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Title: On a conjecture concerning the minimal index of pure quartic fields

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Monogeneous pure quartic fields $\mathbb{Q}(\sqrt[4]{m})$ are not completely described, not even if m is square-free. I. Gaál and L. Remete [**?**] formulated a conjecture stating that there are only two monogeneous pure quartic fields with square-free m satisfying $m \equiv 9 \pmod{16}$. We disprove it by showing the existence of infinitely many monogeneous fields of this type if the *abc* conjecture is true. In this paper, we study the minimal index of pure quartic fields and find all elements with minimal index in totally complex pure quartic fields having a square-free parameter m.

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