Zbl 715.11050
Erdős, Paul; Schinzel, A.
On the greatest prime factor of $\prod_{k=1}^{x} f(k)$. (In English)
Acta Arith. 55, No.2, 191-200 (1990). [0065-1036]

Let f be an irreducible polynomial with integer coefficients of degree exceeding 1, denote by $P(n)$ the largest prime divisor of n and for positive integer x let $F(f, x)$ be the product $f(1)...f(x)$. The first author proved [J. Lond. Math. Soc. 27, 379-384 (1952; Zbl 046.04102)] that for sufficiently large x one has $P(F(f, x)) > x \log^t x$, with $t = c \log \log \log x$ and $c = c(f) > 0$, and stated the stronger bound

(1) $$P(F(f, x)) > x \exp(\log^d x),$$

with a certain positive $d = d(f)$. The authors show now

$$P(F(f, x)) > x \exp \exp(c(\log \log x)^{1/3}).$$

with a positive absolute constant c. In an added footnote they write that the assertion (1) has been recently established by *G. Tenenbaum* [A tribute to Paul Erdős, 405- 443 (1990; Zbl 713.11069)].

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Classification:
11N32 Primes represented by polynomials

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largest prime factor of polynomial; polynomial with integer coefficients; largest prime divisor