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(54) Title: A NOVEL AQUEOUS COMPOSITION WITH WATER INSOLUBLE VITAMINS

(57) Abstract: The present invention provides nanogel and nanoparticles comprising vitamin D encapsulated in agar-agar and a polymer selected from poly(acrylamidoglycolic acid) and pectin. The invention also provides aqueous nanogel compositions which can be used for prevention or treatment of vitamin D deficiency and methods for encapsulating vitamin D in nanogels and nanoparticles. The nanogel and nanoparticles and compositions thereof are cost-effective, have a considerable shelf life, a faster rate of absorption in the body leading to faster bioavailability. Further, the nanogels and nanoparticles are made with vegetarian sources and causes no changes in the organoleptic properties. The Vitamin D nanogels and nanoparticles developed can be used for fortification of any food, aqueous medium or beverage, including bottled drinking water.