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New Chiral Polyurethane Polymers Based on Functionalized Cyclotriphosphazenes

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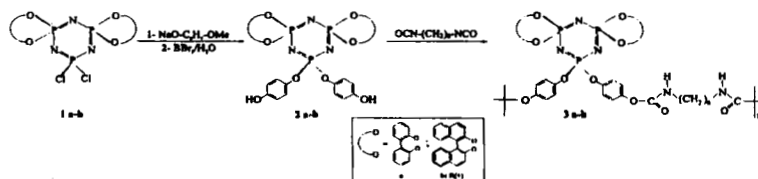
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New Chiral Polyurethane Polymers Based on Functionalized Cyclotriphosphazenes

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Novel hybrid polymers using chiral phosphazenes were prepared in the following way: Starting from hexachlorocyclotriphosphazene, $N_3P_3Cl_6$, chelating phenolates were introduced by reaction with the corresponding sodium salt. Thus, reaction with two equivalents of atropisomeric binaphtholate yields chiral **1b** in high yield. Subsequently, p-methoxyphenolates were reacted with the remaining PCl_2 functionality and the p-MeO groups were converted to hydroxy groups [1] to give bifunctional **2a,b**. Finally, polyadditions to diisocyanates lead to new cyclolinear polyurethanes **3a,b** which were characterized by thermal analysis [2,3]. The T_{10} is 320 and 240°C for **3a** and **3b** respectively. In particular, the chiral polymer **3b** [$\alpha=111^\circ$] may have interesting properties as catalyst support.



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