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(54) **Title**: PHARMACEUTICAL SOLID STATE FORMS

(57) **Abstract**: The invention provides and describes solid state 17α-ethynyl-5α- androstane-3α,17β-diol including amorphous and crystalline forms and specific polymorphic forms thereof. Anhydrates and solvates of 17α-ethynyl- 5α-androstane-3α,17β-diol include Form III anhydrate and Form I solvate. The invention further relates to solid and suspension formulations containing 17α-ethynyl-5α-androstane-3α,17β-diol in a described solid state form and use of the formulations to treat cancers or precancers such as prostate cancer or breast cancer in subjects or human patients. The invention also relates to methods to make liquid formulations from solid state forms of 17α-ethynyl-5α- androstane-3α,17β-diol and uses of such formulations in treating the described conditions.