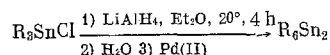


SYNTHESIS OF HEXAALKYL- AND HEXAARYLDISTANNANES FROM R_3SnH IN THE PRESENCE OF PALLADIUM COMPLEXES

N. A. Bumagin, Yu. V. Gulevich, UDC 542.91:541.128:547.258.11:547.559.811
and I. P. Beletskaya

The preparation of distannanes from R_3SnH , catalyzed by 10% Pd/C, was described in [1] for only the one case of the transformation of (+)-(PhMe₂CCH₂)MePhSnH to the optically active distannane (-)-[(PhMe₂CCH₂)Me·PhSn]₂ with a yield of 22.5%.

We have shown that the stannic hydrides R_3SnH are rapidly dehydrogenated at ~20°C in the presence of 1 mole% PdCl₂(MeCN)₂ (I) or PhPdI(PPh₃)₂ (II), and are converted to the distannanes R_6Sn_2 with high yields. The complex (I) shows a higher reactivity than (II). A similar effect of the ligand environment on the catalyst's activity was also found in other reactions of organotin compounds [2]. The stannic hydrides were prepared by reduction of the corresponding chlorides with LiAlH₄ and they were used without separating them after decomposition of the reaction mixture with a minimum amount of water



The following list identifies R, the catalyst, the reaction time in min, and the yield of the separated product based on the original R_3SnCl in %: Me, (II), 60, 81; Bu, (I), 15, 89; Ph, (I), 15, 78; Et, (I), 15, 71.

The suggested reaction may serve as a convenient method of preparing organodistannanes.

LITERATURE CITED

1. M. Gielen and Y. Tondeur, J. Organomet. Chem., **169**, 265 (1979).
2. N. A. Bumagin, I. G. Bumagina, A. N. Kashin, and I. P. Beletskaya, Dokl. Akad. Nauk SSSR, **261**, 1141 (1981).