$$\le |a_1||x-y| + 2N^2c\sum_{n=1}^{n_0}\frac{1}{m_n^\alpha}(p_{n+1}-1)m_{n+1}|x-y|$$

$$+ 2N^3c\sum_{n=n_0+1}^{\infty}\frac{(p_{n+1}-1)}{m_n^\alpha}$$

$$\le |a_1||x-y| + C_1|x-y|\sum_{n=1}^{n_0} m_n^{1-\alpha} + C_2\sum_{n=n_0+1}^{\infty}\frac{1}{m_n^\alpha} \le K|x-y|^\alpha.$$

Theorem 3 is proved. □

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