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Bases in the space of regular multilinear operators on Banach lattices.

For Banach lattices E_1, \dots, E_m and F with 1-unconditional bases, we show that the monomial sequence forms a 1-unconditional basis of $\mathcal{L}^r(E_1, \dots, E_m; F)$, the Banach lattice of all regular m -linear operators from $E_1 \times \dots \times E_m$ to F , if and only if each basis of E_1, \dots, E_m is shrinking and every positive m -linear operator from $E_1 \times \dots \times E_m$ to F is weakly sequentially continuous. As a consequence, we obtain necessary and sufficient conditions for which the m -fold Fremlin projective tensor product $E_1 \hat{\otimes}_{|\pi|} \dots \hat{\otimes}_{|\pi|} E_m$ (resp. the m -fold positive injective tensor product $E_1 \check{\otimes}_{|e|} \dots \check{\otimes}_{|e|} E_m$) has a shrinking basis or a boundedly complete basis. (Received September 19, 2017)