CLAIMS

1. A self-emulsifying drug delivery formulation with improved oral bioavailability of lipophilic compound comprising:
a lipophilic compound comprising a tocotrienol, coenzyme Q10, a carotenoid or a combination of two or more thereof, the lipophilic compound present in an amount ranging from 5% to 80% by weight of the drug delivery formulation;
a Vitamin E polyethylene glycol 1000 succinate (TPGS) present in an amount ranging from 0.1% to 30% by weight of the drug delivery formulation;
an oil carrier present in an amount ranging from 5% to 80% by weight of the drug delivery formulation; and
a phospholipid present in an amount ranging from 1% to 10% by weight of the drug delivery formulation,
wherein the tocotrienol is selected from alpha-tocotrienol, gamma-tocotrienol, delta-tocotrienol or a combination of two or more thereof,
wherein the ratio of lipophilic compound to oil carrier ranges from 1:1 to 1:10, and
wherein the ratio of Vitamin E TPGS to phospholipid ranges from1:1 to 1:20.

2. The drug delivery formulation according to Claim 1, wherein the coenzyme Q10 is selected from ubiquinone, ubiquinol or a combination thereof.

3. The drug delivery formulation according to Claim 1, wherein the carotenoid is selected from alpha-carotene, beta-carotene, beta-cryptoxanthin, lutein, zeaxanthin, lycopene or a combination of two or more thereof.

4. The drug delivery formulation according to any one of Claims 1 to 3, wherein the lipophilic compound further comprises fat-soluble vitamins.

5. The drug delivery formulation according to Claim 4, wherein the fat-soluble

vitamins are selected from Vitamin A, Vitamin D, Vitamin E, Vitamin K or a combination of two or more thereof.

6. The drug delivery formulation according to Claim 1, wherein the oil carrier is selected from the group consisting of fatty acid esters of glycerol, fatty acid esters of propylene glycol, vegetable oils or a combination of two or more thereof.

7. The drug delivery formulation according to Claim 6, wherein the fatty acid ester of glycerol is monoglyceride, diglyceride or triglyceride.

8. The drug delivery formulation according to Claim 6, wherein the vegetable oil is palm olein, soybean oil, sesame oil, rice bran oil, corn oil, sunflower oil or castor oil.

9. The drug delivery formulation according to Claim 1, wherein the phospholipid is lecithin comprising phosphatidylcholine, phosphatidylethanolamine and phosphatidylinositol.

10. The drug delivery formulation according to any one of the preceding claims is in the form of a capsule or softgel.

11. Use of a self-emulsifying drug delivery formulation in the manufacture of a dietary supplement with improved oral bioavailability of lipophilic compound, wherein the formulation comprises a lipophilic compound selected from the group consisting of tocotrienols, coenzyme Q10, fat-soluble vitamins, carotenoids or a combination of two or more thereof, the lipophilic compound present in an amount ranging from 5% to 80% by weight of the drug delivery formulation, a Vitamin E polyethylene glycol 1000 succinate (TPGS) present in

an amount ranging from 0.1% to 30% by weight of the drug delivery formulation, an oil carrier present in an amount ranging from 5% to 80% by weight of the drug delivery formulation and a phospholipid, wherein the tocotrienol is selected from alpha-tocotrienol, gamma-tocotrienol, delta-tocotrienol or a combination of two or more thereof, wherein the ratio of lipophilic compound to oil carrier ranges from 1:1 to 1:10 and wherein the ratio of Vitamin E TPGS to phospholipid ranges from1:1 to 1:20 .