

Rigorous thesis

The Alternative HPLC Phases for Analysis of Pharmaceuticals

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The solubility of silica gel at high pH is the cause for developing alternative HPLC columns based on metal oxides, such as titanium oxide, aluminium oxide, and zirconium oxide. Advantages of these columns are particularly high chemical stability and separation efficiency. In our project, zirconia-based stationary phases were tested in qualitative and quantitative analysis of doxazosine and its five impurities. Polystyrene-coated zirconia was chosen because of its low retention and appropriate selectivity. The separation was done within 16 min. Subsequently, chromatographic conditions were validated.