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## Synthesis and Electropolymerization of Phosphorylcholine-Containing Pyrroles and Their Hemocompatible Properties

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A series of *N*-substituted pyrroles having phosphorylcholine with different methylene chain lengths between pyrrole group and phosphorylcholine group were synthesized and their electropolymerizations were performed in aqueous solution. The methylene chains were trimethylene ( $n = 3$ ), pentamethylene ( $n = 5$ ), nonamethylene ( $n = 9$ ), and undecamethylene ( $n = 11$ ), for 3-(1-pyrrolyl)propyl-2-(trimethylammonium)ethyl phosphate (**5a**), 5-(1-pyrrolyl)pentyl-2-(trimethylammonium)ethyl phosphate (**5b**), 9-(1-pyrrolyl)nonyl-2-(trimethylammonium)ethyl phosphate (**5c**), and 11-(1-pyrrolyl)undecyl-2-(trimethylammonium)ethyl phosphate (**5d**), respectively. Although electropolymerized films were produced from all pyrrole derivatives, thick and black polymer films were prepared from **5a**, **5b** and **5c**. The pyrrole derivative with long methylene-chain **5d** provided only colorless or slightly blackish thin film. Hemocompatibilities of the polymers from **5a**, **5b** and **5c** were evaluated by platelet rich plasma (PRP) contacting studies and scanning electron microscopy (SEM) observations. The results indicated that these polymers have excellent hemocompatibility.

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