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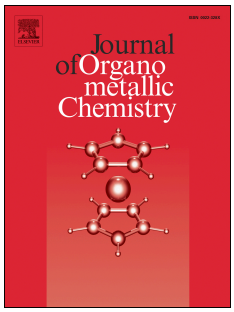

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Anionic Polymerization of Multi-Vinylferrocenes

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Abstract

Protocols for anionic polymerization of vinylferrocenes in bulk (**b**) and solution (**s**) are reported. Polymerization of vinylferrocenes bearing one or multiple (2–4) vinyl groups yielded linear polyvinylferrocene **PVF-1**(**b, s**) or cross-linked polyvinylferrocenes **PVF-2** – **PVF-4**(**b, s**), respectively. Furthermore, copolymerization of mono- with multifunctional vinylferrocenes produced cross-linked copolymers **PVF-5** – **PVF-7**(**b, s**). For anionic polymerization in bulk, a high monomer conversion and a relatively high dispersity was observed. A reversible redox behavior of the ferrocenyl group with cycle stability up to 100 cycles was found for **PVF-**(**1s** – **7s**). Li-ion battery cell tests demonstrated the applicability of the polyvinylferrocenes **PVF-1b** and **PVF-**(**5b** – **7b**) as electrode materials.