_{222} &= 0 \\
a_{223} &= 0 \\
a_{232} &= 0 \\
a_{233} &= 0 \\
a_{264} &= 0 \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= 0 \\
a_{288} &= 0 \\
a_{289} &= 0 \\
a_{290} &= 0 \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0 \\
a_{19} &= 0 \\
a_{24} &= 0 \\
a_{26} &= 0 \\
a_{168} &= 0 \\
a_{166} &= 0 \\
a_{43} &= 0 \\
a_{61} &= 0 \\
a_{62} &= 0 \\
a_{65} &= 0 \\
a_{66} &= 0 \\
a_{71} &= 0 \\
a_{63} &= 0 \\
a_{244} &= 0 \\
a_{253} &= 0 \\
a_{259} &= 0 \\
a_{89} &= qa_{376} \\
a_{91} &= 0 \\
a_{92} &= 0 \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{286} \\
a_{100} &= qa_{286} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= 0 \\
a_{178} &= 0 \\
a_{172} &= 0 \\
a_{181} &= 0 \\
a_{184} &= 0 \\
a_{185} &= 0 \\
a_{186} &= 0 \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0
\end{aligned}$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2 a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = a_{121}$$

$$a_{87} = -a_{121}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2 a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2 a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2 a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{213}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{213}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$\begin{aligned}
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= a_{121} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= -a_{121} \\
a_{175} &= a_{177} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= a_{121} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= a_{121} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= -a_{121} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{213} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286}
\end{aligned}$$

$$\begin{aligned}
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= 2a_{121} - 2qa_{121} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= a_{177} - qa_{177}
\end{aligned}$$

$$\begin{aligned}
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2T_1 + 2a_{121}T_2 - 2qa_{121}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 + a_{10}T_2T_1 + a_{121}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 + a_{121}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 - 2qq^2a_{376}T_3c_3 \\
& + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 + 2q^4a_{376}T_3c_4 \\
& + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 - 2qa_{376}T_1c_4 \\
& + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 - 3qa_{376}T_2T_1c_4 \\
& - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 + qa_{286}T_1T_3T_2 \\
& + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{213}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 + a_{376}T_3T_2c_2 \\
& - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 + a_{376}T_3T_2c_4 \\
& - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 + a_{74}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 - a_{121}T_2T_3c_2c_3 \\
& + a_{121}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 - a_{121}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 \\
& - qa_{376}T_1T_2T_3c_3 + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 \\
& + q^2a_{376}T_1T_2T_3c_4 + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 \\
& + a_{376}T_3T_2T_1c_1 - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 \\
& + a_{376}T_3T_2T_1c_3 - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 \\
& - qa_{376}T_3T_2T_1c_4 + q^2a_{376}T_3T_2T_1c_4 + a_{121}T_3T_2c_2c_3 - a_{121}T_3T_2c_2c_4 \\
& + a_{121}T_3T_2c_3c_4 + a_{177}T_1T_2T_1c_4 - qa_{177}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 \\
& - a_{286}T_1T_2T_3T_2 - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2
\end{aligned}$$

$$\begin{aligned}
& -qa_{376}T_2T_1T_3c_2 + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 \\
& + q^2a_{376}T_2T_1T_3c_3 + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 \\
& + qa_{376}T_1T_3T_2c_1 - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 \\
& - qa_{376}T_1T_3T_2c_2 + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 \\
& - qa_{376}T_1T_3T_2c_3 + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 \\
& + q^2a_{376}T_1T_3T_2c_4 + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 \\
& - a_{286}T_2T_3T_2T_1 + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_4 + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 \\
& + qa_{376}T_1T_2c_2c_3c_4 - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 \\
& - qa_{376}T_1T_2T_3T_2c_3 + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 \\
& + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 \\
& + a_{177}T_2T_1T_3T_2c_2 + a_{177}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 + qa_{286}T_3T_2T_1c_1c_3 \\
& + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 + qa_{286}T_3T_2T_1c_3c_4 \\
& + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 + qa_{286}T_2T_1T_3c_2c_4 \\
& + a_{213}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 \\
& + qa_{286}T_1T_3T_2c_2c_3 + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{213}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{213}T_1T_2T_3c_3c_4 + a_{376}T_1T_2T_1T_3c_1 \\
& - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& -qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& -a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 15, Calculating $T_2c_4z = zT_2c_4$, We got 168 equations .

Totally 377 solutions, dup count: 0.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{114} &= 0 \\
a_{115} &= 0 \\
a_{116} &= 0 \\
a_{150} &= 0 \\
a_{153} &= 0 \\
a_{165} &= 0 \\
a_{174} &= 0 \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0 \\
a_{221} &= 0 \\
a_{222} &= 0 \\
a_{223} &= 0 \\
a_{232} &= 0 \\
a_{233} &= 0 \\
a_{264} &= 0 \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= 0 \\
a_{288} &= 0 \\
a_{289} &= 0 \\
a_{290} &= 0 \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0
\end{aligned}$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$\begin{aligned}
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0
\end{aligned}$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = a_{121}$$

$$a_{87} = -a_{121}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$\begin{aligned}
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{213} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{213} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= a_{121} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= -a_{121} \\
a_{175} &= a_{177} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0
\end{aligned}$$

$$\begin{aligned}
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= a_{121} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= a_{121} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0
\end{aligned}$$

$$\begin{aligned}
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= -a_{121} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{213} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= 2a_{121} - 2qa_{121} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= a_{177} - qa_{177} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 + a_2 T_1 + 2a_{121} T_2 - 2qa_{121} T_2 + 2a_{376} c_4 - 2qa_{376} c_4 - 2qq^2 a_{376} c_4 + 2q^4 a_{376} c_4 \\
& - 2qa_{376} c_4 + 2q^2 a_{376} c_4 + 2q^4 a_{376} c_4 - 2qq^4 a_{376} c_4 - 2a_{286} T_1 T_2 + 3qa_{286} T_1 T_2 \\
& - 2q^2 a_{286} T_1 T_2 - 2a_{286} T_2 T_1 + 3qa_{286} T_2 T_1 - 2q^2 a_{286} T_2 T_1 + a_{121} T_2 T_3 \\
& + 2a_{376} T_2 c_4 - 2qa_{376} T_2 c_4 - 2qq^2 a_{376} T_2 c_4 + 2q^4 a_{376} T_2 c_4 + a_{121} T_3 T_2 \\
& + 2a_{376} T_3 c_3 - 2qa_{376} T_3 c_3 - 2qq^2 a_{376} T_3 c_3 + 2q^4 a_{376} T_3 c_3 + 2a_{376} T_3 c_4 \\
& - 2qa_{376} T_3 c_4 - 2qq^2 a_{376} T_3 c_4 + 2q^4 a_{376} T_3 c_4 + 2a_{376} T_1 c_4 - 2qa_{376} T_1 c_4 \\
& - 2qq^2 a_{376} T_1 c_4 + 2q^2 a_{376} T_1 c_4 - 2qa_{376} T_1 c_4 + 2q^2 a_{376} T_1 c_4 + 2q^4 a_{376} T_1 c_4 \\
& - 2qq^2 a_{376} T_1 c_4 + 2a_{376} T_2 T_1 c_4 - 3qa_{376} T_2 T_1 c_4 - 2qq^2 a_{376} T_2 T_1 c_4 \\
& + 3q^2 a_{376} T_2 T_1 c_4 - a_{286} T_1 T_3 T_2 + qa_{286} T_1 T_3 T_2 + a_{376} T_2 T_3 c_2 - qq^2 a_{376} T_2 T_3 c_2 \\
& + a_{376} T_2 T_3 c_3 - qq^2 a_{376} T_2 T_3 c_3 + a_{376} T_2 T_3 c_4 - qq^2 a_{376} T_2 T_3 c_4 \\
& + 2a_{376} T_1 T_3 c_3 - 2qa_{376} T_1 T_3 c_3 - 2qq^2 a_{376} T_1 T_3 c_3 + 2q^2 a_{376} T_1 T_3 c_3 \\
& + 2a_{376} T_1 T_3 c_4 - 2qa_{376} T_1 T_3 c_4 - 2qq^2 a_{376} T_1 T_3 c_4 + 2q^2 a_{376} T_1 T_3 c_4 \\
& - a_{213} T_1 T_2 T_3 - a_{286} T_3 T_2 T_1 + qa_{286} T_3 T_2 T_1 + a_{376} T_3 T_2 c_2 - qq^2 a_{376} T_3 T_2 c_2 \\
& + a_{376} T_3 T_2 c_3 - qq^2 a_{376} T_3 T_2 c_3 + a_{376} T_3 T_2 c_4 - qq^2 a_{376} T_3 T_2 c_4 \\
& + 2a_{376} T_1 T_2 c_4 - 3qa_{376} T_1 T_2 c_4 - 2qq^2 a_{376} T_1 T_2 c_4 + 3q^2 a_{376} T_1 T_2 c_4 \\
& + a_{74} T_1 T_2 T_1 - a_{286} T_2 T_1 T_3 + qa_{286} T_2 T_1 T_3 - a_{121} T_2 T_3 c_2 c_3 + a_{121} T_2 T_3 c_2 c_4 \\
& + qa_{376} T_1 T_2 T_3 c_2 - a_{121} T_2 T_3 c_3 c_4 + a_{376} T_1 T_2 T_3 c_3 - qa_{376} T_1 T_2 T_3 c_3 \\
& + q^2 a_{376} T_1 T_2 T_3 c_3 + a_{376} T_1 T_2 T_3 c_4 - qa_{376} T_1 T_2 T_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_4 \\
& + qa_{286} T_1 T_2 c_1 c_2 - qa_{286} T_1 T_2 c_1 c_3 + qa_{286} T_1 T_2 c_2 c_3 + a_{376} T_3 T_2 T_1 c_1 \\
& - qa_{376} T_3 T_2 T_1 c_1 + q^2 a_{376} T_3 T_2 T_1 c_1 + qa_{376} T_3 T_2 T_1 c_2 + a_{376} T_3 T_2 T_1 c_3 \\
& - qa_{376} T_3 T_2 T_1 c_3 + q^2 a_{376} T_3 T_2 T_1 c_3 + a_{376} T_3 T_2 T_1 c_4 - qa_{376} T_3 T_2 T_1 c_4 \\
& + q^2 a_{376} T_3 T_2 T_1 c_4 + a_{121} T_3 T_2 c_2 c_3 - a_{121} T_3 T_2 c_2 c_4 + a_{121} T_3 T_2 c_3 c_4 \\
& + a_{177} T_1 T_2 T_1 c_4 - qa_{177} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + qa_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - qa_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - qa_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - qa_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + qa_{376} T_1 T_3 T_2 c_1 \\
& - qa_{286} T_2 T_1 c_1 c_2 + qa_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - qa_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - qa_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - qa_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - qa_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - qa_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - qa_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - qa_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - qq^2 a_{376} T_2 T_3 c_2 c_3 c_4 + qa_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - qa_{376} T_1 T_2 T_3 T_2 c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + a_{177}T_2T_1T_3T_2c_2 + a_{177}T_2T_1T_3T_2c_4 \\
& - a_{286}T_3T_2T_1c_1c_3 + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 \\
& - a_{286}T_3T_2T_1c_3c_4 + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 \\
& - a_{286}T_2T_1T_3c_2c_4 + qa_{286}T_2T_1T_3c_2c_4 + a_{213}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{213}T_1T_2T_3c_1c_4 - a_{376}T_3T_2c_2c_3c_4 \\
& + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 + q^2a_{376}T_2T_1c_1c_2c_4 \\
& - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 \\
& - qa_{376}T_2T_1c_2c_3c_4 + q^2a_{376}T_2T_1c_2c_3c_4 + a_{213}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 16, Calculating $T_1T_3z = zT_1T_3$, We got 202 equations .

Totally 379 solutions, dup count: 0.

$$\begin{aligned}a_{50} &= 0 \\a_{23} &= 0 \\a_{148} &= 0 \\a_{102} &= 0 \\a_{103} &= 0 \\a_{57} &= 0 \\a_{209} &= 0 \\a_{210} &= 0 \\a_{68} &= 0 \\a_{155} &= 0 \\a_{69} &= 0 \\a_{125} &= 0 \\a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0\end{aligned}$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$\begin{aligned}
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= a_{376} - qq^2a_{376} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= 0 \\
a_{137} &= -qa_{286} \\
a_{108} &= qa_{286}
\end{aligned}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{213}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{213}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2 a_{286}$$

$$a_{38} = a_{376} - qq^2 a_{376}$$

$$a_{37} = a_{376} - qq^2 a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$\begin{aligned}
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{213} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376}
\end{aligned}$$

Center:

$$\begin{aligned}
z &= a_1 + a_2T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 \\
&\quad + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 \\
&\quad - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1
\end{aligned}$$

$$\begin{aligned}
& -2q^2a_{286}T_2T_1 - a_{286}T_2T_3 + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 \\
& - 2qq^2a_{376}T_2c_4 + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 \\
& + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 \\
& - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 \\
& - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 \\
& - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 \\
& + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 \\
& + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 \\
& + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 + 2q^2a_{376}T_1T_3c_3 \\
& + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 + 2q^2a_{376}T_1T_3c_4 \\
& - a_{213}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 \\
& + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 \\
& + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 + 3q^2a_{376}T_1T_2c_4 \\
& + a_{74}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 \\
& + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 \\
& + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 \\
& - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 \\
& + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 \\
& + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 \\
& + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 \\
& + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 \\
& + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 \\
& + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 \\
& - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 \\
& + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 \\
& - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 \\
& + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 \\
& + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 \\
& - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 \\
& + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 \\
& + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 \\
& + qa_{376}T_1T_2c_2c_3c_4 - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 \\
& - qa_{376}T_1T_2T_3T_2c_3 + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 \\
& + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 + 2a_{376}T_2T_1T_3T_2c_4 \\
& - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 + qa_{286}T_3T_2T_1c_1c_3 \\
& + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 + qa_{286}T_3T_2T_1c_3c_4 \\
& + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 + qa_{286}T_2T_1T_3c_2c_4 \\
& + a_{213}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 \\
& + qa_{286}T_1T_3T_2c_2c_3 + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{213}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{213}T_1T_2T_3c_3c_4 + a_{376}T_1T_2T_1T_3c_1 \\
& - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 17, Calculating $T_3T_2z = zT_3T_2$, We got 194 equations .
 Totally 380 solutions, dup count: 0.

$$\begin{aligned}a_{50} &= 0 \\a_{23} &= 0 \\a_{148} &= 0 \\a_{102} &= 0 \\a_{103} &= 0 \\a_{57} &= 0 \\a_{209} &= 0 \\a_{210} &= 0 \\a_{68} &= 0 \\a_{155} &= 0 \\a_{69} &= 0 \\a_{125} &= 0 \\a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0\end{aligned}$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$\begin{aligned}
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= a_{376} - qq^2a_{376} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= 0 \\
a_{137} &= -qa_{286} \\
a_{108} &= qa_{286}
\end{aligned}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{213}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{213}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2 a_{286}$$

$$a_{38} = a_{376} - qq^2 a_{376}$$

$$a_{37} = a_{376} - qq^2 a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$\begin{aligned}
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{213} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z &= a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
&\quad + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4
\end{aligned}$$

$$\begin{aligned}
& -2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{213}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 + a_{376}T_3T_2c_2 \\
& - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 + a_{376}T_3T_2c_4 \\
& - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 + a_{74}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 + a_{286}T_2T_3c_2c_3 \\
& - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 + qa_{286}T_2T_3c_2c_4 \\
& - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 - qa_{286}T_2T_3c_3c_4 \\
& + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 + q^2a_{376}T_1T_2T_3c_3 \\
& + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 + qa_{286}T_1T_2c_1c_2 \\
& - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 - qa_{376}T_3T_2T_1c_1 \\
& + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 - qa_{376}T_3T_2T_1c_3 \\
& + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 + q^2a_{376}T_3T_2T_1c_4 \\
& - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 + a_{286}T_3T_2c_2c_4 \\
& - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 + qa_{286}T_3T_2c_3c_4 \\
& - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 - a_{286}T_1T_3T_2T_1 \\
& + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 + q^2a_{376}T_2T_1T_3c_2 \\
& + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 + a_{376}T_2T_1T_3c_4 \\
& - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 - qa_{286}T_2T_1c_1c_2 \\
& + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 + q^2a_{376}T_1T_3T_2c_2 \\
& - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 + q^2a_{376}T_1T_3T_2c_3 \\
& + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 + a_{376}T_1T_2T_3c_1 \\
& - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 + a_{376}T_1T_2T_1T_3c_3 \\
& - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2 a_{376} T_2 T_1 T_3 T_2 c_2 - 2 q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2 a_{376} T_2 T_1 T_3 T_2 c_4 - 2 q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + q a_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - q a_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + q a_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - q a_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_1 T_3 c_2 c_4 + a_{213} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 - q a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 c_2 c_3 + q a_{286} T_1 T_3 T_2 c_2 c_3 + a_{286} T_1 T_3 T_2 c_2 c_4 - q a_{286} T_1 T_3 T_2 c_2 c_4 \\
& - a_{213} T_1 T_2 T_3 c_1 c_4 - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 \\
& - q a_{376} T_2 T_1 c_1 c_2 c_4 + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + q a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 \\
& - q a_{376} T_2 T_1 c_2 c_3 c_4 + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{213} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 18, Calculating $T_3 c_1 z = z T_3 c_1$, We got 190 equations .

Totally 382 solutions, dup count: 0.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = 0$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$\begin{aligned}
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= a_{376} - qq^2a_{376} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= 0 \\
a_{137} &= -qa_{286}
\end{aligned}$$

$$\begin{aligned}
a_{108} &= qa_{286} \\
a_{88} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{87} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= qa_{286} \\
a_{142} &= -qa_{286} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0
\end{aligned}$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$\begin{aligned}
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376}
\end{aligned}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$a_{374} = 0$$

$$a_{202} = -a_{286} + qa_{286}$$

$$a_{243} = a_{286}$$

$$a_{48} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{86} = 0$$

$$a_{268} = -a_{286}$$

$$a_{194} = a_{286} - qa_{286}$$

$$a_9 = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{73} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{10} = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{121} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{177} = 2a_{376} - 2qa_{376}$$

$$a_2 = -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286}$$

$$a_{74} = -2a_{286} + 2qa_{286}$$

$$a_{213} = a_{286} - qa_{286}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 19, Calculating $T_3c_2z = zT_3c_2$, We got 185 equations .

Totally 382 solutions, dup count: 1.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0 \\
a_{115} &= 0 \\
a_{116} &= 0 \\
a_{150} &= 0 \\
a_{153} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{165} &= 0 \\
a_{174} &= 0 \\
a_{192} &= 0 \\
a_{193} &= 0 \\
a_{195} &= 0 \\
a_{221} &= 0 \\
a_{222} &= 0 \\
a_{223} &= 0 \\
a_{232} &= 0 \\
a_{233} &= 0 \\
a_{264} &= 0 \\
a_{274} &= 0 \\
a_{275} &= 0 \\
a_{277} &= 0 \\
a_{287} &= 0 \\
a_{288} &= 0 \\
a_{289} &= 0 \\
a_{290} &= 0 \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0
\end{aligned}$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{286} + qa_{286}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$\begin{aligned}
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0
\end{aligned}$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$a_{374} = 0$$

$$a_{202} = -a_{286} + qa_{286}$$

$$a_{243} = a_{286}$$

$$a_{48} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{86} = 0$$

$$a_{268} = -a_{286}$$

$$a_{194} = a_{286} - qa_{286}$$

$$a_9 = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{73} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{10} = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{121} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{177} = 2a_{376} - 2qa_{376}$$

$$\begin{aligned}
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 20, Calculating $T_3c_3z = zT_3c_3$, We got 178 equations .

Totally 382 solutions, dup count: 2.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0
\end{aligned}$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$\begin{aligned}
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0
\end{aligned}$$

$$\begin{aligned}
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0
\end{aligned}$$

$$\begin{aligned}
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& -2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 21, Calculating $T_3c_4z = zT_3c_4$, We got 176 equations .

Totally 382 solutions, dup count: 3.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0
\end{aligned}$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$\begin{aligned}
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286}
\end{aligned}$$

$$\begin{aligned}
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286}
\end{aligned}$$

$$\begin{aligned}
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + q a_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - q a_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + q a_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2 a_{376} T_1 T_2 T_1 c_4 - 2 q a_{376} T_1 T_2 T_1 c_4 \\
& - 2 q a_{376} T_1 T_2 T_1 c_4 + 2 q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + q a_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - q a_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - q a_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - q a_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + q a_{376} T_1 T_3 T_2 c_1 \\
& - q a_{286} T_2 T_1 c_1 c_2 + q a_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - q a_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - q a_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - q a_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - q a_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - q a_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - q a_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - q a_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - q q^2 a_{376} T_2 T_3 c_2 c_3 c_4 + q a_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2 a_{376} T_2 T_1 T_3 T_2 c_2 - 2 q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2 a_{376} T_2 T_1 T_3 T_2 c_4 - 2 q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + q a_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - q a_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + q a_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - q a_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - q a_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + q a_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - q a_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + q a_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 - q a_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + q a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 22, Calculating $T_1c_1z = zT_1c_1$, We got 180 equations .

Totally 382 solutions, dup count: 4.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0
\end{aligned}$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2 a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2 a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2 a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2 a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2 a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2 a_{376}$$

$$a_{208} = -qa_{376} + q^2 a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2 a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$\begin{aligned}
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0
\end{aligned}$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$\begin{aligned}
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286}
\end{aligned}$$

$$\begin{aligned}
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^2a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 23, Calculating $c_1c_2z = zc_1c_2$, We got 142 equations .

Totally 382 solutions, dup count: 5.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0
\end{aligned}$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$\begin{aligned}
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0
\end{aligned}$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$\begin{aligned}
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{112} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{239} = -a_{286}$$

$$a_{261} = -a_{286}$$

$$a_{300} = -qa_{376}$$

$$a_{135} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{146} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{265} = a_{286}$$

$$a_{338} = a_{376} - qa_{376}$$

$$a_{170} = a_{376} - qa_{376}$$

$$a_{187} = 0$$

$$a_{320} = 0$$

$$a_{332} = -a_{376} + qa_{376}$$

$$a_{34} = 0$$

$$a_{234} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{336} = a_{376} - qa_{376}$$

$$a_{323} = a_{376} - qa_{376}$$

$$a_{343} = 0$$

$$a_{367} = 0$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$\begin{aligned}
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3
\end{aligned}$$

$$\begin{aligned}
& -a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& -a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& -a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 24, Calculating $c_1c_3z = zc_1c_3$, We got 142 equations .

Totally 382 solutions, dup count: 6.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = 0$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$\begin{aligned}
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0
\end{aligned}$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$\begin{aligned}
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286}
\end{aligned}$$

$$a_{300} = -qa_{376}$$

$$a_{135} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{146} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{265} = a_{286}$$

$$a_{338} = a_{376} - qa_{376}$$

$$a_{170} = a_{376} - qa_{376}$$

$$a_{187} = 0$$

$$a_{320} = 0$$

$$a_{332} = -a_{376} + qa_{376}$$

$$a_{34} = 0$$

$$a_{234} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{336} = a_{376} - qa_{376}$$

$$a_{323} = a_{376} - qa_{376}$$

$$a_{343} = 0$$

$$a_{367} = 0$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$\begin{aligned}
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 25, Calculating $c_1c_4z = zc_1c_4$, We got 142 equations .

Totally 382 solutions, dup count: 7.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0
\end{aligned}$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = 0$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{286} + qa_{286}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$\begin{aligned}
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{112} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{239} = -a_{286}$$

$$\begin{aligned}
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + 3q^2 a_{376} T_1 T_2 c_4 - 2a_{286} T_1 T_2 T_1 + 2qa_{286} T_1 T_2 T_1 - a_{286} T_2 T_1 T_3 + qa_{286} T_2 T_1 T_3 \\
& + a_{286} T_2 T_3 c_2 c_3 - qa_{286} T_2 T_3 c_2 c_3 + q^2 a_{286} T_2 T_3 c_2 c_3 - a_{286} T_2 T_3 c_2 c_4 \\
& + qa_{286} T_2 T_3 c_2 c_4 - q^2 a_{286} T_2 T_3 c_2 c_4 + qa_{376} T_1 T_2 T_3 c_2 + a_{286} T_2 T_3 c_3 c_4 \\
& - qa_{286} T_2 T_3 c_3 c_4 + q^2 a_{286} T_2 T_3 c_3 c_4 + a_{376} T_1 T_2 T_3 c_3 - qa_{376} T_1 T_2 T_3 c_3 \\
& + q^2 a_{376} T_1 T_2 T_3 c_3 + a_{376} T_1 T_2 T_3 c_4 - qa_{376} T_1 T_2 T_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_4 \\
& + qa_{286} T_1 T_2 c_1 c_2 - qa_{286} T_1 T_2 c_1 c_3 + qa_{286} T_1 T_2 c_2 c_3 + a_{376} T_3 T_2 T_1 c_1 \\
& - qa_{376} T_3 T_2 T_1 c_1 + q^2 a_{376} T_3 T_2 T_1 c_1 + qa_{376} T_3 T_2 T_1 c_2 + a_{376} T_3 T_2 T_1 c_3 \\
& - qa_{376} T_3 T_2 T_1 c_3 + q^2 a_{376} T_3 T_2 T_1 c_3 + a_{376} T_3 T_2 T_1 c_4 - qa_{376} T_3 T_2 T_1 c_4 \\
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + qa_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - qa_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + qa_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2a_{376} T_1 T_2 T_1 c_4 - 2qa_{376} T_1 T_2 T_1 c_4 \\
& - 2qa_{376} T_1 T_2 T_1 c_4 + 2q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + qa_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - qa_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - qa_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - qa_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + qa_{376} T_1 T_3 T_2 c_1 \\
& - qa_{286} T_2 T_1 c_1 c_2 + qa_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - qa_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - qa_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - qa_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - qa_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - qa_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - qa_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - qa_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - qq^2 a_{376} T_2 T_3 c_2 c_3 c_4 + qa_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - qa_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - qa_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - qa_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - qa_{376} T_1 T_3 T_2 T_1 c_4 + 2a_{376} T_2 T_1 T_3 T_2 c_2 - 2qa_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2a_{376} T_2 T_1 T_3 T_2 c_4 - 2qa_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + qa_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - qa_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + qa_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - qa_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + qa_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - qa_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - qa_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + qa_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - qa_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + qa_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + qq^2 a_{376} T_3 T_2 c_2 c_3 c_4 - qa_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + qa_{286} T_1 T_3 T_2 c_3 c_4 \\
& + qa_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - qa_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - qa_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - qa_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - qa_{376} T_2 T_3 T_2 T_1 c_3 \\
& + qa_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - qa_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - qa_{376} T_2 T_1 T_3 c_2 c_3 c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 26, Calculating $T_1 c_2 z = z T_1 c_2$, We got 187 equations .

Totally 382 solutions, dup count: 8.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0
\end{aligned}$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = 0$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$\begin{aligned}a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0 \\a_{44} &= 0 \\a_{27} &= 0 \\a_{236} &= 0 \\a_{101} &= 0 \\a_{75} &= 0 \\a_{352} &= 0 \\a_{310} &= 0 \\a_{204} &= 0 \\a_{375} &= 0 \\a_{246} &= 0 \\a_{363} &= 0 \\a_{371} &= 0 \\a_{379} &= 0 \\a_{381} &= 0 \\a_{382} &= 0 \\a_{384} &= 0 \\a_{19} &= 0 \\a_{24} &= 0 \\a_{26} &= 0 \\a_{168} &= 0 \\a_{166} &= 0 \\a_{43} &= 0 \\a_{61} &= 0 \\a_{62} &= 0 \\a_{65} &= 0 \\a_{66} &= 0 \\a_{71} &= 0 \\a_{63} &= 0 \\a_{244} &= 0 \\a_{253} &= 0 \\a_{259} &= 0 \\a_{89} &= qa_{376} \\a_{91} &= 0 \\a_{92} &= 0 \\a_{240} &= 0 \\a_{110} &= qa_{376}\end{aligned}$$

$$\begin{aligned}
a_{113} &= 0 \\
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{286} \\
a_{100} &= qa_{286} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= 0 \\
a_{178} &= 0 \\
a_{172} &= 0 \\
a_{181} &= 0 \\
a_{184} &= 0 \\
a_{185} &= 0 \\
a_{186} &= 0 \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0
\end{aligned}$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2 a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2 a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2 a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2 a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2 a_{376}$$

$$a_{227} = 0$$

$$\begin{aligned}
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0
\end{aligned}$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$\begin{aligned}
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286}
\end{aligned}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$\begin{aligned}
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286}
\end{aligned}$$

$$\begin{aligned}
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 27, Calculating $c_2c_3z = zc_2c_3$, We got 142 equations .

Totally 382 solutions, dup count: 9.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = 0$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$\begin{aligned}
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{286} \\
a_{100} &= qa_{286} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= 0 \\
a_{178} &= 0 \\
a_{172} &= 0 \\
a_{181} &= 0 \\
a_{184} &= 0 \\
a_{185} &= 0 \\
a_{186} &= 0 \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0
\end{aligned}$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$\begin{aligned}
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0
\end{aligned}$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$\begin{aligned}
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0
\end{aligned}$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$\begin{aligned}
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qqa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4
\end{aligned}$$

$$\begin{aligned}
& + 2q^2 a_{376} T_1 T_3 c_4 - a_{286} T_1 T_2 T_3 + q a_{286} T_1 T_2 T_3 - a_{286} T_3 T_2 T_1 + q a_{286} T_3 T_2 T_1 \\
& + a_{376} T_3 T_2 c_2 - q q^2 a_{376} T_3 T_2 c_2 + a_{376} T_3 T_2 c_3 - q q^2 a_{376} T_3 T_2 c_3 \\
& + a_{376} T_3 T_2 c_4 - q q^2 a_{376} T_3 T_2 c_4 + 2 a_{376} T_1 T_2 c_4 - 3 q a_{376} T_1 T_2 c_4 - 2 q q^2 a_{376} T_1 T_2 c_4 \\
& + 3 q^2 a_{376} T_1 T_2 c_4 - 2 a_{286} T_1 T_2 T_1 + 2 q a_{286} T_1 T_2 T_1 - a_{286} T_2 T_1 T_3 + q a_{286} T_2 T_1 T_3 \\
& + a_{286} T_2 T_3 c_2 c_3 - q a_{286} T_2 T_3 c_2 c_3 + q^2 a_{286} T_2 T_3 c_2 c_3 - a_{286} T_2 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_3 c_2 c_4 - q^2 a_{286} T_2 T_3 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_2 + a_{286} T_2 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_3 c_3 c_4 + q^2 a_{286} T_2 T_3 c_3 c_4 + a_{376} T_1 T_2 T_3 c_3 - q a_{376} T_1 T_2 T_3 c_3 \\
& + q^2 a_{376} T_1 T_2 T_3 c_3 + a_{376} T_1 T_2 T_3 c_4 - q a_{376} T_1 T_2 T_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_4 \\
& + q a_{286} T_1 T_2 c_1 c_2 - q a_{286} T_1 T_2 c_1 c_3 + q a_{286} T_1 T_2 c_2 c_3 + a_{376} T_3 T_2 T_1 c_1 \\
& - q a_{376} T_3 T_2 T_1 c_1 + q^2 a_{376} T_3 T_2 T_1 c_1 + q a_{376} T_3 T_2 T_1 c_2 + a_{376} T_3 T_2 T_1 c_3 \\
& - q a_{376} T_3 T_2 T_1 c_3 + q^2 a_{376} T_3 T_2 T_1 c_3 + a_{376} T_3 T_2 T_1 c_4 - q a_{376} T_3 T_2 T_1 c_4 \\
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + q a_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - q a_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + q a_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2 a_{376} T_1 T_2 T_1 c_4 - 2 q a_{376} T_1 T_2 T_1 c_4 \\
& - 2 q a_{376} T_1 T_2 T_1 c_4 + 2 q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + q a_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - q a_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - q a_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - q a_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + q a_{376} T_1 T_3 T_2 c_1 \\
& - q a_{286} T_2 T_1 c_1 c_2 + q a_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - q a_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - q a_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - q a_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - q a_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - q a_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - q a_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - q a_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - q q^2 a_{376} T_2 T_3 c_2 c_3 c_4 + q a_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2 a_{376} T_2 T_1 T_3 T_2 c_2 - 2 q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2 a_{376} T_2 T_1 T_3 T_2 c_4 - 2 q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + q a_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - q a_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + q a_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - q a_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - q a_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + q a_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - q a_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + q a_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 - q a_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + q a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 28, Calculating $c_2 c_4 z = z c_2 c_4$, We got 142 equations .

Totally 382 solutions, dup count: 10.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0
\end{aligned}$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = 0$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$\begin{aligned}
a_{289} &= 0 \\
a_{290} &= 0 \\
a_{324} &= 0 \\
a_{325} &= 0 \\
a_{327} &= 0 \\
a_{344} &= 0 \\
a_{368} &= 0 \\
a_{44} &= 0 \\
a_{27} &= 0 \\
a_{236} &= 0 \\
a_{101} &= 0 \\
a_{75} &= 0 \\
a_{352} &= 0 \\
a_{310} &= 0 \\
a_{204} &= 0 \\
a_{375} &= 0 \\
a_{246} &= 0 \\
a_{363} &= 0 \\
a_{371} &= 0 \\
a_{379} &= 0 \\
a_{381} &= 0 \\
a_{382} &= 0 \\
a_{384} &= 0 \\
a_{19} &= 0 \\
a_{24} &= 0 \\
a_{26} &= 0 \\
a_{168} &= 0 \\
a_{166} &= 0 \\
a_{43} &= 0 \\
a_{61} &= 0 \\
a_{62} &= 0 \\
a_{65} &= 0 \\
a_{66} &= 0 \\
a_{71} &= 0 \\
a_{63} &= 0 \\
a_{244} &= 0 \\
a_{253} &= 0 \\
a_{259} &= 0 \\
a_{89} &= qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_{91} &= 0 \\
a_{92} &= 0 \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{286} \\
a_{100} &= qa_{286} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= 0 \\
a_{178} &= 0 \\
a_{172} &= 0 \\
a_{181} &= 0 \\
a_{184} &= 0 \\
a_{185} &= 0 \\
a_{186} &= 0 \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0
\end{aligned}$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$\begin{aligned}
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0
\end{aligned}$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$\begin{aligned}
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376}
\end{aligned}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = 0$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$\begin{aligned}
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}
\end{aligned}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$a_{374} = 0$$

$$a_{202} = -a_{286} + qa_{286}$$

$$a_{243} = a_{286}$$

$$a_{48} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{86} = 0$$

$$a_{268} = -a_{286}$$

$$a_{194} = a_{286} - qa_{286}$$

$$a_9 = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{73} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{10} = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{121} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{177} = 2a_{376} - 2qa_{376}$$

$$a_2 = -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286}$$

$$a_{74} = -2a_{286} + 2qa_{286}$$

$$a_{213} = a_{286} - qa_{286}$$

Center:

$$\begin{aligned} z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\ & + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\ & - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\ & - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\ & + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\ & + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\ & - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\ & + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\ & - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\ & - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\ & + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \end{aligned}$$

$$\begin{aligned}
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + q a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 29, Calculating $T_1 c_3 z = z T_1 c_3$, We got 176 equations .

Totally 382 solutions, dup count: 11.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$\begin{aligned}a_{68} &= 0 \\a_{155} &= 0 \\a_{69} &= 0 \\a_{125} &= 0 \\a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0\end{aligned}$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$\begin{aligned}
a_{259} &= 0 \\
a_{89} &= qa_{376} \\
a_{91} &= 0 \\
a_{92} &= 0 \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{286} \\
a_{100} &= qa_{286} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= 0 \\
a_{178} &= 0 \\
a_{172} &= 0 \\
a_{181} &= 0 \\
a_{184} &= 0 \\
a_{185} &= 0 \\
a_{186} &= 0 \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376}
\end{aligned}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$\begin{aligned}
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286}
\end{aligned}$$

$$\begin{aligned}
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286}
\end{aligned}$$

$$a_{51} = -a_{286} + qa_{286}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = 0$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$\begin{aligned}
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& -3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + q^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 30, Calculating $c_3c_4z = zc_3c_4$, We got 142 equations .

Totally 382 solutions, dup count: 12.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$\begin{aligned}a_{57} &= 0 \\a_{209} &= 0 \\a_{210} &= 0 \\a_{68} &= 0 \\a_{155} &= 0 \\a_{69} &= 0 \\a_{125} &= 0 \\a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0\end{aligned}$$

$$\begin{aligned}a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0 \\a_{44} &= 0 \\a_{27} &= 0 \\a_{236} &= 0 \\a_{101} &= 0 \\a_{75} &= 0 \\a_{352} &= 0 \\a_{310} &= 0 \\a_{204} &= 0 \\a_{375} &= 0 \\a_{246} &= 0 \\a_{363} &= 0 \\a_{371} &= 0 \\a_{379} &= 0 \\a_{381} &= 0 \\a_{382} &= 0 \\a_{384} &= 0 \\a_{19} &= 0 \\a_{24} &= 0 \\a_{26} &= 0 \\a_{168} &= 0 \\a_{166} &= 0 \\a_{43} &= 0 \\a_{61} &= 0 \\a_{62} &= 0 \\a_{65} &= 0 \\a_{66} &= 0 \\a_{71} &= 0\end{aligned}$$

$$\begin{aligned}
a_{63} &= 0 \\
a_{244} &= 0 \\
a_{253} &= 0 \\
a_{259} &= 0 \\
a_{89} &= qa_{376} \\
a_{91} &= 0 \\
a_{92} &= 0 \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{286} \\
a_{100} &= qa_{286} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= 0 \\
a_{178} &= 0 \\
a_{172} &= 0 \\
a_{181} &= 0 \\
a_{184} &= 0 \\
a_{185} &= 0 \\
a_{186} &= 0 \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0
\end{aligned}$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$\begin{aligned}
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376}
\end{aligned}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$\begin{aligned}
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^2a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + 2q^4 a_{376} T_2 c_4 - a_{286} T_3 T_2 + q a_{286} T_3 T_2 - q^2 a_{286} T_3 T_2 + 2a_{376} T_3 c_3 - 2q a_{376} T_3 c_3 \\
& - 2qq^2 a_{376} T_3 c_3 + 2q^4 a_{376} T_3 c_3 + 2a_{376} T_3 c_4 - 2q a_{376} T_3 c_4 - 2qq^2 a_{376} T_3 c_4 \\
& + 2q^4 a_{376} T_3 c_4 + 2a_{376} T_1 c_4 - 2q a_{376} T_1 c_4 - 2qq^2 a_{376} T_1 c_4 + 2q^2 a_{376} T_1 c_4 \\
& - 2q a_{376} T_1 c_4 + 2q^2 a_{376} T_1 c_4 + 2q^4 a_{376} T_1 c_4 - 2qq^2 a_{376} T_1 c_4 + 2a_{376} T_2 T_1 c_4 \\
& - 3q a_{376} T_2 T_1 c_4 - 2qq^2 a_{376} T_2 T_1 c_4 + 3q^2 a_{376} T_2 T_1 c_4 - a_{286} T_1 T_3 T_2 \\
& + q a_{286} T_1 T_3 T_2 + a_{376} T_2 T_3 c_2 - qq^2 a_{376} T_2 T_3 c_2 + a_{376} T_2 T_3 c_3 - qq^2 a_{376} T_2 T_3 c_3 \\
& + a_{376} T_2 T_3 c_4 - qq^2 a_{376} T_2 T_3 c_4 + 2a_{376} T_1 T_3 c_3 - 2q a_{376} T_1 T_3 c_3 - 2qq^2 a_{376} T_1 T_3 c_3 \\
& + 2q^2 a_{376} T_1 T_3 c_3 + 2a_{376} T_1 T_3 c_4 - 2q a_{376} T_1 T_3 c_4 - 2qq^2 a_{376} T_1 T_3 c_4 \\
& + 2q^2 a_{376} T_1 T_3 c_4 - a_{286} T_1 T_2 T_3 + q a_{286} T_1 T_2 T_3 - a_{286} T_3 T_2 T_1 + q a_{286} T_3 T_2 T_1 \\
& + a_{376} T_3 T_2 c_2 - qq^2 a_{376} T_3 T_2 c_2 + a_{376} T_3 T_2 c_3 - qq^2 a_{376} T_3 T_2 c_3 \\
& + a_{376} T_3 T_2 c_4 - qq^2 a_{376} T_3 T_2 c_4 + 2a_{376} T_1 T_2 c_4 - 3q a_{376} T_1 T_2 c_4 - 2qq^2 a_{376} T_1 T_2 c_4 \\
& + 3q^2 a_{376} T_1 T_2 c_4 - 2a_{286} T_1 T_2 T_1 + 2q a_{286} T_1 T_2 T_1 - a_{286} T_2 T_1 T_3 + q a_{286} T_2 T_1 T_3 \\
& + a_{286} T_2 T_3 c_2 c_3 - q a_{286} T_2 T_3 c_2 c_3 + q^2 a_{286} T_2 T_3 c_2 c_3 - a_{286} T_2 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_3 c_2 c_4 - q^2 a_{286} T_2 T_3 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_2 + a_{286} T_2 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_3 c_3 c_4 + q^2 a_{286} T_2 T_3 c_3 c_4 + a_{376} T_1 T_2 T_3 c_3 - q a_{376} T_1 T_2 T_3 c_3 \\
& + q^2 a_{376} T_1 T_2 T_3 c_3 + a_{376} T_1 T_2 T_3 c_4 - q a_{376} T_1 T_2 T_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_4 \\
& + q a_{286} T_1 T_2 c_1 c_2 - q a_{286} T_1 T_2 c_1 c_3 + q a_{286} T_1 T_2 c_2 c_3 + a_{376} T_3 T_2 T_1 c_1 \\
& - q a_{376} T_3 T_2 T_1 c_1 + q^2 a_{376} T_3 T_2 T_1 c_1 + q a_{376} T_3 T_2 T_1 c_2 + a_{376} T_3 T_2 T_1 c_3 \\
& - q a_{376} T_3 T_2 T_1 c_3 + q^2 a_{376} T_3 T_2 T_1 c_3 + a_{376} T_3 T_2 T_1 c_4 - q a_{376} T_3 T_2 T_1 c_4 \\
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + q a_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - q a_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + q a_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2a_{376} T_1 T_2 T_1 c_4 - 2q a_{376} T_1 T_2 T_1 c_4 \\
& - 2q a_{376} T_1 T_2 T_1 c_4 + 2q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + q a_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - q a_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - q a_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - q a_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + q a_{376} T_1 T_3 T_2 c_1 \\
& - q a_{286} T_2 T_1 c_1 c_2 + q a_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - q a_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - q a_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - q a_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - q a_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - q a_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - q a_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - q a_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - qq^2 a_{376} T_2 T_3 c_2 c_3 c_4 + q a_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2a_{376} T_2 T_1 T_3 T_2 c_2 - 2q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2a_{376} T_2 T_1 T_3 T_2 c_4 - 2q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3
\end{aligned}$$

$$\begin{aligned}
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 31, Calculating $T_1c_4z = zT_1c_4$, We got 174 equations .

Totally 382 solutions, dup count: 13.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = 0$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$\begin{aligned}a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0 \\a_{44} &= 0 \\a_{27} &= 0 \\a_{236} &= 0 \\a_{101} &= 0 \\a_{75} &= 0 \\a_{352} &= 0 \\a_{310} &= 0 \\a_{204} &= 0 \\a_{375} &= 0 \\a_{246} &= 0 \\a_{363} &= 0 \\a_{371} &= 0 \\a_{379} &= 0 \\a_{381} &= 0 \\a_{382} &= 0 \\a_{384} &= 0 \\a_{19} &= 0 \\a_{24} &= 0 \\a_{26} &= 0 \\a_{168} &= 0 \\a_{166} &= 0 \\a_{43} &= 0 \\a_{61} &= 0\end{aligned}$$

$$\begin{aligned}
a_{62} &= 0 \\
a_{65} &= 0 \\
a_{66} &= 0 \\
a_{71} &= 0 \\
a_{63} &= 0 \\
a_{244} &= 0 \\
a_{253} &= 0 \\
a_{259} &= 0 \\
a_{89} &= qa_{376} \\
a_{91} &= 0 \\
a_{92} &= 0 \\
a_{240} &= 0 \\
a_{110} &= qa_{376} \\
a_{113} &= 0 \\
a_{131} &= qa_{376} \\
a_{132} &= 0 \\
a_{104} &= -qa_{286} \\
a_{100} &= qa_{286} \\
a_{106} &= 0 \\
a_{316} &= 0 \\
a_{171} &= 0 \\
a_{178} &= 0 \\
a_{172} &= 0 \\
a_{181} &= 0 \\
a_{184} &= 0 \\
a_{185} &= 0 \\
a_{186} &= 0 \\
a_{200} &= 0 \\
a_{201} &= -qa_{376} + q^2a_{376} \\
a_{203} &= qa_{376} - q^2a_{376} \\
a_{205} &= 0 \\
a_{206} &= 0 \\
a_{220} &= 0 \\
a_{312} &= 0 \\
a_{309} &= 0 \\
a_{242} &= 0 \\
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376}
\end{aligned}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$\begin{aligned}
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= qa_{286} \\
a_{142} &= -qa_{286} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$a_{98} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2 a_{286}$$

$$a_{38} = a_{376} - qq^2 a_{376}$$

$$a_{37} = a_{376} - qq^2 a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2 a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$\begin{aligned}
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$z = a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2$$

$$\begin{aligned}
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2 a_{376} T_2 T_1 T_3 T_2 c_2 - 2 q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2 a_{376} T_2 T_1 T_3 T_2 c_4 - 2 q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + q a_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - q a_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + q a_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - q a_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - q a_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + q a_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - q a_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + q a_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 - q a_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 32, Calculating $T_2T_1c_4z = zT_2T_1c_4$, We got 200 equations .
 Totally 382 solutions, dup count: 14.

$$\begin{aligned}
 a_{50} &= 0 \\
 a_{23} &= 0 \\
 a_{148} &= 0 \\
 a_{102} &= 0 \\
 a_{103} &= 0 \\
 a_{57} &= 0 \\
 a_{209} &= 0 \\
 a_{210} &= 0 \\
 a_{68} &= 0 \\
 a_{155} &= 0 \\
 a_{69} &= 0 \\
 a_{125} &= 0 \\
 a_{126} &= 0 \\
 a_{305} &= 0 \\
 a_{140} &= 0 \\
 a_{207} &= 0 \\
 a_{12} &= 0 \\
 a_{35} &= 0 \\
 a_{40} &= 0 \\
 a_{41} &= 0 \\
 a_{42} &= 0 \\
 a_{52} &= 0 \\
 a_{83} &= 0 \\
 a_{84} &= 0 \\
 a_{85} &= 0 \\
 a_{94} &= 0 \\
 a_{95} &= 0 \\
 a_{97} &= 0 \\
 a_{114} &= 0 \\
 a_{115} &= 0 \\
 a_{116} &= 0 \\
 a_{150} &= 0 \\
 a_{153} &= 0 \\
 a_{165} &= 0 \\
 a_{174} &= 0 \\
 a_{192} &= 0 \\
 a_{193} &= 0
 \end{aligned}$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$\begin{aligned}
a_{108} &= qa_{286} \\
a_{88} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{87} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= qa_{286} \\
a_{142} &= -qa_{286} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0
\end{aligned}$$

$$a_{49} = -a_{286} + qa_{286}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$\begin{aligned}
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376}
\end{aligned}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$a_{374} = 0$$

$$a_{202} = -a_{286} + qa_{286}$$

$$a_{243} = a_{286}$$

$$a_{48} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{86} = 0$$

$$a_{268} = -a_{286}$$

$$a_{194} = a_{286} - qa_{286}$$

$$a_9 = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{73} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{10} = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{121} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{177} = 2a_{376} - 2qa_{376}$$

$$a_2 = -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286}$$

$$a_{74} = -2a_{286} + 2qa_{286}$$

$$a_{213} = a_{286} - qa_{286}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 33, Calculating $T_1T_3T_2z = zT_1T_3T_2$, We got 229 equations .
 Totally 382 solutions, dup count: 15.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0 \\
a_{115} &= 0 \\
a_{116} &= 0 \\
a_{150} &= 0 \\
a_{153} &= 0
\end{aligned}$$

$$\begin{aligned}a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0 \\a_{44} &= 0 \\a_{27} &= 0 \\a_{236} &= 0 \\a_{101} &= 0 \\a_{75} &= 0 \\a_{352} &= 0 \\a_{310} &= 0 \\a_{204} &= 0 \\a_{375} &= 0 \\a_{246} &= 0 \\a_{363} &= 0 \\a_{371} &= 0 \\a_{379} &= 0 \\a_{381} &= 0 \\a_{382} &= 0 \\a_{384} &= 0\end{aligned}$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$\begin{aligned}
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= 0 \\
a_{137} &= -qa_{286} \\
a_{108} &= qa_{286} \\
a_{88} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{87} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= qa_{286} \\
a_{142} &= -qa_{286} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376}
\end{aligned}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{286} + qa_{286}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$\begin{aligned}
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 34, Calculating $T_2T_3T_2z = zT_2T_3T_2$, We got 226 equations .

Totally 382 solutions, dup count: 16.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0
\end{aligned}$$

$$\begin{aligned}a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0 \\a_{44} &= 0 \\a_{27} &= 0 \\a_{236} &= 0 \\a_{101} &= 0 \\a_{75} &= 0 \\a_{352} &= 0 \\a_{310} &= 0 \\a_{204} &= 0 \\a_{375} &= 0 \\a_{246} &= 0 \\a_{363} &= 0 \\a_{371} &= 0\end{aligned}$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$\begin{aligned}
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= a_{376} - qq^2a_{376} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= 0 \\
a_{137} &= -qa_{286} \\
a_{108} &= qa_{286} \\
a_{88} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{87} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= qa_{286} \\
a_{142} &= -qa_{286} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0
\end{aligned}$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{286} + qa_{286}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{17} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{58} = 0$$

$$a_{46} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{33} = -a_{286} + qa_{286}$$

$$a_{51} = -a_{286} + qa_{286}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = 0$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$\begin{aligned}
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& -2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 35, Calculating $T_2T_3c_1z = zT_2T_3c_1$, We got 229 equations .

Totally 382 solutions, dup count: 17.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0
\end{aligned}$$

$$\begin{aligned}a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0 \\a_{44} &= 0 \\a_{27} &= 0 \\a_{236} &= 0 \\a_{101} &= 0 \\a_{75} &= 0 \\a_{352} &= 0 \\a_{310} &= 0 \\a_{204} &= 0\end{aligned}$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$\begin{aligned}
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286}
\end{aligned}$$

$$\begin{aligned}
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0
\end{aligned}$$

$$a_{332} = -a_{376} + qa_{376}$$

$$a_{34} = 0$$

$$a_{234} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{336} = a_{376} - qa_{376}$$

$$a_{323} = a_{376} - qa_{376}$$

$$a_{343} = 0$$

$$a_{367} = 0$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$a_{374} = 0$$

$$a_{202} = -a_{286} + qa_{286}$$

$$a_{243} = a_{286}$$

$$a_{48} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{86} = 0$$

$$a_{268} = -a_{286}$$

$$\begin{aligned}
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + q a_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - q a_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + q a_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2 a_{376} T_1 T_2 T_1 c_4 - 2 q a_{376} T_1 T_2 T_1 c_4 \\
& - 2 q a_{376} T_1 T_2 T_1 c_4 + 2 q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + q a_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - q a_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - q a_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - q a_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + q a_{376} T_1 T_3 T_2 c_1 \\
& - q a_{286} T_2 T_1 c_1 c_2 + q a_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - q a_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - q a_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - q a_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - q a_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - q a_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - q a_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - q a_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - q q^2 a_{376} T_2 T_3 c_2 c_3 c_4 + q a_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2 a_{376} T_2 T_1 T_3 T_2 c_2 - 2 q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2 a_{376} T_2 T_1 T_3 T_2 c_4 - 2 q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + q a_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - q a_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + q a_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - q a_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - q a_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + q a_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - q a_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + q a_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 - q a_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + q a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 36, Calculating $T_2T_3c_2z = zT_2T_3c_2$, We got 228 equations .
 Totally 382 solutions, dup count: 18.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0
\end{aligned}$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$\begin{aligned}
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= a_{376} - qq^2a_{376} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= 0 \\
a_{137} &= -qa_{286} \\
a_{108} &= qa_{286} \\
a_{88} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{87} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{120} &= 0 \\
a_{122} &= 0 \\
a_{138} &= qa_{286} \\
a_{142} &= -qa_{286} \\
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286}
\end{aligned}$$

$$\begin{aligned}
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286}
\end{aligned}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{17} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{58} = 0$$

$$a_{46} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{33} = -a_{286} + qa_{286}$$

$$a_{51} = -a_{286} + qa_{286}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = 0$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$\begin{aligned}
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376}
\end{aligned}$$

$$a_{170} = a_{376} - qa_{376}$$

$$a_{187} = 0$$

$$a_{320} = 0$$

$$a_{332} = -a_{376} + qa_{376}$$

$$a_{34} = 0$$

$$a_{234} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{336} = a_{376} - qa_{376}$$

$$a_{323} = a_{376} - qa_{376}$$

$$a_{343} = 0$$

$$a_{367} = 0$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$a_{374} = 0$$

$$a_{202} = -a_{286} + qa_{286}$$

$$a_{243} = a_{286}$$

$$\begin{aligned}
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 37, Calculating $T_2T_3c_3z = zT_2T_3c_3$, We got 206 equations .

Totally 382 solutions, dup count: 19.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0
\end{aligned}$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$\begin{aligned}
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{112} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{239} = -a_{286}$$

$$a_{261} = -a_{286}$$

$$a_{300} = -qa_{376}$$

$$a_{135} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{146} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{265} = a_{286}$$

$$a_{338} = a_{376} - qa_{376}$$

$$a_{170} = a_{376} - qa_{376}$$

$$a_{187} = 0$$

$$a_{320} = 0$$

$$a_{332} = -a_{376} + qa_{376}$$

$$a_{34} = 0$$

$$a_{234} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{336} = a_{376} - qa_{376}$$

$$a_{323} = a_{376} - qa_{376}$$

$$a_{343} = 0$$

$$a_{367} = 0$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$\begin{aligned}
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3
\end{aligned}$$

$$\begin{aligned}
& -a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& -a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& -a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 38, Calculating $T_2T_3c_4z = zT_2T_3c_4$, We got 205 equations .

Totally 382 solutions, dup count: 20.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0
\end{aligned}$$

$$\begin{aligned}a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0\end{aligned}$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$\begin{aligned}
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376}
\end{aligned}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{17} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{58} = 0$$

$$a_{46} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{33} = -a_{286} + qa_{286}$$

$$a_{51} = -a_{286} + qa_{286}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = 0$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$\begin{aligned}
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286}
\end{aligned}$$

$$\begin{aligned}
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = a_1 &- 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
&+ 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
&- 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
&- 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
&+ qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
&+ 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
&- 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
&+ 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
&- 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
&- 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
&+ qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
&+ a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
&+ 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
&+ 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
&+ a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
&+ a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
&+ 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 39, Calculating $T_1T_3c_1z = zT_1T_3c_1$, We got 219 equations .

Totally 382 solutions, dup count: 21.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$a_{126} = 0$$

$$a_{305} = 0$$

$$a_{140} = 0$$

$$\begin{aligned}a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0\end{aligned}$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{286} + qa_{286}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$\begin{aligned}
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0
\end{aligned}$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{17} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{58} = 0$$

$$a_{46} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{33} = -a_{286} + qa_{286}$$

$$a_{51} = -a_{286} + qa_{286}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = 0$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{112} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{239} = -a_{286}$$

$$\begin{aligned}
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + 3q^2 a_{376} T_1 T_2 c_4 - 2a_{286} T_1 T_2 T_1 + 2qa_{286} T_1 T_2 T_1 - a_{286} T_2 T_1 T_3 + qa_{286} T_2 T_1 T_3 \\
& + a_{286} T_2 T_3 c_2 c_3 - qa_{286} T_2 T_3 c_2 c_3 + q^2 a_{286} T_2 T_3 c_2 c_3 - a_{286} T_2 T_3 c_2 c_4 \\
& + qa_{286} T_2 T_3 c_2 c_4 - q^2 a_{286} T_2 T_3 c_2 c_4 + qa_{376} T_1 T_2 T_3 c_2 + a_{286} T_2 T_3 c_3 c_4 \\
& - qa_{286} T_2 T_3 c_3 c_4 + q^2 a_{286} T_2 T_3 c_3 c_4 + a_{376} T_1 T_2 T_3 c_3 - qa_{376} T_1 T_2 T_3 c_3 \\
& + q^2 a_{376} T_1 T_2 T_3 c_3 + a_{376} T_1 T_2 T_3 c_4 - qa_{376} T_1 T_2 T_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_4 \\
& + qa_{286} T_1 T_2 c_1 c_2 - qa_{286} T_1 T_2 c_1 c_3 + qa_{286} T_1 T_2 c_2 c_3 + a_{376} T_3 T_2 T_1 c_1 \\
& - qa_{376} T_3 T_2 T_1 c_1 + q^2 a_{376} T_3 T_2 T_1 c_1 + qa_{376} T_3 T_2 T_1 c_2 + a_{376} T_3 T_2 T_1 c_3 \\
& - qa_{376} T_3 T_2 T_1 c_3 + q^2 a_{376} T_3 T_2 T_1 c_3 + a_{376} T_3 T_2 T_1 c_4 - qa_{376} T_3 T_2 T_1 c_4 \\
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + qa_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - qa_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + qa_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2a_{376} T_1 T_2 T_1 c_4 - 2qa_{376} T_1 T_2 T_1 c_4 \\
& - 2qa_{376} T_1 T_2 T_1 c_4 + 2q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + qa_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - qa_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - qa_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - qa_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + qa_{376} T_1 T_3 T_2 c_1 \\
& - qa_{286} T_2 T_1 c_1 c_2 + qa_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - qa_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - qa_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - qa_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - qa_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - qa_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - qa_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - qa_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - qq^2 a_{376} T_2 T_3 c_2 c_3 c_4 + qa_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - qa_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - qa_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - qa_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - qa_{376} T_1 T_3 T_2 T_1 c_4 + 2a_{376} T_2 T_1 T_3 T_2 c_2 - 2qa_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2a_{376} T_2 T_1 T_3 T_2 c_4 - 2qa_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + qa_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - qa_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + qa_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - qa_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + qa_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - qa_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - qa_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + qa_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - qa_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + qa_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + qq^2 a_{376} T_3 T_2 c_2 c_3 c_4 - qa_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + qa_{286} T_1 T_3 T_2 c_3 c_4 \\
& + qa_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - qa_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - qa_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - qa_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - qa_{376} T_2 T_3 T_2 T_1 c_3 \\
& + qa_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - qa_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - qa_{376} T_2 T_1 T_3 c_2 c_3 c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 40, Calculating $T_2 c_1 c_2 z = z T_2 c_1 c_2$, We got 192 equations .

Totally 382 solutions, dup count: 22.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0
\end{aligned}$$

$$a_{140} = 0$$

$$a_{207} = 0$$

$$a_{12} = 0$$

$$a_{35} = 0$$

$$a_{40} = 0$$

$$a_{41} = 0$$

$$a_{42} = 0$$

$$a_{52} = 0$$

$$a_{83} = 0$$

$$a_{84} = 0$$

$$a_{85} = 0$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$\begin{aligned}
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286}
\end{aligned}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$\begin{aligned}
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286}
\end{aligned}$$

$$\begin{aligned}
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 41, Calculating $T_2c_1c_3z = zT_2c_1c_3$, We got 188 equations .

Totally 382 solutions, dup count: 23.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$a_{68} = 0$$

$$a_{155} = 0$$

$$a_{69} = 0$$

$$a_{125} = 0$$

$$\begin{aligned}a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0\end{aligned}$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$\begin{aligned}
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0
\end{aligned}$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{17} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{58} = 0$$

$$a_{46} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{33} = -a_{286} + qa_{286}$$

$$a_{51} = -a_{286} + qa_{286}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = 0$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{112} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{239} = -a_{286}$$

$$a_{261} = -a_{286}$$

$$a_{300} = -qa_{376}$$

$$a_{135} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{146} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{265} = a_{286}$$

$$a_{338} = a_{376} - qa_{376}$$

$$a_{170} = a_{376} - qa_{376}$$

$$a_{187} = 0$$

$$a_{320} = 0$$

$$a_{332} = -a_{376} + qa_{376}$$

$$a_{34} = 0$$

$$a_{234} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{336} = a_{376} - qa_{376}$$

$$a_{323} = a_{376} - qa_{376}$$

$$a_{343} = 0$$

$$a_{367} = 0$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$\begin{aligned}
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4
\end{aligned}$$

$$\begin{aligned}
& + 2q^2 a_{376} T_1 T_3 c_4 - a_{286} T_1 T_2 T_3 + q a_{286} T_1 T_2 T_3 - a_{286} T_3 T_2 T_1 + q a_{286} T_3 T_2 T_1 \\
& + a_{376} T_3 T_2 c_2 - q q^2 a_{376} T_3 T_2 c_2 + a_{376} T_3 T_2 c_3 - q q^2 a_{376} T_3 T_2 c_3 \\
& + a_{376} T_3 T_2 c_4 - q q^2 a_{376} T_3 T_2 c_4 + 2 a_{376} T_1 T_2 c_4 - 3 q a_{376} T_1 T_2 c_4 - 2 q q^2 a_{376} T_1 T_2 c_4 \\
& + 3 q^2 a_{376} T_1 T_2 c_4 - 2 a_{286} T_1 T_2 T_1 + 2 q a_{286} T_1 T_2 T_1 - a_{286} T_2 T_1 T_3 + q a_{286} T_2 T_1 T_3 \\
& + a_{286} T_2 T_3 c_2 c_3 - q a_{286} T_2 T_3 c_2 c_3 + q^2 a_{286} T_2 T_3 c_2 c_3 - a_{286} T_2 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_3 c_2 c_4 - q^2 a_{286} T_2 T_3 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_2 + a_{286} T_2 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_3 c_3 c_4 + q^2 a_{286} T_2 T_3 c_3 c_4 + a_{376} T_1 T_2 T_3 c_3 - q a_{376} T_1 T_2 T_3 c_3 \\
& + q^2 a_{376} T_1 T_2 T_3 c_3 + a_{376} T_1 T_2 T_3 c_4 - q a_{376} T_1 T_2 T_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_4 \\
& + q a_{286} T_1 T_2 c_1 c_2 - q a_{286} T_1 T_2 c_1 c_3 + q a_{286} T_1 T_2 c_2 c_3 + a_{376} T_3 T_2 T_1 c_1 \\
& - q a_{376} T_3 T_2 T_1 c_1 + q^2 a_{376} T_3 T_2 T_1 c_1 + q a_{376} T_3 T_2 T_1 c_2 + a_{376} T_3 T_2 T_1 c_3 \\
& - q a_{376} T_3 T_2 T_1 c_3 + q^2 a_{376} T_3 T_2 T_1 c_3 + a_{376} T_3 T_2 T_1 c_4 - q a_{376} T_3 T_2 T_1 c_4 \\
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + q a_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - q a_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + q a_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2 a_{376} T_1 T_2 T_1 c_4 - 2 q a_{376} T_1 T_2 T_1 c_4 \\
& - 2 q a_{376} T_1 T_2 T_1 c_4 + 2 q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + q a_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - q a_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - q a_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - q a_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + q a_{376} T_1 T_3 T_2 c_1 \\
& - q a_{286} T_2 T_1 c_1 c_2 + q a_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - q a_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - q a_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - q a_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - q a_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - q a_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - q a_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - q a_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - q q^2 a_{376} T_2 T_3 c_2 c_3 c_4 + q a_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2 a_{376} T_2 T_1 T_3 T_2 c_2 - 2 q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2 a_{376} T_2 T_1 T_3 T_2 c_4 - 2 q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + q a_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - q a_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + q a_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - q a_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - q a_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + q a_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - q a_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + q a_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 - q a_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + q a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 42, Calculating $T_2 c_1 c_4 z = z T_2 c_1 c_4$, We got 184 equations .

Totally 382 solutions, dup count: 24.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0
\end{aligned}$$

$$\begin{aligned}a_{69} &= 0 \\a_{125} &= 0 \\a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0\end{aligned}$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$\begin{aligned}
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376}
\end{aligned}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{17} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{58} = 0$$

$$a_{46} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{33} = -a_{286} + qa_{286}$$

$$a_{51} = -a_{286} + qa_{286}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$\begin{aligned}
a_{54} &= a_{376} - qq^2 a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2 a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2 a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286}
\end{aligned}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{112} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{239} = -a_{286}$$

$$a_{261} = -a_{286}$$

$$a_{300} = -qa_{376}$$

$$a_{135} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{146} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{265} = a_{286}$$

$$a_{338} = a_{376} - qa_{376}$$

$$a_{170} = a_{376} - qa_{376}$$

$$a_{187} = 0$$

$$a_{320} = 0$$

$$a_{332} = -a_{376} + qa_{376}$$

$$a_{34} = 0$$

$$a_{234} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{336} = a_{376} - qa_{376}$$

$$a_{323} = a_{376} - qa_{376}$$

$$a_{343} = 0$$

$$a_{367} = 0$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$a_{374} = 0$$

$$a_{202} = -a_{286} + qa_{286}$$

$$a_{243} = a_{286}$$

$$a_{48} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{86} = 0$$

$$a_{268} = -a_{286}$$

$$a_{194} = a_{286} - qa_{286}$$

$$a_9 = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{73} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{10} = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{121} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{177} = 2a_{376} - 2qa_{376}$$

$$a_2 = -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286}$$

$$a_{74} = -2a_{286} + 2qa_{286}$$

$$a_{213} = a_{286} - qa_{286}$$

Center:

$$\begin{aligned} z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\ & + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\ & - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\ & - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\ & + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\ & + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\ & - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\ & + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\ & - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\ & - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\ & + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \end{aligned}$$

$$\begin{aligned}
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + q a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 43, Calculating $T_1 T_3 c_2 z = z T_1 T_3 c_2$, We got 229 equations .

Totally 382 solutions, dup count: 25.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$a_{57} = 0$$

$$a_{209} = 0$$

$$a_{210} = 0$$

$$\begin{aligned}a_{68} &= 0 \\a_{155} &= 0 \\a_{69} &= 0 \\a_{125} &= 0 \\a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0\end{aligned}$$

$$\begin{aligned}a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0 \\a_{44} &= 0 \\a_{27} &= 0 \\a_{236} &= 0 \\a_{101} &= 0 \\a_{75} &= 0 \\a_{352} &= 0 \\a_{310} &= 0 \\a_{204} &= 0 \\a_{375} &= 0 \\a_{246} &= 0 \\a_{363} &= 0 \\a_{371} &= 0 \\a_{379} &= 0 \\a_{381} &= 0 \\a_{382} &= 0 \\a_{384} &= 0 \\a_{19} &= 0 \\a_{24} &= 0 \\a_{26} &= 0 \\a_{168} &= 0 \\a_{166} &= 0 \\a_{43} &= 0 \\a_{61} &= 0 \\a_{62} &= 0 \\a_{65} &= 0 \\a_{66} &= 0 \\a_{71} &= 0 \\a_{63} &= 0 \\a_{244} &= 0 \\a_{253} &= 0\end{aligned}$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$\begin{aligned}
a_{158} &= qa_{376} - q^2 a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2 a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2 a_{376} \\
a_{208} &= -qa_{376} + q^2 a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2 a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2 a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286}
\end{aligned}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{17} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{58} = 0$$

$$a_{46} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{33} = -a_{286} + qa_{286}$$

$$\begin{aligned}
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286}
\end{aligned}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{112} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{239} = -a_{286}$$

$$a_{261} = -a_{286}$$

$$a_{300} = -qa_{376}$$

$$a_{135} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{146} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{265} = a_{286}$$

$$a_{338} = a_{376} - qa_{376}$$

$$a_{170} = a_{376} - qa_{376}$$

$$a_{187} = 0$$

$$a_{320} = 0$$

$$a_{332} = -a_{376} + qa_{376}$$

$$a_{34} = 0$$

$$a_{234} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{336} = a_{376} - qa_{376}$$

$$a_{323} = a_{376} - qa_{376}$$

$$a_{343} = 0$$

$$a_{367} = 0$$

$$a_{59} = 0$$

$$a_{342} = 0$$

$$a_{80} = 0$$

$$a_{346} = -a_{376} + qa_{376}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$\begin{aligned}
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& -3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 44, Calculating $T_2c_2c_3z = zT_2c_2c_3$, We got 182 equations .

Totally 382 solutions, dup count: 26.

$$a_{50} = 0$$

$$a_{23} = 0$$

$$a_{148} = 0$$

$$a_{102} = 0$$

$$a_{103} = 0$$

$$\begin{aligned}a_{57} &= 0 \\a_{209} &= 0 \\a_{210} &= 0 \\a_{68} &= 0 \\a_{155} &= 0 \\a_{69} &= 0 \\a_{125} &= 0 \\a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0\end{aligned}$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$\begin{aligned}
a_{145} &= 0 \\
a_{152} &= 0 \\
a_{328} &= 0 \\
a_{158} &= qa_{376} - q^2a_{376} \\
a_{167} &= a_{376} - qa_{376} \\
a_{176} &= 0 \\
a_{339} &= 0 \\
a_{157} &= a_{376} - qq^2a_{376} \\
a_{227} &= 0 \\
a_{229} &= qa_{376} - q^2a_{376} \\
a_{208} &= -qa_{376} + q^2a_{376} \\
a_{215} &= 0 \\
a_{231} &= -qa_{376} + q^2a_{376} \\
a_{303} &= 0 \\
a_{248} &= -a_{286} \\
a_{247} &= a_{286} \\
a_{280} &= a_{376} \\
a_{260} &= a_{376} \\
a_{292} &= 0 \\
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0
\end{aligned}$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$a_{372} = 0$$

$$a_{270} = 0$$

$$a_{322} = 0$$

$$a_{20} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{17} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{58} = 0$$

$$a_{46} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{33} = -a_{286} + qa_{286}$$

$$a_{51} = -a_{286} + qa_{286}$$

$$a_{53} = a_{376} - qq^2a_{376}$$

$$a_{54} = a_{376} - qq^2a_{376}$$

$$a_{82} = 0$$

$$a_{118} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{109} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{111} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{129} = -a_{286}$$

$$a_{141} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{144} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{214} = a_{376} - qa_{376}$$

$$a_{169} = a_{376} - qa_{376}$$

$$a_{318} = 0$$

$$a_{182} = -a_{286} + qa_{286}$$

$$a_{196} = -a_{286} + qa_{286}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$\begin{aligned}
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + 2q^4 a_{376} T_2 c_4 - a_{286} T_3 T_2 + q a_{286} T_3 T_2 - q^2 a_{286} T_3 T_2 + 2a_{376} T_3 c_3 - 2q a_{376} T_3 c_3 \\
& - 2qq^2 a_{376} T_3 c_3 + 2q^4 a_{376} T_3 c_3 + 2a_{376} T_3 c_4 - 2q a_{376} T_3 c_4 - 2qq^2 a_{376} T_3 c_4 \\
& + 2q^4 a_{376} T_3 c_4 + 2a_{376} T_1 c_4 - 2q a_{376} T_1 c_4 - 2qq^2 a_{376} T_1 c_4 + 2q^2 a_{376} T_1 c_4 \\
& - 2q a_{376} T_1 c_4 + 2q^2 a_{376} T_1 c_4 + 2q^4 a_{376} T_1 c_4 - 2qq^2 a_{376} T_1 c_4 + 2a_{376} T_2 T_1 c_4 \\
& - 3q a_{376} T_2 T_1 c_4 - 2qq^2 a_{376} T_2 T_1 c_4 + 3q^2 a_{376} T_2 T_1 c_4 - a_{286} T_1 T_3 T_2 \\
& + q a_{286} T_1 T_3 T_2 + a_{376} T_2 T_3 c_2 - qq^2 a_{376} T_2 T_3 c_2 + a_{376} T_2 T_3 c_3 - qq^2 a_{376} T_2 T_3 c_3 \\
& + a_{376} T_2 T_3 c_4 - qq^2 a_{376} T_2 T_3 c_4 + 2a_{376} T_1 T_3 c_3 - 2q a_{376} T_1 T_3 c_3 - 2qq^2 a_{376} T_1 T_3 c_3 \\
& + 2q^2 a_{376} T_1 T_3 c_3 + 2a_{376} T_1 T_3 c_4 - 2q a_{376} T_1 T_3 c_4 - 2qq^2 a_{376} T_1 T_3 c_4 \\
& + 2q^2 a_{376} T_1 T_3 c_4 - a_{286} T_1 T_2 T_3 + q a_{286} T_1 T_2 T_3 - a_{286} T_3 T_2 T_1 + q a_{286} T_3 T_2 T_1 \\
& + a_{376} T_3 T_2 c_2 - qq^2 a_{376} T_3 T_2 c_2 + a_{376} T_3 T_2 c_3 - qq^2 a_{376} T_3 T_2 c_3 \\
& + a_{376} T_3 T_2 c_4 - qq^2 a_{376} T_3 T_2 c_4 + 2a_{376} T_1 T_2 c_4 - 3q a_{376} T_1 T_2 c_4 - 2qq^2 a_{376} T_1 T_2 c_4 \\
& + 3q^2 a_{376} T_1 T_2 c_4 - 2a_{286} T_1 T_2 T_1 + 2q a_{286} T_1 T_2 T_1 - a_{286} T_2 T_1 T_3 + q a_{286} T_2 T_1 T_3 \\
& + a_{286} T_2 T_3 c_2 c_3 - q a_{286} T_2 T_3 c_2 c_3 + q^2 a_{286} T_2 T_3 c_2 c_3 - a_{286} T_2 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_3 c_2 c_4 - q^2 a_{286} T_2 T_3 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_2 + a_{286} T_2 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_3 c_3 c_4 + q^2 a_{286} T_2 T_3 c_3 c_4 + a_{376} T_1 T_2 T_3 c_3 - q a_{376} T_1 T_2 T_3 c_3 \\
& + q^2 a_{376} T_1 T_2 T_3 c_3 + a_{376} T_1 T_2 T_3 c_4 - q a_{376} T_1 T_2 T_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_4 \\
& + q a_{286} T_1 T_2 c_1 c_2 - q a_{286} T_1 T_2 c_1 c_3 + q a_{286} T_1 T_2 c_2 c_3 + a_{376} T_3 T_2 T_1 c_1 \\
& - q a_{376} T_3 T_2 T_1 c_1 + q^2 a_{376} T_3 T_2 T_1 c_1 + q a_{376} T_3 T_2 T_1 c_2 + a_{376} T_3 T_2 T_1 c_3 \\
& - q a_{376} T_3 T_2 T_1 c_3 + q^2 a_{376} T_3 T_2 T_1 c_3 + a_{376} T_3 T_2 T_1 c_4 - q a_{376} T_3 T_2 T_1 c_4 \\
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + q a_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - q a_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + q a_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2a_{376} T_1 T_2 T_1 c_4 - 2q a_{376} T_1 T_2 T_1 c_4 \\
& - 2q a_{376} T_1 T_2 T_1 c_4 + 2q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + q a_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - q a_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - q a_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - q a_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + q a_{376} T_1 T_3 T_2 c_1 \\
& - q a_{286} T_2 T_1 c_1 c_2 + q a_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - q a_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - q a_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - q a_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - q a_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - q a_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - q a_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - q a_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - qq^2 a_{376} T_2 T_3 c_2 c_3 c_4 + q a_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2a_{376} T_2 T_1 T_3 T_2 c_2 - 2q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2a_{376} T_2 T_1 T_3 T_2 c_4 - 2q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3
\end{aligned}$$

$$\begin{aligned}
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 45, Calculating $T_2c_2c_4z = zT_2c_2c_4$, We got 172 equations .

Totally 382 solutions, dup count: 27.

$$a_{50} = 0$$

$$\begin{aligned}a_{23} &= 0 \\a_{148} &= 0 \\a_{102} &= 0 \\a_{103} &= 0 \\a_{57} &= 0 \\a_{209} &= 0 \\a_{210} &= 0 \\a_{68} &= 0 \\a_{155} &= 0 \\a_{69} &= 0 \\a_{125} &= 0 \\a_{126} &= 0 \\a_{305} &= 0 \\a_{140} &= 0 \\a_{207} &= 0 \\a_{12} &= 0 \\a_{35} &= 0 \\a_{40} &= 0 \\a_{41} &= 0 \\a_{42} &= 0 \\a_{52} &= 0 \\a_{83} &= 0 \\a_{84} &= 0 \\a_{85} &= 0 \\a_{94} &= 0 \\a_{95} &= 0 \\a_{97} &= 0 \\a_{114} &= 0 \\a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0\end{aligned}$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{286} + qa_{286}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2 a_{286}$$

$$a_{38} = a_{376} - qq^2 a_{376}$$

$$a_{37} = a_{376} - qq^2 a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2 a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2 a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$a_{298} = 0$$

$$a_{245} = 0$$

$$a_{362} = 0$$

$$\begin{aligned}
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$z = a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2$$

$$\begin{aligned}
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2 a_{376} T_2 T_1 T_3 T_2 c_2 - 2 q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2 a_{376} T_2 T_1 T_3 T_2 c_4 - 2 q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + q a_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - q a_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + q a_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - q a_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - q a_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + q a_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - q a_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + q a_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 - q a_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4 \\
& + q a_{376} T_1 T_3 T_2 c_1 c_2 c_3 + q a_{376} T_1 T_3 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_3 T_2 c_1 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 + a_{376} T_2 T_1 T_3 T_2 T_1 c_3 + a_{376} T_2 T_1 T_3 T_2 T_1 c_4 \\
& + a_{286} T_1 T_2 T_1 T_3 c_3 c_4 - a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + q a_{376} T_1 T_3 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_3 + a_{376} T_1 T_2 T_1 T_3 T_2 c_4 \\
& - q a_{376} T_2 T_1 T_3 c_1 c_2 c_3 - q a_{376} T_2 T_1 T_3 c_1 c_2 c_4 + q a_{376} T_2 T_1 T_3 c_1 c_3 c_4 \\
& - a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_1 T_3 c_1 c_3 c_4 + a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_1 c_2 c_3 \\
& - a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_2 T_3 T_2 T_1 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_1 c_2 c_3 + a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 - q a_{376} T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - q a_{376} T_1 T_2 T_3 T_2 c_1 c_3 c_4 - a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 T_2 c_2 c_3 c_4 - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_3 \\
& - a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 c_3 c_4 \\
& + a_{376} T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 - a_{376} T_1 T_2 T_1 T_3 T_2 c_2 c_3 c_4 + a_{376} T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3
\end{aligned}$$

Round 46, Calculating $T_1T_3c_3z = zT_1T_3c_3$, We got 199 equations .
 Totally 382 solutions, dup count: 28.

$$\begin{aligned}
 a_{50} &= 0 \\
 a_{23} &= 0 \\
 a_{148} &= 0 \\
 a_{102} &= 0 \\
 a_{103} &= 0 \\
 a_{57} &= 0 \\
 a_{209} &= 0 \\
 a_{210} &= 0 \\
 a_{68} &= 0 \\
 a_{155} &= 0 \\
 a_{69} &= 0 \\
 a_{125} &= 0 \\
 a_{126} &= 0 \\
 a_{305} &= 0 \\
 a_{140} &= 0 \\
 a_{207} &= 0 \\
 a_{12} &= 0 \\
 a_{35} &= 0 \\
 a_{40} &= 0 \\
 a_{41} &= 0 \\
 a_{42} &= 0 \\
 a_{52} &= 0 \\
 a_{83} &= 0 \\
 a_{84} &= 0 \\
 a_{85} &= 0 \\
 a_{94} &= 0 \\
 a_{95} &= 0 \\
 a_{97} &= 0 \\
 a_{114} &= 0 \\
 a_{115} &= 0 \\
 a_{116} &= 0 \\
 a_{150} &= 0 \\
 a_{153} &= 0 \\
 a_{165} &= 0 \\
 a_{174} &= 0 \\
 a_{192} &= 0 \\
 a_{193} &= 0
 \end{aligned}$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$\begin{aligned}
a_{249} &= -qa_{376} \\
a_{250} &= -qa_{376} \\
a_{251} &= qa_{376} \\
a_{256} &= -qa_{376} \\
a_{257} &= qa_{376} \\
a_{279} &= qa_{376} \\
a_{361} &= 0 \\
a_{272} &= qa_{376} \\
a_{278} &= -qa_{376} \\
a_{273} &= qa_{376} \\
a_{306} &= 0 \\
a_{341} &= 0 \\
a_{345} &= 0 \\
a_{64} &= 0 \\
a_{96} &= 0 \\
a_{30} &= 0 \\
a_{128} &= 0 \\
a_{281} &= 0 \\
a_{70} &= 0 \\
a_{269} &= 0 \\
a_{212} &= 0 \\
a_{334} &= 0 \\
a_{105} &= 0 \\
a_{226} &= 0 \\
a_{364} &= 0 \\
a_{308} &= 0 \\
a_{370} &= 0 \\
a_{366} &= 0 \\
a_{377} &= 0 \\
a_{380} &= 0 \\
a_{14} &= 0 \\
a_{28} &= 0 \\
a_{47} &= 0 \\
a_{36} &= a_{376} - qq^2a_{376} \\
a_{225} &= 0 \\
a_{72} &= 0 \\
a_{79} &= 0 \\
a_{258} &= 0 \\
a_{137} &= -qa_{286}
\end{aligned}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$\begin{aligned}
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0
\end{aligned}$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$a_{164} = 0$$

$$a_{335} = 0$$

$$a_{330} = 0$$

$$a_{219} = 0$$

$$\begin{aligned}
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376}
\end{aligned}$$

$$a_{349} = 0$$

$$a_{160} = 0$$

$$a_{266} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{302} = qa_{376}$$

$$a_{199} = -a_{376} + qq^2a_{376}$$

$$a_{252} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{39} = 0$$

$$a_{304} = 0$$

$$a_{383} = 0$$

$$a_3 = -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286}$$

$$a_8 = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376}$$

$$a_{15} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{31} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376}$$

$$a_{32} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{21} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376}$$

$$a_{188} = -a_{286} + qa_{286}$$

$$a_{56} = 0$$

$$a_{291} = -a_{376} + qa_{376} - q^2a_{376}$$

$$a_{123} = 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376}$$

$$a_{353} = 0$$

$$a_{18} = 0$$

$$a_{374} = 0$$

$$a_{202} = -a_{286} + qa_{286}$$

$$a_{243} = a_{286}$$

$$a_{48} = 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376}$$

$$a_{86} = 0$$

$$a_{268} = -a_{286}$$

$$a_{194} = a_{286} - qa_{286}$$

$$a_9 = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{73} = 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}$$

$$a_{10} = -2a_{286} + 3qa_{286} - 2q^2a_{286}$$

$$a_{121} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{177} = 2a_{376} - 2qa_{376}$$

$$a_2 = -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286}$$

$$a_{74} = -2a_{286} + 2qa_{286}$$

$$a_{213} = a_{286} - qa_{286}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 47, Calculating $T_2c_3c_4z = zT_2c_3c_4$, We got 176 equations .
 Totally 382 solutions, dup count: 29.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0 \\
a_{115} &= 0 \\
a_{116} &= 0 \\
a_{150} &= 0 \\
a_{153} &= 0
\end{aligned}$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$a_{321} = -a_{376} + qa_{376}$$

$$a_{328} = -a_{339}$$

$$a_{354} = -a_{376}$$

$$a_{356} = -a_{376}$$

$$a_{360} = a_{376}$$

$$a_{357} = a_{376}$$

$$a_{378} = 0$$

$$a_{351} = 0$$

$$a_{49} = -a_{286} + qa_{286}$$

$$a_{294} = a_{376}$$

$$a_{93} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{98} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{124} = -a_{286}$$

$$a_{127} = -a_{286}$$

$$a_{154} = a_{376} - qa_{376}$$

$$a_{156} = a_{376} - qa_{376}$$

$$a_{159} = 0$$

$$a_{161} = 0$$

$$a_{162} = 0$$

$$a_{163} = a_{376} - qa_{376}$$

$$a_{319} = 0$$

$$a_{191} = a_{286} - qa_{286}$$

$$a_{337} = 0$$

$$a_{230} = 0$$

$$a_{235} = 0$$

$$a_{237} = a_{286}$$

$$a_{238} = 0$$

$$a_{241} = 0$$

$$a_{271} = 0$$

$$a_{255} = a_{286}$$

$$a_{355} = -a_{376}$$

$$a_{107} = 0$$

$$a_{282} = a_{376}$$

$$a_{283} = a_{376}$$

$$a_{307} = 0$$

$$a_{311} = 0$$

$$a_{333} = -a_{376} + qa_{376}$$

$$a_{340} = 0$$

$$a_{348} = 0$$

$$a_{358} = 0$$

$$a_{365} = 0$$

$$a_{297} = 0$$

$$a_{228} = 0$$

$$a_{11} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{38} = a_{376} - qq^2a_{376}$$

$$a_{37} = a_{376} - qq^2a_{376}$$

$$a_{130} = 0$$

$$a_{76} = -a_{286} + qa_{286}$$

$$a_{81} = 0$$

$$a_{276} = 0$$

$$a_{90} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{175} = 2a_{376} - 2qa_{376}$$

$$a_{326} = 0$$

$$a_{173} = 0$$

$$a_{136} = qa_{376}$$

$$a_{133} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{134} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{149} = -a_{286}$$

$$a_{369} = 0$$

$$a_{285} = a_{376}$$

$$a_{179} = 0$$

$$a_{180} = 0$$

$$a_{189} = a_{286} - qa_{286}$$

$$a_{216} = 0$$

$$a_{217} = 0$$

$$a_{218} = a_{376} - qa_{376}$$

$$a_{359} = a_{376}$$

$$a_{347} = 0$$

$$a_{296} = a_{376}$$

$$a_{317} = 0$$

$$a_{262} = -a_{286}$$

$$a_{263} = 0$$

$$a_{267} = 0$$

$$a_{284} = a_{376}$$

$$a_{299} = -qa_{376}$$

$$a_{331} = 0$$

$$a_{329} = a_{376} - qa_{376}$$

$$a_4 = 0$$

$$a_{16} = 0$$

$$a_{151} = 0$$

$$a_{224} = 0$$

$$a_{301} = 0$$

$$\begin{aligned}
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0 \\
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376}
\end{aligned}$$

$$\begin{aligned}
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4 \\
& - 2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3
\end{aligned}$$

$$\begin{aligned}
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4
\end{aligned}$$

$$\begin{aligned}
& -qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Round 48, Calculating $T_1T_3c_4z = zT_1T_3c_4$, We got 201 equations .

Totally 382 solutions, dup count: 30.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0 \\
a_{94} &= 0 \\
a_{95} &= 0 \\
a_{97} &= 0 \\
a_{114} &= 0
\end{aligned}$$

$$\begin{aligned}a_{115} &= 0 \\a_{116} &= 0 \\a_{150} &= 0 \\a_{153} &= 0 \\a_{165} &= 0 \\a_{174} &= 0 \\a_{192} &= 0 \\a_{193} &= 0 \\a_{195} &= 0 \\a_{221} &= 0 \\a_{222} &= 0 \\a_{223} &= 0 \\a_{232} &= 0 \\a_{233} &= 0 \\a_{264} &= 0 \\a_{274} &= 0 \\a_{275} &= 0 \\a_{277} &= 0 \\a_{287} &= 0 \\a_{288} &= 0 \\a_{289} &= 0 \\a_{290} &= 0 \\a_{324} &= 0 \\a_{325} &= 0 \\a_{327} &= 0 \\a_{344} &= 0 \\a_{368} &= 0 \\a_{44} &= 0 \\a_{27} &= 0 \\a_{236} &= 0 \\a_{101} &= 0 \\a_{75} &= 0 \\a_{352} &= 0 \\a_{310} &= 0 \\a_{204} &= 0 \\a_{375} &= 0 \\a_{246} &= 0 \\a_{363} &= 0 \\a_{371} &= 0\end{aligned}$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$a_{295} = 0$$

$$a_{313} = 0$$

$$a_{314} = 0$$

$$a_{315} = 0$$

$$\begin{aligned}
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0 \\
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376} \\
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0
\end{aligned}$$

$$\begin{aligned}
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286} \\
a_{254} &= -a_{286} \\
a_{373} &= -a_{376} \\
a_{350} &= 0 \\
a_5 &= 0
\end{aligned}$$

$$\begin{aligned}
a_6 &= 0 \\
a_7 &= 0 \\
a_{13} &= 0 \\
a_{22} &= 0 \\
a_{25} &= 0 \\
a_{29} &= 0 \\
a_{45} &= 0 \\
a_{60} &= 0 \\
a_{77} &= 0 \\
a_{67} &= 0 \\
a_{78} &= 0 \\
a_{99} &= 0 \\
a_{139} &= 0 \\
a_{117} &= 0 \\
a_{293} &= 0 \\
a_{143} &= 0 \\
a_{211} &= 0 \\
a_{119} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{197} &= a_{286} - qa_{286} \\
a_{198} &= -a_{286} + qa_{286} \\
a_{183} &= a_{286} - qa_{286} \\
a_{55} &= a_{376} - qq^2a_{376} \\
a_{190} &= -a_{286} + qa_{286} \\
a_{147} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{112} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{239} &= -a_{286} \\
a_{261} &= -a_{286} \\
a_{300} &= -qa_{376} \\
a_{135} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{146} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{265} &= a_{286} \\
a_{338} &= a_{376} - qa_{376} \\
a_{170} &= a_{376} - qa_{376} \\
a_{187} &= 0 \\
a_{320} &= 0 \\
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286} \\
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4 \\
& + q^2a_{376}T_3T_2T_1c_4 - a_{286}T_3T_2c_2c_3 + qa_{286}T_3T_2c_2c_3 - q^2a_{286}T_3T_2c_2c_3 \\
& + a_{286}T_3T_2c_2c_4 - qa_{286}T_3T_2c_2c_4 + q^2a_{286}T_3T_2c_2c_4 - a_{286}T_3T_2c_3c_4 \\
& + qa_{286}T_3T_2c_3c_4 - q^2a_{286}T_3T_2c_3c_4 + 2a_{376}T_1T_2T_1c_4 - 2qa_{376}T_1T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& -2qa_{376}T_1T_2T_1c_4 + 2q^2a_{376}T_1T_2T_1c_4 - a_{286}T_1T_2T_1T_3 - a_{286}T_1T_2T_3T_2 \\
& - a_{286}T_1T_3T_2T_1 + qa_{376}T_2T_1T_3c_1 + a_{376}T_2T_1T_3c_2 - qa_{376}T_2T_1T_3c_2 \\
& + q^2a_{376}T_2T_1T_3c_2 + a_{376}T_2T_1T_3c_3 - qa_{376}T_2T_1T_3c_3 + q^2a_{376}T_2T_1T_3c_3 \\
& + a_{376}T_2T_1T_3c_4 - qa_{376}T_2T_1T_3c_4 + q^2a_{376}T_2T_1T_3c_4 + qa_{376}T_1T_3T_2c_1 \\
& - qa_{286}T_2T_1c_1c_2 + qa_{286}T_2T_1c_1c_3 + a_{376}T_1T_3T_2c_2 - qa_{376}T_1T_3T_2c_2 \\
& + q^2a_{376}T_1T_3T_2c_2 - qa_{286}T_2T_1c_2c_3 + a_{376}T_1T_3T_2c_3 - qa_{376}T_1T_3T_2c_3 \\
& + q^2a_{376}T_1T_3T_2c_3 + a_{376}T_1T_3T_2c_4 - qa_{376}T_1T_3T_2c_4 + q^2a_{376}T_1T_3T_2c_4 \\
& + a_{376}T_1T_2T_3c_1 - qa_{376}T_1T_2T_3c_1 + q^2a_{376}T_1T_2T_3c_1 - a_{286}T_2T_3T_2T_1 \\
& + a_{376}T_1T_2T_1T_3c_3 - qa_{376}T_1T_2T_1T_3c_3 + a_{376}T_1T_2T_1T_3c_4 - qa_{376}T_1T_2T_1T_3c_4 \\
& + a_{376}T_2T_3c_2c_3c_4 - qq^2a_{376}T_2T_3c_2c_3c_4 + qa_{376}T_1T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_2c_2c_3c_4 + a_{376}T_1T_2T_3T_2c_3 - qa_{376}T_1T_2T_3T_2c_3 \\
& + a_{376}T_1T_3T_2T_1c_1 - qa_{376}T_1T_3T_2T_1c_1 + a_{376}T_1T_3T_2T_1c_3 - qa_{376}T_1T_3T_2T_1c_3 \\
& + a_{376}T_1T_3T_2T_1c_4 - qa_{376}T_1T_3T_2T_1c_4 + 2a_{376}T_2T_1T_3T_2c_2 - 2qa_{376}T_2T_1T_3T_2c_2 \\
& + 2a_{376}T_2T_1T_3T_2c_4 - 2qa_{376}T_2T_1T_3T_2c_4 - a_{286}T_3T_2T_1c_1c_3 \\
& + qa_{286}T_3T_2T_1c_1c_3 + a_{286}T_3T_2T_1c_1c_4 - qa_{286}T_3T_2T_1c_1c_4 - a_{286}T_3T_2T_1c_3c_4 \\
& + qa_{286}T_3T_2T_1c_3c_4 + a_{286}T_2T_1T_3c_2c_3 - qa_{286}T_2T_1T_3c_2c_3 - a_{286}T_2T_1T_3c_2c_4 \\
& + qa_{286}T_2T_1T_3c_2c_4 + a_{286}T_1T_2T_3c_1c_3 - qa_{286}T_1T_2T_3c_1c_3 + a_{286}T_2T_1T_3c_3c_4 \\
& - qa_{286}T_2T_1T_3c_3c_4 - a_{286}T_1T_3T_2c_2c_3 + qa_{286}T_1T_3T_2c_2c_3 \\
& + a_{286}T_1T_3T_2c_2c_4 - qa_{286}T_1T_3T_2c_2c_4 - a_{286}T_1T_2T_3c_1c_4 + qa_{286}T_1T_2T_3c_1c_4 \\
& - a_{376}T_3T_2c_2c_3c_4 + qq^2a_{376}T_3T_2c_2c_3c_4 - qa_{376}T_2T_1c_1c_2c_4 \\
& + q^2a_{376}T_2T_1c_1c_2c_4 - a_{286}T_1T_3T_2c_3c_4 + qa_{286}T_1T_3T_2c_3c_4 \\
& + qa_{376}T_2T_1c_1c_3c_4 - q^2a_{376}T_2T_1c_1c_3c_4 - qa_{376}T_2T_1c_2c_3c_4 \\
& + q^2a_{376}T_2T_1c_2c_3c_4 + a_{286}T_1T_2T_3c_3c_4 - qa_{286}T_1T_2T_3c_3c_4 \\
& + a_{376}T_1T_2T_1T_3c_1 - qa_{376}T_1T_2T_1T_3c_1 + a_{376}T_2T_3T_2T_1c_3 - qa_{376}T_2T_3T_2T_1c_3 \\
& + qa_{376}T_1T_2c_1c_2c_4 - q^2a_{376}T_1T_2c_1c_2c_4 - qa_{376}T_1T_2c_1c_3c_4 \\
& + q^2a_{376}T_1T_2c_1c_3c_4 + a_{376}T_2T_1T_3c_2c_3c_4 - qa_{376}T_2T_1T_3c_2c_3c_4 \\
& + q^2a_{376}T_2T_1T_3c_2c_3c_4 + a_{286}T_1T_2T_3T_2c_1c_2 - a_{286}T_1T_2T_3T_2c_1c_4 \\
& + a_{286}T_1T_2T_3T_2c_2c_4 + a_{286}T_1T_2T_1T_3c_1c_3 - a_{286}T_1T_2T_1T_3c_1c_4 \\
& - qa_{376}T_3T_2T_1c_1c_2c_3 - qa_{376}T_3T_2T_1c_1c_2c_4 + qa_{376}T_1T_2T_3c_1c_2c_3 \\
& - a_{376}T_3T_2T_1c_1c_3c_4 + qa_{376}T_3T_2T_1c_1c_3c_4 - q^2a_{376}T_3T_2T_1c_1c_3c_4 \\
& - a_{286}T_1T_3T_2T_1c_1c_3 + a_{286}T_1T_3T_2T_1c_1c_4 - qa_{376}T_3T_2T_1c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1 - a_{286}T_1T_3T_2T_1c_3c_4 \\
& - a_{286}T_2T_3T_2T_1c_1c_2 + a_{286}T_2T_3T_2T_1c_1c_4 + a_{376}T_1T_2T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_3c_1c_3c_4 + q^2a_{376}T_1T_2T_3c_1c_3c_4 - a_{286}T_2T_3T_2T_1c_2c_4 \\
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Solved, Totally 382 solutions.

$$\begin{aligned}
a_{50} &= 0 \\
a_{23} &= 0 \\
a_{148} &= 0 \\
a_{102} &= 0 \\
a_{103} &= 0 \\
a_{57} &= 0 \\
a_{209} &= 0 \\
a_{210} &= 0 \\
a_{68} &= 0 \\
a_{155} &= 0 \\
a_{69} &= 0 \\
a_{125} &= 0 \\
a_{126} &= 0 \\
a_{305} &= 0 \\
a_{140} &= 0 \\
a_{207} &= 0 \\
a_{12} &= 0 \\
a_{35} &= 0 \\
a_{40} &= 0 \\
a_{41} &= 0 \\
a_{42} &= 0 \\
a_{52} &= 0 \\
a_{83} &= 0 \\
a_{84} &= 0 \\
a_{85} &= 0
\end{aligned}$$

$$a_{94} = 0$$

$$a_{95} = 0$$

$$a_{97} = 0$$

$$a_{114} = 0$$

$$a_{115} = 0$$

$$a_{116} = 0$$

$$a_{150} = 0$$

$$a_{153} = 0$$

$$a_{165} = 0$$

$$a_{174} = 0$$

$$a_{192} = 0$$

$$a_{193} = 0$$

$$a_{195} = 0$$

$$a_{221} = 0$$

$$a_{222} = 0$$

$$a_{223} = 0$$

$$a_{232} = 0$$

$$a_{233} = 0$$

$$a_{264} = 0$$

$$a_{274} = 0$$

$$a_{275} = 0$$

$$a_{277} = 0$$

$$a_{287} = 0$$

$$a_{288} = 0$$

$$a_{289} = 0$$

$$a_{290} = 0$$

$$a_{324} = 0$$

$$a_{325} = 0$$

$$a_{327} = 0$$

$$a_{344} = 0$$

$$a_{368} = 0$$

$$a_{44} = 0$$

$$a_{27} = 0$$

$$a_{236} = 0$$

$$a_{101} = 0$$

$$a_{75} = 0$$

$$a_{352} = 0$$

$$a_{310} = 0$$

$$a_{204} = 0$$

$$a_{375} = 0$$

$$a_{246} = 0$$

$$a_{363} = 0$$

$$a_{371} = 0$$

$$a_{379} = 0$$

$$a_{381} = 0$$

$$a_{382} = 0$$

$$a_{384} = 0$$

$$a_{19} = 0$$

$$a_{24} = 0$$

$$a_{26} = 0$$

$$a_{168} = 0$$

$$a_{166} = 0$$

$$a_{43} = 0$$

$$a_{61} = 0$$

$$a_{62} = 0$$

$$a_{65} = 0$$

$$a_{66} = 0$$

$$a_{71} = 0$$

$$a_{63} = 0$$

$$a_{244} = 0$$

$$a_{253} = 0$$

$$a_{259} = 0$$

$$a_{89} = qa_{376}$$

$$a_{91} = 0$$

$$a_{92} = 0$$

$$a_{240} = 0$$

$$a_{110} = qa_{376}$$

$$a_{113} = 0$$

$$a_{131} = qa_{376}$$

$$a_{132} = 0$$

$$a_{104} = -qa_{286}$$

$$a_{100} = qa_{286}$$

$$a_{106} = 0$$

$$a_{316} = 0$$

$$a_{171} = 0$$

$$a_{178} = 0$$

$$a_{172} = 0$$

$$a_{181} = 0$$

$$a_{184} = 0$$

$$a_{185} = 0$$

$$a_{186} = 0$$

$$a_{200} = 0$$

$$a_{201} = -qa_{376} + q^2a_{376}$$

$$a_{203} = qa_{376} - q^2a_{376}$$

$$a_{205} = 0$$

$$a_{206} = 0$$

$$a_{220} = 0$$

$$a_{312} = 0$$

$$a_{309} = 0$$

$$a_{242} = 0$$

$$a_{249} = -qa_{376}$$

$$a_{250} = -qa_{376}$$

$$a_{251} = qa_{376}$$

$$a_{256} = -qa_{376}$$

$$a_{257} = qa_{376}$$

$$a_{279} = qa_{376}$$

$$a_{361} = 0$$

$$a_{272} = qa_{376}$$

$$a_{278} = -qa_{376}$$

$$a_{273} = qa_{376}$$

$$a_{306} = 0$$

$$a_{341} = 0$$

$$a_{345} = 0$$

$$a_{64} = 0$$

$$a_{96} = 0$$

$$a_{30} = 0$$

$$a_{128} = 0$$

$$a_{281} = 0$$

$$a_{70} = 0$$

$$a_{269} = 0$$

$$a_{212} = 0$$

$$a_{334} = 0$$

$$a_{105} = 0$$

$$a_{226} = 0$$

$$a_{364} = 0$$

$$a_{308} = 0$$

$$a_{370} = 0$$

$$a_{366} = 0$$

$$a_{377} = 0$$

$$a_{380} = 0$$

$$a_{14} = 0$$

$$a_{28} = 0$$

$$a_{47} = 0$$

$$a_{36} = a_{376} - qq^2a_{376}$$

$$a_{225} = 0$$

$$a_{72} = 0$$

$$a_{79} = 0$$

$$a_{258} = 0$$

$$a_{137} = -qa_{286}$$

$$a_{108} = qa_{286}$$

$$a_{88} = -a_{286} + qa_{286} - q^2a_{286}$$

$$a_{87} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{120} = 0$$

$$a_{122} = 0$$

$$a_{138} = qa_{286}$$

$$a_{142} = -qa_{286}$$

$$a_{145} = 0$$

$$a_{152} = 0$$

$$a_{328} = 0$$

$$a_{158} = qa_{376} - q^2a_{376}$$

$$a_{167} = a_{376} - qa_{376}$$

$$a_{176} = 0$$

$$a_{339} = 0$$

$$a_{157} = a_{376} - qq^2a_{376}$$

$$a_{227} = 0$$

$$a_{229} = qa_{376} - q^2a_{376}$$

$$a_{208} = -qa_{376} + q^2a_{376}$$

$$a_{215} = 0$$

$$a_{231} = -qa_{376} + q^2a_{376}$$

$$a_{303} = 0$$

$$a_{248} = -a_{286}$$

$$a_{247} = a_{286}$$

$$a_{280} = a_{376}$$

$$a_{260} = a_{376}$$

$$a_{292} = 0$$

$$\begin{aligned}
a_{295} &= 0 \\
a_{313} &= 0 \\
a_{314} &= 0 \\
a_{315} &= 0 \\
a_{321} &= -a_{376} + qa_{376} \\
a_{328} &= -a_{339} \\
a_{354} &= -a_{376} \\
a_{356} &= -a_{376} \\
a_{360} &= a_{376} \\
a_{357} &= a_{376} \\
a_{378} &= 0 \\
a_{351} &= 0 \\
a_{49} &= -a_{286} + qa_{286} \\
a_{294} &= a_{376} \\
a_{93} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{98} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{124} &= -a_{286} \\
a_{127} &= -a_{286} \\
a_{154} &= a_{376} - qa_{376} \\
a_{156} &= a_{376} - qa_{376} \\
a_{159} &= 0 \\
a_{161} &= 0 \\
a_{162} &= 0 \\
a_{163} &= a_{376} - qa_{376} \\
a_{319} &= 0 \\
a_{191} &= a_{286} - qa_{286} \\
a_{337} &= 0 \\
a_{230} &= 0 \\
a_{235} &= 0 \\
a_{237} &= a_{286} \\
a_{238} &= 0 \\
a_{241} &= 0 \\
a_{271} &= 0 \\
a_{255} &= a_{286} \\
a_{355} &= -a_{376} \\
a_{107} &= 0 \\
a_{282} &= a_{376} \\
a_{283} &= a_{376} \\
a_{307} &= 0
\end{aligned}$$

$$\begin{aligned}
a_{311} &= 0 \\
a_{333} &= -a_{376} + qa_{376} \\
a_{340} &= 0 \\
a_{348} &= 0 \\
a_{358} &= 0 \\
a_{365} &= 0 \\
a_{297} &= 0 \\
a_{228} &= 0 \\
a_{11} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{38} &= a_{376} - qq^2a_{376} \\
a_{37} &= a_{376} - qq^2a_{376} \\
a_{130} &= 0 \\
a_{76} &= -a_{286} + qa_{286} \\
a_{81} &= 0 \\
a_{276} &= 0 \\
a_{90} &= a_{286} - qa_{286} + q^2a_{286} \\
a_{175} &= 2a_{376} - 2qa_{376} \\
a_{326} &= 0 \\
a_{173} &= 0 \\
a_{136} &= qa_{376} \\
a_{133} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{134} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{149} &= -a_{286} \\
a_{369} &= 0 \\
a_{285} &= a_{376} \\
a_{179} &= 0 \\
a_{180} &= 0 \\
a_{189} &= a_{286} - qa_{286} \\
a_{216} &= 0 \\
a_{217} &= 0 \\
a_{218} &= a_{376} - qa_{376} \\
a_{359} &= a_{376} \\
a_{347} &= 0 \\
a_{296} &= a_{376} \\
a_{317} &= 0 \\
a_{262} &= -a_{286} \\
a_{263} &= 0 \\
a_{267} &= 0 \\
a_{284} &= a_{376}
\end{aligned}$$

$$\begin{aligned}
a_{299} &= -qa_{376} \\
a_{331} &= 0 \\
a_{329} &= a_{376} - qa_{376} \\
a_4 &= 0 \\
a_{16} &= 0 \\
a_{151} &= 0 \\
a_{224} &= 0 \\
a_{301} &= 0 \\
a_{164} &= 0 \\
a_{335} &= 0 \\
a_{330} &= 0 \\
a_{219} &= 0 \\
a_{298} &= 0 \\
a_{245} &= 0 \\
a_{362} &= 0 \\
a_{372} &= 0 \\
a_{270} &= 0 \\
a_{322} &= 0 \\
a_{20} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{17} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{58} &= 0 \\
a_{46} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{33} &= -a_{286} + qa_{286} \\
a_{51} &= -a_{286} + qa_{286} \\
a_{53} &= a_{376} - qq^2a_{376} \\
a_{54} &= a_{376} - qq^2a_{376} \\
a_{82} &= 0 \\
a_{118} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{109} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{111} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{129} &= -a_{286} \\
a_{141} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{144} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{214} &= a_{376} - qa_{376} \\
a_{169} &= a_{376} - qa_{376} \\
a_{318} &= 0 \\
a_{182} &= -a_{286} + qa_{286} \\
a_{196} &= -a_{286} + qa_{286}
\end{aligned}$$

$$a_{254} = -a_{286}$$

$$a_{373} = -a_{376}$$

$$a_{350} = 0$$

$$a_5 = 0$$

$$a_6 = 0$$

$$a_7 = 0$$

$$a_{13} = 0$$

$$a_{22} = 0$$

$$a_{25} = 0$$

$$a_{29} = 0$$

$$a_{45} = 0$$

$$a_{60} = 0$$

$$a_{77} = 0$$

$$a_{67} = 0$$

$$a_{78} = 0$$

$$a_{99} = 0$$

$$a_{139} = 0$$

$$a_{117} = 0$$

$$a_{293} = 0$$

$$a_{143} = 0$$

$$a_{211} = 0$$

$$a_{119} = a_{286} - qa_{286} + q^2a_{286}$$

$$a_{197} = a_{286} - qa_{286}$$

$$a_{198} = -a_{286} + qa_{286}$$

$$a_{183} = a_{286} - qa_{286}$$

$$a_{55} = a_{376} - qq^2a_{376}$$

$$a_{190} = -a_{286} + qa_{286}$$

$$a_{147} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{112} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{239} = -a_{286}$$

$$a_{261} = -a_{286}$$

$$a_{300} = -qa_{376}$$

$$a_{135} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{146} = a_{376} - qa_{376} + q^2a_{376}$$

$$a_{265} = a_{286}$$

$$a_{338} = a_{376} - qa_{376}$$

$$a_{170} = a_{376} - qa_{376}$$

$$a_{187} = 0$$

$$a_{320} = 0$$

$$\begin{aligned}
a_{332} &= -a_{376} + qa_{376} \\
a_{34} &= 0 \\
a_{234} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{336} &= a_{376} - qa_{376} \\
a_{323} &= a_{376} - qa_{376} \\
a_{343} &= 0 \\
a_{367} &= 0 \\
a_{59} &= 0 \\
a_{342} &= 0 \\
a_{80} &= 0 \\
a_{346} &= -a_{376} + qa_{376} \\
a_{349} &= 0 \\
a_{160} &= 0 \\
a_{266} &= a_{376} - qa_{376} + q^2a_{376} \\
a_{302} &= qa_{376} \\
a_{199} &= -a_{376} + qq^2a_{376} \\
a_{252} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{39} &= 0 \\
a_{304} &= 0 \\
a_{383} &= 0 \\
a_3 &= -2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qa_{286} - 2q^2a_{286} + 2qq^2a_{286} \\
a_8 &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^4a_{376} \\
a_{15} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{31} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} - 2qa_{376} + 2q^2a_{376} + 2q^4a_{376} - 2qq^2a_{376} \\
a_{32} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{21} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^4a_{376} \\
a_{188} &= -a_{286} + qa_{286} \\
a_{56} &= 0 \\
a_{291} &= -a_{376} + qa_{376} - q^2a_{376} \\
a_{123} &= 2a_{376} - 2qa_{376} - 2qa_{376} + 2q^2a_{376} \\
a_{353} &= 0 \\
a_{18} &= 0 \\
a_{374} &= 0 \\
a_{202} &= -a_{286} + qa_{286} \\
a_{243} &= a_{286} \\
a_{48} &= 2a_{376} - 2qa_{376} - 2qq^2a_{376} + 2q^2a_{376} \\
a_{86} &= 0 \\
a_{268} &= -a_{286}
\end{aligned}$$

$$\begin{aligned}
a_{194} &= a_{286} - qa_{286} \\
a_9 &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{73} &= 2a_{376} - 3qa_{376} - 2qq^2a_{376} + 3q^2a_{376} \\
a_{10} &= -2a_{286} + 3qa_{286} - 2q^2a_{286} \\
a_{121} &= -a_{286} + qa_{286} - q^2a_{286} \\
a_{177} &= 2a_{376} - 2qa_{376} \\
a_2 &= -2a_{286} + 2qa_{286} + 2qq^2a_{286} - 2q^2a_{286} \\
a_{74} &= -2a_{286} + 2qa_{286} \\
a_{213} &= a_{286} - qa_{286}
\end{aligned}$$

Center:

$$\begin{aligned}
z = & a_1 - 2a_{286}T_1 + 2qa_{286}T_1 + 2qq^2a_{286}T_1 - 2q^2a_{286}T_1 - 2a_{286}T_2 + 2qa_{286}T_2 - 2q^2a_{286}T_2 \\
& + 2qa_{286}T_2 - 2q^2a_{286}T_2 + 2qq^2a_{286}T_2 + 2a_{376}c_4 - 2qa_{376}c_4 - 2qq^2a_{376}c_4 + 2q^4a_{376}c_4 \\
& - 2qa_{376}c_4 + 2q^2a_{376}c_4 + 2q^4a_{376}c_4 - 2qq^4a_{376}c_4 - 2a_{286}T_1T_2 + 3qa_{286}T_1T_2 \\
& - 2q^2a_{286}T_1T_2 - 2a_{286}T_2T_1 + 3qa_{286}T_2T_1 - 2q^2a_{286}T_2T_1 - a_{286}T_2T_3 \\
& + qa_{286}T_2T_3 - q^2a_{286}T_2T_3 + 2a_{376}T_2c_4 - 2qa_{376}T_2c_4 - 2qq^2a_{376}T_2c_4 \\
& + 2q^4a_{376}T_2c_4 - a_{286}T_3T_2 + qa_{286}T_3T_2 - q^2a_{286}T_3T_2 + 2a_{376}T_3c_3 - 2qa_{376}T_3c_3 \\
& - 2qq^2a_{376}T_3c_3 + 2q^4a_{376}T_3c_3 + 2a_{376}T_3c_4 - 2qa_{376}T_3c_4 - 2qq^2a_{376}T_3c_4 \\
& + 2q^4a_{376}T_3c_4 + 2a_{376}T_1c_4 - 2qa_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2q^2a_{376}T_1c_4 \\
& - 2qa_{376}T_1c_4 + 2q^2a_{376}T_1c_4 + 2q^4a_{376}T_1c_4 - 2qq^2a_{376}T_1c_4 + 2a_{376}T_2T_1c_4 \\
& - 3qa_{376}T_2T_1c_4 - 2qq^2a_{376}T_2T_1c_4 + 3q^2a_{376}T_2T_1c_4 - a_{286}T_1T_3T_2 \\
& + qa_{286}T_1T_3T_2 + a_{376}T_2T_3c_2 - qq^2a_{376}T_2T_3c_2 + a_{376}T_2T_3c_3 - qq^2a_{376}T_2T_3c_3 \\
& + a_{376}T_2T_3c_4 - qq^2a_{376}T_2T_3c_4 + 2a_{376}T_1T_3c_3 - 2qa_{376}T_1T_3c_3 - 2qq^2a_{376}T_1T_3c_3 \\
& + 2q^2a_{376}T_1T_3c_3 + 2a_{376}T_1T_3c_4 - 2qa_{376}T_1T_3c_4 - 2qq^2a_{376}T_1T_3c_4 \\
& + 2q^2a_{376}T_1T_3c_4 - a_{286}T_1T_2T_3 + qa_{286}T_1T_2T_3 - a_{286}T_3T_2T_1 + qa_{286}T_3T_2T_1 \\
& + a_{376}T_3T_2c_2 - qq^2a_{376}T_3T_2c_2 + a_{376}T_3T_2c_3 - qq^2a_{376}T_3T_2c_3 \\
& + a_{376}T_3T_2c_4 - qq^2a_{376}T_3T_2c_4 + 2a_{376}T_1T_2c_4 - 3qa_{376}T_1T_2c_4 - 2qq^2a_{376}T_1T_2c_4 \\
& + 3q^2a_{376}T_1T_2c_4 - 2a_{286}T_1T_2T_1 + 2qa_{286}T_1T_2T_1 - a_{286}T_2T_1T_3 + qa_{286}T_2T_1T_3 \\
& + a_{286}T_2T_3c_2c_3 - qa_{286}T_2T_3c_2c_3 + q^2a_{286}T_2T_3c_2c_3 - a_{286}T_2T_3c_2c_4 \\
& + qa_{286}T_2T_3c_2c_4 - q^2a_{286}T_2T_3c_2c_4 + qa_{376}T_1T_2T_3c_2 + a_{286}T_2T_3c_3c_4 \\
& - qa_{286}T_2T_3c_3c_4 + q^2a_{286}T_2T_3c_3c_4 + a_{376}T_1T_2T_3c_3 - qa_{376}T_1T_2T_3c_3 \\
& + q^2a_{376}T_1T_2T_3c_3 + a_{376}T_1T_2T_3c_4 - qa_{376}T_1T_2T_3c_4 + q^2a_{376}T_1T_2T_3c_4 \\
& + qa_{286}T_1T_2c_1c_2 - qa_{286}T_1T_2c_1c_3 + qa_{286}T_1T_2c_2c_3 + a_{376}T_3T_2T_1c_1 \\
& - qa_{376}T_3T_2T_1c_1 + q^2a_{376}T_3T_2T_1c_1 + qa_{376}T_3T_2T_1c_2 + a_{376}T_3T_2T_1c_3 \\
& - qa_{376}T_3T_2T_1c_3 + q^2a_{376}T_3T_2T_1c_3 + a_{376}T_3T_2T_1c_4 - qa_{376}T_3T_2T_1c_4
\end{aligned}$$

$$\begin{aligned}
& + q^2 a_{376} T_3 T_2 T_1 c_4 - a_{286} T_3 T_2 c_2 c_3 + q a_{286} T_3 T_2 c_2 c_3 - q^2 a_{286} T_3 T_2 c_2 c_3 \\
& + a_{286} T_3 T_2 c_2 c_4 - q a_{286} T_3 T_2 c_2 c_4 + q^2 a_{286} T_3 T_2 c_2 c_4 - a_{286} T_3 T_2 c_3 c_4 \\
& + q a_{286} T_3 T_2 c_3 c_4 - q^2 a_{286} T_3 T_2 c_3 c_4 + 2 a_{376} T_1 T_2 T_1 c_4 - 2 q a_{376} T_1 T_2 T_1 c_4 \\
& - 2 q a_{376} T_1 T_2 T_1 c_4 + 2 q^2 a_{376} T_1 T_2 T_1 c_4 - a_{286} T_1 T_2 T_1 T_3 - a_{286} T_1 T_2 T_3 T_2 \\
& - a_{286} T_1 T_3 T_2 T_1 + q a_{376} T_2 T_1 T_3 c_1 + a_{376} T_2 T_1 T_3 c_2 - q a_{376} T_2 T_1 T_3 c_2 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 + a_{376} T_2 T_1 T_3 c_3 - q a_{376} T_2 T_1 T_3 c_3 + q^2 a_{376} T_2 T_1 T_3 c_3 \\
& + a_{376} T_2 T_1 T_3 c_4 - q a_{376} T_2 T_1 T_3 c_4 + q^2 a_{376} T_2 T_1 T_3 c_4 + q a_{376} T_1 T_3 T_2 c_1 \\
& - q a_{286} T_2 T_1 c_1 c_2 + q a_{286} T_2 T_1 c_1 c_3 + a_{376} T_1 T_3 T_2 c_2 - q a_{376} T_1 T_3 T_2 c_2 \\
& + q^2 a_{376} T_1 T_3 T_2 c_2 - q a_{286} T_2 T_1 c_2 c_3 + a_{376} T_1 T_3 T_2 c_3 - q a_{376} T_1 T_3 T_2 c_3 \\
& + q^2 a_{376} T_1 T_3 T_2 c_3 + a_{376} T_1 T_3 T_2 c_4 - q a_{376} T_1 T_3 T_2 c_4 + q^2 a_{376} T_1 T_3 T_2 c_4 \\
& + a_{376} T_1 T_2 T_3 c_1 - q a_{376} T_1 T_2 T_3 c_1 + q^2 a_{376} T_1 T_2 T_3 c_1 - a_{286} T_2 T_3 T_2 T_1 \\
& + a_{376} T_1 T_2 T_1 T_3 c_3 - q a_{376} T_1 T_2 T_1 T_3 c_3 + a_{376} T_1 T_2 T_1 T_3 c_4 - q a_{376} T_1 T_2 T_1 T_3 c_4 \\
& + a_{376} T_2 T_3 c_2 c_3 c_4 - q q^2 a_{376} T_2 T_3 c_2 c_3 c_4 + q a_{376} T_1 T_2 c_2 c_3 c_4 \\
& - q^2 a_{376} T_1 T_2 c_2 c_3 c_4 + a_{376} T_1 T_2 T_3 T_2 c_3 - q a_{376} T_1 T_2 T_3 T_2 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_1 - q a_{376} T_1 T_3 T_2 T_1 c_1 + a_{376} T_1 T_3 T_2 T_1 c_3 - q a_{376} T_1 T_3 T_2 T_1 c_3 \\
& + a_{376} T_1 T_3 T_2 T_1 c_4 - q a_{376} T_1 T_3 T_2 T_1 c_4 + 2 a_{376} T_2 T_1 T_3 T_2 c_2 - 2 q a_{376} T_2 T_1 T_3 T_2 c_2 \\
& + 2 a_{376} T_2 T_1 T_3 T_2 c_4 - 2 q a_{376} T_2 T_1 T_3 T_2 c_4 - a_{286} T_3 T_2 T_1 c_1 c_3 \\
& + q a_{286} T_3 T_2 T_1 c_1 c_3 + a_{286} T_3 T_2 T_1 c_1 c_4 - q a_{286} T_3 T_2 T_1 c_1 c_4 - a_{286} T_3 T_2 T_1 c_3 c_4 \\
& + q a_{286} T_3 T_2 T_1 c_3 c_4 + a_{286} T_2 T_1 T_3 c_2 c_3 - q a_{286} T_2 T_1 T_3 c_2 c_3 - a_{286} T_2 T_1 T_3 c_2 c_4 \\
& + q a_{286} T_2 T_1 T_3 c_2 c_4 + a_{286} T_1 T_2 T_3 c_1 c_3 - q a_{286} T_1 T_2 T_3 c_1 c_3 + a_{286} T_2 T_1 T_3 c_3 c_4 \\
& - q a_{286} T_2 T_1 T_3 c_3 c_4 - a_{286} T_1 T_3 T_2 c_2 c_3 + q a_{286} T_1 T_3 T_2 c_2 c_3 \\
& + a_{286} T_1 T_3 T_2 c_2 c_4 - q a_{286} T_1 T_3 T_2 c_2 c_4 - a_{286} T_1 T_2 T_3 c_1 c_4 + q a_{286} T_1 T_2 T_3 c_1 c_4 \\
& - a_{376} T_3 T_2 c_2 c_3 c_4 + q q^2 a_{376} T_3 T_2 c_2 c_3 c_4 - q a_{376} T_2 T_1 c_1 c_2 c_4 \\
& + q^2 a_{376} T_2 T_1 c_1 c_2 c_4 - a_{286} T_1 T_3 T_2 c_3 c_4 + q a_{286} T_1 T_3 T_2 c_3 c_4 \\
& + q a_{376} T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_2 T_1 c_1 c_3 c_4 - q a_{376} T_2 T_1 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 c_3 c_4 - q a_{286} T_1 T_2 T_3 c_3 c_4 \\
& + a_{376} T_1 T_2 T_1 T_3 c_1 - q a_{376} T_1 T_2 T_1 T_3 c_1 + a_{376} T_2 T_3 T_2 T_1 c_3 - q a_{376} T_2 T_3 T_2 T_1 c_3 \\
& + q a_{376} T_1 T_2 c_1 c_2 c_4 - q^2 a_{376} T_1 T_2 c_1 c_2 c_4 - q a_{376} T_1 T_2 c_1 c_3 c_4 \\
& + q^2 a_{376} T_1 T_2 c_1 c_3 c_4 + a_{376} T_2 T_1 T_3 c_2 c_3 c_4 - q a_{376} T_2 T_1 T_3 c_2 c_3 c_4 \\
& + q^2 a_{376} T_2 T_1 T_3 c_2 c_3 c_4 + a_{286} T_1 T_2 T_3 T_2 c_1 c_2 - a_{286} T_1 T_2 T_3 T_2 c_1 c_4 \\
& + a_{286} T_1 T_2 T_3 T_2 c_2 c_4 + a_{286} T_1 T_2 T_1 T_3 c_1 c_3 - a_{286} T_1 T_2 T_1 T_3 c_1 c_4 \\
& - q a_{376} T_3 T_2 T_1 c_1 c_2 c_3 - q a_{376} T_3 T_2 T_1 c_1 c_2 c_4 + q a_{376} T_1 T_2 T_3 c_1 c_2 c_3 \\
& - a_{376} T_3 T_2 T_1 c_1 c_3 c_4 + q a_{376} T_3 T_2 T_1 c_1 c_3 c_4 - q^2 a_{376} T_3 T_2 T_1 c_1 c_3 c_4 \\
& - a_{286} T_1 T_3 T_2 T_1 c_1 c_3 + a_{286} T_1 T_3 T_2 T_1 c_1 c_4 - q a_{376} T_3 T_2 T_1 c_2 c_3 c_4 \\
& + q a_{376} T_1 T_2 T_3 c_1 c_2 c_4 + a_{376} T_1 T_2 T_1 T_3 T_2 c_1 - a_{286} T_1 T_3 T_2 T_1 c_3 c_4 \\
& - a_{286} T_2 T_3 T_2 T_1 c_1 c_2 + a_{286} T_2 T_3 T_2 T_1 c_1 c_4 + a_{376} T_1 T_2 T_3 c_1 c_3 c_4 \\
& - q a_{376} T_1 T_2 T_3 c_1 c_3 c_4 + q^2 a_{376} T_1 T_2 T_3 c_1 c_3 c_4 - a_{286} T_2 T_3 T_2 T_1 c_2 c_4
\end{aligned}$$

$$\begin{aligned}
& + qa_{376}T_1T_3T_2c_1c_2c_3 + qa_{376}T_1T_3T_2c_1c_2c_4 - qa_{376}T_1T_3T_2c_1c_3c_4 \\
& + qa_{376}T_1T_2T_3c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_2 + a_{376}T_2T_1T_3T_2T_1c_1 \\
& + a_{376}T_2T_1T_3T_2T_1c_2 + a_{376}T_2T_1T_3T_2T_1c_3 + a_{376}T_2T_1T_3T_2T_1c_4 \\
& + a_{286}T_1T_2T_1T_3c_3c_4 - a_{376}T_1T_3T_2c_2c_3c_4 + qa_{376}T_1T_3T_2c_2c_3c_4 \\
& - q^2a_{376}T_1T_3T_2c_2c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_3 + a_{376}T_1T_2T_1T_3T_2c_4 \\
& - qa_{376}T_2T_1T_3c_1c_2c_3 - qa_{376}T_2T_1T_3c_1c_2c_4 + qa_{376}T_2T_1T_3c_1c_3c_4 \\
& - a_{376}T_1T_3T_2T_1c_1c_3c_4 + qa_{376}T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3c_1c_3c_4 \\
& - qa_{376}T_1T_2T_1T_3c_1c_3c_4 + a_{376}T_2T_3T_2T_1c_1c_2c_3 - qa_{376}T_2T_3T_2T_1c_1c_2c_3 \\
& - a_{376}T_2T_3T_2T_1c_1c_3c_4 + qa_{376}T_2T_3T_2T_1c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_1c_2c_3 \\
& + qa_{376}T_1T_2T_3T_2c_1c_2c_3 + a_{376}T_2T_3T_2T_1c_2c_3c_4 - qa_{376}T_2T_3T_2T_1c_2c_3c_4 \\
& + a_{376}T_1T_2T_3T_2c_1c_3c_4 - qa_{376}T_1T_2T_3T_2c_1c_3c_4 - a_{376}T_1T_2T_3T_2c_2c_3c_4 \\
& + qa_{376}T_1T_2T_3T_2c_2c_3c_4 - a_{376}T_2T_1T_3T_2T_1c_1c_2c_4 - a_{376}T_1T_2T_1T_3T_2c_1c_2c_3 \\
& - a_{376}T_2T_1T_3T_2T_1c_1c_3c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_2c_4 + a_{376}T_1T_2T_1T_3T_2c_1c_3c_4 \\
& + a_{376}T_2T_1T_3T_2T_1c_2c_3c_4 - a_{376}T_1T_2T_1T_3T_2c_2c_3c_4 + a_{376}T_2T_1T_3T_2T_1c_1c_2c_3
\end{aligned}$$

Center:

$$\begin{aligned}
z &= 1 \cdot a_1 \\
& + (-2T_1 - 2T_1T_2 - 2T_1T_2T_1 - T_1T_2T_1T_3 + T_1T_2T_1T_3c_1c_3 - T_1T_2T_1T_3c_1c_4 \\
& + T_1T_2T_1T_3c_3c_4 - T_1T_2T_3 - T_1T_2T_3T_2 + T_1T_2T_3T_2c_1c_2 - T_1T_2T_3T_2c_1c_4 \\
& + T_1T_2T_3T_2c_2c_4 + T_1T_2T_3c_1c_3 - T_1T_2T_3c_1c_4 + T_1T_2T_3c_3c_4 \\
& - T_1T_3T_2 - T_1T_3T_2T_1 - T_1T_3T_2T_1c_1c_3 + T_1T_3T_2T_1c_1c_4 - T_1T_3T_2T_1c_3c_4 \\
& - T_1T_3T_2c_2c_3 + T_1T_3T_2c_2c_4 - T_1T_3T_2c_3c_4 - 2T_2 - 2T_2T_1 - T_2T_1T_3 \\
& + T_2T_1T_3c_2c_3 - T_2T_1T_3c_2c_4 + T_2T_1T_3c_3c_4 - T_2T_3 - T_2T_3T_2T_1 \\
& - T_2T_3T_2T_1c_1c_2 + T_2T_3T_2T_1c_1c_4 - T_2T_3T_2T_1c_2c_4 + T_2T_3c_2c_3 \\
& - T_2T_3c_2c_4 + T_2T_3c_3c_4 - T_3T_2 - T_3T_2T_1 - T_3T_2T_1c_1c_3 + T_3T_2T_1c_1c_4 \\
& - T_3T_2T_1c_3c_4 - T_3T_2c_2c_3 + T_3T_2c_2c_4 - T_3T_2c_3c_4 + 2qT_1 + 3qT_1T_2 \\
& + 2qT_1T_2T_1 + qT_1T_2T_3 - qT_1T_2T_3c_1c_3 + qT_1T_2T_3c_1c_4 - qT_1T_2T_3c_3c_4 \\
& + qT_1T_2c_1c_2 - qT_1T_2c_1c_3 + qT_1T_2c_2c_3 + qT_1T_3T_2 + qT_1T_3T_2c_2c_3 \\
& - qT_1T_3T_2c_2c_4 + qT_1T_3T_2c_3c_4 + 4qT_2 + 3qT_2T_1 + qT_2T_1T_3 - qT_2T_1T_3c_2c_3 \\
& + qT_2T_1T_3c_2c_4 - qT_2T_1T_3c_3c_4 - qT_2T_1c_1c_2 + qT_2T_1c_1c_3 - qT_2T_1c_2c_3 \\
& + qT_2T_3 - qT_2T_3c_2c_3 + qT_2T_3c_2c_4 - qT_2T_3c_3c_4 + qT_3T_2 + qT_3T_2T_1 \\
& + qT_3T_2T_1c_1c_3 - qT_3T_2T_1c_1c_4 + qT_3T_2T_1c_3c_4 + qT_3T_2c_2c_3 \\
& - qT_3T_2c_2c_4 + qT_3T_2c_3c_4 + 2qq^2T_1 + 2qq^2T_2 - 2q^2T_1 - 2q^2T_1T_2 - 4q^2T_2 \\
& - 2q^2T_2T_1 - q^2T_2T_3 + q^2T_2T_3c_2c_3 - q^2T_2T_3c_2c_4 + q^2T_2T_3c_3c_4 \\
& - q^2T_3T_2 - q^2T_3T_2c_2c_3 + q^2T_3T_2c_2c_4 - q^2T_3T_2c_3c_4) \cdot a_{286} \\
& + (T_1T_2T_1T_3T_2c_1 - T_1T_2T_1T_3T_2c_1c_2c_3 + T_1T_2T_1T_3T_2c_1c_2c_4 \\
& + T_1T_2T_1T_3T_2c_1c_3c_4 + T_1T_2T_1T_3T_2c_2 - T_1T_2T_1T_3T_2c_2c_3c_4 \\
& + T_1T_2T_1T_3T_2c_3 + T_1T_2T_1T_3T_2c_4 + T_1T_2T_1T_3c_1 + T_1T_2T_1T_3c_1c_3c_4 \\
& + T_1T_2T_1T_3c_3 + T_1T_2T_1T_3c_4 + 2T_1T_2T_1c_4 - T_1T_2T_3T_2c_1c_2c_3
\end{aligned}$$

$$\begin{aligned}
& + T_1 T_2 T_3 T_2 c_1 c_3 c_4 - T_1 T_2 T_3 T_2 c_2 c_3 c_4 + T_1 T_2 T_3 T_2 c_3 + T_1 T_2 T_3 c_1 \\
& + T_1 T_2 T_3 c_1 c_3 c_4 + T_1 T_2 T_3 c_3 + T_1 T_2 T_3 c_4 + 2T_1 T_2 c_4 + T_1 T_3 T_2 T_1 c_1 \\
& - T_1 T_3 T_2 T_1 c_1 c_3 c_4 + T_1 T_3 T_2 T_1 c_3 + T_1 T_3 T_2 T_1 c_4 + T_1 T_3 T_2 c_2 \\
& - T_1 T_3 T_2 c_2 c_3 c_4 + T_1 T_3 T_2 c_3 + T_1 T_3 T_2 c_4 + 2T_1 T_3 c_3 + 2T_1 T_3 c_4 \\
& + 2T_1 c_4 + T_2 T_1 T_3 T_2 T_1 c_1 + T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_3 - T_2 T_1 T_3 T_2 T_1 c_1 c_2 c_4 \\
& - T_2 T_1 T_3 T_2 T_1 c_1 c_3 c_4 + T_2 T_1 T_3 T_2 T_1 c_2 + T_2 T_1 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + T_2 T_1 T_3 T_2 T_1 c_3 + T_2 T_1 T_3 T_2 T_1 c_4 + 2T_2 T_1 T_3 T_2 c_2 + 2T_2 T_1 T_3 T_2 c_4 \\
& + T_2 T_1 T_3 c_2 + T_2 T_1 T_3 c_2 c_3 c_4 + T_2 T_1 T_3 c_3 + T_2 T_1 T_3 c_4 + 2T_2 T_1 c_4 \\
& + T_2 T_3 T_2 T_1 c_1 c_2 c_3 - T_2 T_3 T_2 T_1 c_1 c_3 c_4 + T_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& + T_2 T_3 T_2 T_1 c_3 + T_2 T_3 c_2 + T_2 T_3 c_2 c_3 c_4 + T_2 T_3 c_3 + T_2 T_3 c_4 + 2T_2 c_4 \\
& + T_3 T_2 T_1 c_1 - T_3 T_2 T_1 c_1 c_3 c_4 + T_3 T_2 T_1 c_3 + T_3 T_2 T_1 c_4 + T_3 T_2 c_2 \\
& - T_3 T_2 c_2 c_3 c_4 + T_3 T_2 c_3 + T_3 T_2 c_4 + 2T_3 c_3 + 2T_3 c_4 + 2c_4 - qT_1 T_2 T_1 T_3 c_1 \\
& - qT_1 T_2 T_1 T_3 c_1 c_3 c_4 - qT_1 T_2 T_1 T_3 c_3 - qT_1 T_2 T_1 T_3 c_4 - 4qT_1 T_2 T_1 c_4 \\
& + qT_1 T_2 T_3 T_2 c_1 c_2 c_3 - qT_1 T_2 T_3 T_2 c_1 c_3 c_4 + qT_1 T_2 T_3 T_2 c_2 c_3 c_4 \\
& - qT_1 T_2 T_3 T_2 c_3 - qT_1 T_2 T_3 c_1 + qT_1 T_2 T_3 c_1 c_2 c_3 + qT_1 T_2 T_3 c_1 c_2 c_4 \\
& - qT_1 T_2 T_3 c_1 c_3 c_4 + qT_1 T_2 T_3 c_2 + qT_1 T_2 T_3 c_2 c_3 c_4 - qT_1 T_2 T_3 c_3 \\
& - qT_1 T_2 T_3 c_4 + qT_1 T_2 c_1 c_2 c_4 - qT_1 T_2 c_1 c_3 c_4 + qT_1 T_2 c_2 c_3 c_4 \\
& - 3qT_1 T_2 c_4 - qT_1 T_3 T_2 T_1 c_1 + qT_1 T_3 T_2 T_1 c_1 c_3 c_4 - qT_1 T_3 T_2 T_1 c_3 \\
& - qT_1 T_3 T_2 T_1 c_4 + qT_1 T_3 T_2 c_1 + qT_1 T_3 T_2 c_1 c_2 c_3 + qT_1 T_3 T_2 c_1 c_2 c_4 \\
& - qT_1 T_3 T_2 c_1 c_3 c_4 - qT_1 T_3 T_2 c_2 + qT_1 T_3 T_2 c_2 c_3 c_4 - qT_1 T_3 T_2 c_3 \\
& - qT_1 T_3 T_2 c_4 - 2qT_1 T_3 c_3 - 2qT_1 T_3 c_4 - 4qT_1 c_4 - 2qT_2 T_1 T_3 T_2 c_2 \\
& - 2qT_2 T_1 T_3 T_2 c_4 + qT_2 T_1 T_3 c_1 - qT_2 T_1 T_3 c_1 c_2 c_3 - qT_2 T_1 T_3 c_1 c_2 c_4 \\
& + qT_2 T_1 T_3 c_1 c_3 c_4 - qT_2 T_1 T_3 c_2 - qT_2 T_1 T_3 c_2 c_3 c_4 - qT_2 T_1 T_3 c_3 \\
& - qT_2 T_1 T_3 c_4 - qT_2 T_1 c_1 c_2 c_4 + qT_2 T_1 c_1 c_3 c_4 - qT_2 T_1 c_2 c_3 c_4 \\
& - 3qT_2 T_1 c_4 - qT_2 T_3 T_2 T_1 c_1 c_2 c_3 + qT_2 T_3 T_2 T_1 c_1 c_3 c_4 - qT_2 T_3 T_2 T_1 c_2 c_3 c_4 \\
& - qT_2 T_3 T_2 T_1 c_3 - 2qT_2 c_4 - qT_3 T_2 T_1 c_1 - qT_3 T_2 T_1 c_1 c_2 c_3 - qT_3 T_2 T_1 c_1 c_2 c_4 \\
& + qT_3 T_2 T_1 c_1 c_3 c_4 + qT_3 T_2 T_1 c_2 - qT_3 T_2 T_1 c_2 c_3 c_4 - qT_3 T_2 T_1 c_3 \\
& - qT_3 T_2 T_1 c_4 - 2qT_3 c_3 - 2qT_3 c_4 - 4qc_4 - 2qq^2 T_1 T_2 c_4 - 2qq^2 T_1 T_3 c_3 \\
& - 2qq^2 T_1 T_3 c_4 - 4qq^2 T_1 c_4 - 2qq^2 T_2 T_1 c_4 - qq^2 T_2 T_3 c_2 - qq^2 T_2 T_3 c_2 c_3 c_4 \\
& - qq^2 T_2 T_3 c_3 - qq^2 T_2 T_3 c_4 - 2qq^2 T_2 c_4 - qq^2 T_3 T_2 c_2 + qq^2 T_3 T_2 c_2 c_3 c_4 \\
& - qq^2 T_3 T_2 c_3 - qq^2 T_3 T_2 c_4 - 2qq^2 T_3 c_3 - 2qq^2 T_3 c_4 - 2qq^2 c_4 - 2qq^4 c_4 \\
& + 2q^2 T_1 T_2 T_1 c_4 + q^2 T_1 T_2 T_3 c_1 + q^2 T_1 T_2 T_3 c_1 c_3 c_4 + q^2 T_1 T_2 T_3 c_3 \\
& + q^2 T_1 T_2 T_3 c_4 - q^2 T_1 T_2 c_1 c_2 c_4 + q^2 T_1 T_2 c_1 c_3 c_4 - q^2 T_1 T_2 c_2 c_3 c_4 \\
& + 3q^2 T_1 T_2 c_4 + q^2 T_1 T_3 T_2 c_2 - q^2 T_1 T_3 T_2 c_2 c_3 c_4 + q^2 T_1 T_3 T_2 c_3 \\
& + q^2 T_1 T_3 T_2 c_4 + 2q^2 T_1 T_3 c_3 + 2q^2 T_1 T_3 c_4 + 4q^2 T_1 c_4 + q^2 T_2 T_1 T_3 c_2 \\
& + q^2 T_2 T_1 T_3 c_2 c_3 c_4 + q^2 T_2 T_1 T_3 c_3 + q^2 T_2 T_1 T_3 c_4 + q^2 T_2 T_1 c_1 c_2 c_4 \\
& - q^2 T_2 T_1 c_1 c_3 c_4 + q^2 T_2 T_1 c_2 c_3 c_4 + 3q^2 T_2 T_1 c_4 + q^2 T_3 T_2 T_1 c_1 \\
& - q^2 T_3 T_2 T_1 c_1 c_3 c_4 + q^2 T_3 T_2 T_1 c_3 + q^2 T_3 T_2 T_1 c_4 + 2q^2 c_4 + 2q^4 T_1 c_4
\end{aligned}$$

$$+ 2q^4 T_2 c_4 + 2q^4 T_3 c_3 + 2q^4 T_3 c_4 + 4q^4 c_4) \cdot a_{376}$$