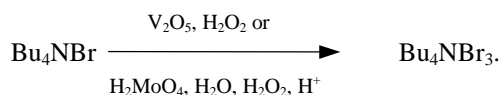


Peroxometal-mediated oxidation of bromine leading to environmentally favourable protocol for selective bromination of organic substrates: Implications for vanadium bromo peroxidase (VBrPO)

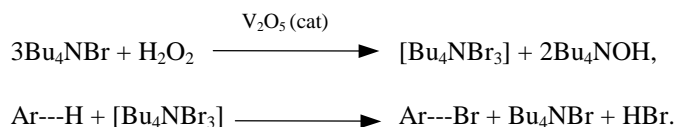
SIDDHARTHA D DHAR and MIHIR K CHAUDHURI
Department of Chemistry, Indian Institute of Technology,
Guwahati 781 001, India

Tribromide (Br_3^-) appears to be the ultimate product of a peroxo-metal mediated oxidation reaction, e.g.

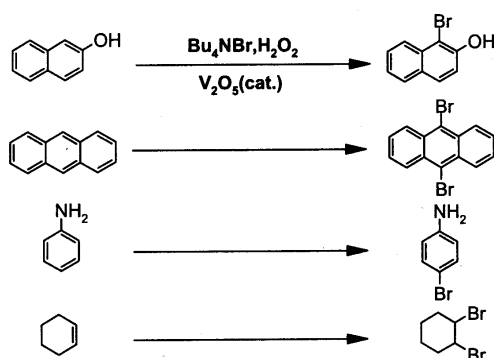


The identity of Bu_4NBr_3 was ascertained by isolation followed by spectroscopic and X-ray crystallographic characterization.

Taking clues from the knowledge derived from the aforementioned reaction as well as from that of the activity of VBrPO, it has been shown that V_2O_5 very effectively catalyses the bromination of organic substrates, including selective bromination of aromatics by Bu_4NBr in presence of hydrogen peroxide.



For instance:



Versatility of this environmentally benign reaction protocol involving a variety of substrates has also been demonstrated by other collaborators.

Implications of this investigation with reference to VBrPO activity are discussed.