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## Synthesis and characterisation of unusual tetraaminoalkenes (enetetramines)

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### Abstract

Two general routes are described for the synthesis of the title compounds from the reaction of either (A) the dimethyl acetal of *N,N*-dimethylformamide and an appropriate *N,N*-bis(secondary amine), or (B) sodium hydride and a 4,5-dihydroimidazolium or tetrahydropyrimidinium salt. The following new compounds have been made: *trans*-R[graphic omitted]=[graphic omitted]R [R = Et and R' = Me (**1a**) or CH<sub>2</sub>Ph (**1b**)] and R[graphic omitted]=[graphic omitted]R [n=m= 2 and R= Me (**2a**) or CH<sub>2</sub>Ph (**2b**) ; n= 3, m= 2, and R= CH<sub>2</sub>Ph (**3**); or n= 2, m= 3, and R= CH<sub>2</sub>Ph (**4**)].

X-Ray data on crystalline [graphic omitted]R]<sub>2</sub>(R = CH<sub>2</sub>Ph) and (**2b**)[data in parentheses] show a short C=C bond, 1.319(8) Å[1.329(5) Å], long C<sub>sp</sub><sup>2</sup>-N bonds, av. 1.437(11) Å[1.424(4) Å], with each of the four nitrogen atoms in a pyramidal sp<sup>3</sup> environment.

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