Since at most one of $a_1,\ a_2,\ a_3,\ a_4$ is true, so it must satisfy:

$$\neg((a_1 \wedge a_2) \vee (a_1 \wedge a_3) \vee (a_1 \wedge a_4) \vee (a_2 \wedge a_3) \vee (a_2 \wedge a_4) \vee (a_3 \wedge a_4))$$

It is equal to:

$(\neg a_1 \vee \neg a_2) \wedge (\neg a_1 \vee \neg a_3) \wedge (\neg a_1 \vee \neg a_4) \wedge (\neg a_2 \vee \neg a_3) \wedge (\neg a_2 \vee \neg a_4) \wedge (\neg a_3 \vee \neg a_4)$

, which is the format of CNF