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The Atomic Absorption Spectrophotometric Method for Indirect Determination of Nimodipine in Tablets

Mevlde CANLICA, Sezen İSLİMYELİ  
Chemistry Department, Yıldız Technical University,  
TR-34220, Esenler, İstanbul-TURKEY  
mc1111@e-kolay.net

 [Keywords](#)  
[Authors](#)



[chem@tubitak.gov.tr](mailto:chem@tubitak.gov.tr)

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**Abstract:** A simple indirect atomic absorption spectrophotometric (AAS) method is described for the analysis of nimodipine in tablet formulations. The method is based on the reduction of the antihypertensive drug substances including an aromatic nitro group by boiling them with cadmium metal in 0.05 N HCl medium under CO<sub>2</sub> atmosphere for 1 h under reflux. The amounts of the drugs were calculated by determining the atomic absorbances of the released Cd<sup>2+</sup>. The calibration graphs were plotted between the absorbance Cd<sup>2+</sup> concentrations in the range of 0.242 to 1.209 µg.cm<sup>-3</sup> for nimodipine. As a reference method, the spectrophotometric procedure was developed. The 2 methods developed were applied to the assay of nimodipine in commercial tablet formulations, and a statistical comparison of the results with those obtained from the reference method showed good agreement. The method has the advantage of being simple, inexpensive, and easy to perform.

**Key Words:** Aromatic nitro compounds, Cadmium ion, Pharmaceutical analysis, Indirect determination

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