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Rufei Ren*, 28 lilac dr, apt.2, Apt.2. *Primitive prime divisors in the critical orbits of one-parameter families of rational polynomials.*

For a rational polynomial f and rational numbers c, u , we put $f_c(x) := f(x) + c$, and consider the Zsigmondy set $\mathcal{Z}(f_c, u)$ associated to the sequence $\{f_c^n(u) - u\}_{n \geq 1}$, where f_c^n is the n -st iteration of f_c . In this paper, we prove that if u is a rational critical point of f , then there exists an $\mathbf{M}_f > 0$ such that $\mathbf{M}_f \geq \max_{c \in \mathbb{Q}} \{\mathcal{Z}(f_c, u)\}$. (Received August 16, 2019)