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Synthesis and characterization of 2,7-dihydro-1*H*-dinaphtho[c,e]tellurepin: a new heterocyclic telluride

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Abstract

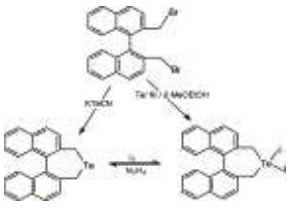
Synthesis of the racemic cyclic telluride, i.e., 2,7-dihydro-1*H*-dinaphtho-[c,e]tellurepin (**1**), possessing a C_2 axis was based on the reaction of 2,2′-bis(bromomethyl)-1,1′-binaphthalene with potassium tellurocyanate in dry DMSO. Reaction of halogens with **1** gave the diiodo (**2**), dibromo (**3**) and dichloro (**4**) derivatives. Treatment of **1** with iodomethane and iodoethane gave the methyl- and ethyl tellurepinium iodides, **5** and **6**, respectively.

Compound **1** reduced the carbonyl groups in DDQ and TCQ to hydroxyl groups. Mononuclear palladium(II) complex, $[(C_{22}H_{16}Te)_2PdCl_2]$, was prepared by reaction of **1** with $[PdCl_2(NCPh)_2]$.

All new compounds were characterized by elemental analysis and spectroscopic techniques.

Synthesis of a chiral cyclic telluride (i.e., 2,7-dihydro-1*H*-dinaphtho[c,e]tellurepin (**1**)) is reported, together with its dihalo and tellurepinium derivatives. Compound **1** reduced the carbonyl groups in DDQ and TCQ to hydroxyl groups. $[(C_{22}H_{16}Te)_2PdCl_2]$ was prepared by reaction of **1** with $[PdCl_2(NCPh)_2]$.

All new compounds were characterized by elemental analysis and spectroscopic techniques.



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Keywords

Tellurocyanate; Tellurepin; Chirality; Palladium(II); DDQ; TCQ

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