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Title: Torsion groups of Mordell curves over cubic and sextic fields

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Let E be a Mordell curve defined over a number field K by the equation $y^2 = x^3+c$, $c \in K$. Let $E(L)$ denote the set of L-rational points of E, where L is a number field containing K. We classify the possible torsion subgroups of $E(L)$ when L is a cubic or sextic field, and E is an elliptic curve over L or $\mathbb{Q}$. We also describe the conditions on c under which E has a certain torsion group from the set of all torsion subgroups of $E(L)$ in the following cases: (i) $c \in \mathbb{Q}$, L is cubic or sextic; (ii) $c \in L$, L is cubic.

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