

Synthesis of N-phenylmaleamic acid

Summary of the analysed protocols

$C_4H_2O_3 + C_6H_5NH_2 \rightarrow C_6H_5NHCOCHCHCOOH$ (1)
Protocol A¹ Reaction (R₁): equation (1), stoichiometric proportions of maleic anhydride and aniline, ethyl ether (solvent), 0 °C < T < 100 °C Isolation (I₁): filtration → washing (ethyl ether) → drying (oven at 80 °C) Purification: not prescribed
Protocol B² Reaction (R₂): equation (1), stoichiometric proportions of maleic anhydride and aniline, ethyl ether (solvent), T ~ 0 °C Isolation (I₂): filtration (suction) → washing (ethyl ether) → drying (desiccator) Purification: not prescribed
Protocol C³ Reaction (R₃): equation (1), stoichiometric proportions of maleic anhydride and aniline, ethyl ether (solvent), T ~ 0 °C Isolation (I₃): filtration Purification (Pu₁): recrystallization (ethanol)
Protocol D⁴ Reaction (R₄): equation (1), stoichiometric proportions of maleic anhydride and aniline, toluene (solvent), T < 100 °C Isolation (I₃): ≡ Pr C Purification: not prescribed

^a → – Sequential

References

- (1) Universidade de Aveiro, <http://www.ua.pt/ensino/PageDisc.aspx?id=2528> (accessed April 2011).
- (2) Belinelo, V.J. *et al.* Insignificant level of *in vitro* cytotoxicity, anti-rotavirus, antibacterial, and antifungal activities of N-alkylmaleamic acids. *Journal of Pharmaceutical Negative Results* **2013**, 4(1), 19-25.
- (3) Al-Azzawi, A.M.; Abdulrahman, S. Synthesis, characterization and biological activity study of N-substituted sulfonamido maleimides substituted with different heterocycles. *Baghdad Science Journal* **2010**, 7(1), 1-13.
- (4) Lo, K.M.; Ng, S.W. N-Phenylmaleamic acid. *Acta Crystallographica* **2009**, E65, o-1101.