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Galois groups of totally and tamely ramified sextic extensions of local fields.

Let K be a finite extension of the p-adic numbers with $p > 3$, L/K a sextic extension, and G the Galois group of the splitting field of L. We prove that G must be either C_6 or D_6. Moreover, we show the determination of G depends only on the prime p and the residue degree of K. The techniques used are Krasner's mass formula, ramification considerations, and the Galois theory of cubic extensions. (Received September 07, 2010)