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[54] **COLONIC-TARGETED ORAL DRUG-DOSAGE FORMS BASED ON CROSSLINKED HYDROGELS CONTAINING AZOBONDS AND EXHIBITING PH-DEPENDENT SWELLING**

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Related U.S. Application Data

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[51] Int. Cl.⁶ **A61K 9/48; A61F 9/02**

[52] U.S. Cl. **424/436; 424/78.35; 424/438; 424/468; 424/487; 526/306; 526/307**

[58] Field of Search **526/306, 307; 424/79, 424/438, 78.31, 468, 487, 451, 436, 78.35**

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[57] ABSTRACT

Colonic-targeted oral drug dosage forms composed of a drug confined within a crosslinked hydrogel that exhibits pH-dependent swelling and is composed of an ionizable comonomer such as acrylic acid, a nonionizable comonomer such as an acrylamide, and a crosslinking agent that contains an aromatic azobond. Selective drug release in the colon occurs by a combination of pH-dependent swelling of the hydrogel and degradation of the hydrogel by enzymatic cleavage of the azobonds by azoreductases.

38 Claims, 7 Drawing Sheets

Swelling of crosslinked copolymers of N, N-dimethylacrylamide with acrylic acid

