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Validation of a UV Spectrophotometric Method for Determining *trans*-dehydrocrotonin in Inclusion Complexes with Hydroxypropyl-β-Cyclodextrin

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SUMMARY. *Trans*-dehydrocrotonin (*t*-DCTN) is a 19-nor-clerodan diterpen with several important pharmacological properties, including hypoglycemic and antitumor activity. However the low water solubility and hepatotoxicity of *t*-DCTN limit its use in therapeutic applications. Drug inclusion complexes with cyclodextrins (CDs) can modify physicochemical properties of parent drugs, such as improving their aqueous solubility and reducing their toxicity. A UV method was therefore validated for determining *t*-DCTN in HP-β-CD inclusion complexes with a view to future applications in research and therapy. The regression equation of the analytical curve (1–20 μg/mL) was [*t*-DCTN] = absorbance + 0.00147/0.04214. The precision of the method was satisfactory, producing values of relative standard deviation less than 2 % for all samples analyzed. The accuracy was between 99.6 and 100.02 %. The content of *t*-DCTN in *t*-DCTN:HP-β-CD was 99.8 %. The UV validated method developed is straightforward and suitable for use in the routine analysis of *t*-DCTN complexed with hydroxypropyl-β-cyclodextrin.

KEY WORDS: Hydroxypropyl-β-cyclodextrin, Inclusion complex, *Trans*-dehydrocrotonin, UV spectrophotometry, Validation.

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