



## Spectrophotometric Determination of Darunavir Ethanolate by Condensation Technique

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**Abstract:** The objective of the present work is to develop simple, precise and accurate colorimetric methods for the estimation of Darunavir ethanolate(DAR) using PDAB (M1) and vanillin (M2) reagents. DAR is antiretroviral protease inhibitor. The methods are based mainly on the reaction of the free amino group in the drug with the reagents undergoing condensation reaction to form coloured condensation products (schiff's bases). The products were quantified at 452 nm by PDAB and 406 nm by vanillin. The linearity of the methods was assessed in the range of 50-350 µg/ml and 50-300µg/ml, respectively. The LOD and LOQ are 6.24 and 18.93; 4.30 and 13.04 for both the methods, respectively. The colorimetric methods were extensively validated as per ICH guidelines and all the parameters were within the acceptance criteria with a correlation of 0.9998 and 0.9999 and the % RSD less than 2. The results of the accuracy studies were nearer to 100%. The methods were proven to be more accurate, simple, precise and rapid by statistical validation.

**Keywords :** Darunavir ethanolate (DAR), Para dimethyl amino benzaldehyde (PDAB), Vanillin.

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