WHAT IS CLAIMED IS:

1. A pharmaceutical composition, comprising:
EPA, substantially in free acid form, in an amount of at least about 50% (a/a);
DHA, substantially in free acid form, in an amount of at least about 15% (a/a);
DPA, substantially in free acid form, in an amount of at least about 1% (a/a).

2. The pharmaceutical composition of claim 1, wherein:
DPA is present in an amount of at least about 2% (a/a).

3. The pharmaceutical composition of claim 1, wherein:
DPA is present in an amount of at least about 2.5% (a/a).

4. The pharmaceutical composition of claim 1, wherein:
DPA is present in an amount of at least about 3% (a/a).

5. The pharmaceutical composition of claim 1, wherein:
DPA is present in an amount of at least about 3.5% (a/a).

6. The pharmaceutical composition of claim 1, wherein:
EPA is present in an amount of at least about 51% (a/a).

7. The pharmaceutical composition of claim 1, wherein:
EPA is present in an amount of at least about 52% (a/a).

8. The pharmaceutical composition of claim 1, wherein:
EPA is present in an amount of at least about 53% (a/a).

9. The pharmaceutical composition of claim 1, wherein:
EPA is present in an amount of at least about 54% (a/a).

10. The pharmaceutical composition of claim 1, wherein:

DHA is present in an amount of at least about 16% (a/a).

11. The pharmaceutical composition of claim 1, wherein:

DHA is present in an amount of at least about 17% (a/a).

12. The pharmaceutical composition of claim 1, wherein:

EPA is present in an amount of about 55% (a/a) to about 56% (a/a);

DHA is present in an amount of about 19% (a/a) to about 20% (a/a); and

DPA is present in an amount of about 4% (a/a) to about 5 % (a/a).

13. A pharmaceutical composition, comprising:

EPA, substantially in free acid form, in an amount of about 50% (m/m) to about 60% (m/m);

DHA, substantially in free acid form, in an amount of about 15% (m/m) to about 25% (m/m); and

DPA, substantially in free acid form, in an amount of no less than about 1% (m/m).

14. The pharmaceutical composition of claim 13, wherein:

EPA and DHA are present in total amount of about 70% (m/m) to about 80% (m/m).

15. The pharmaceutical composition of claim 14, wherein:

omega-3 polyunsaturated fatty acids are present in total amount of 80% (m/m) to about 95% (m/m).

16. The pharmaceutical composition of claim 15, wherein:

omega-6 polyunsaturated fatty acids are present in total amount of no more than about 10% (m/m).

17. The pharmaceutical composition of claim 1, wherein:

ethyl carbamate, if present, is present in an amount of no more than about 0.1 ppm ethyl carbamate.

18. A unit dosage form suitable for oral administration, comprising:

a capsule,

wherein the capsule encapsulates at least 250 mg of the pharmaceutical composition of claim 1.

19. The unit dosage form of claim 18, wherein:

the capsule encapsulates at least 500 mg of the pharmaceutical composition of claim 1.

20. The unit dosage form of claim 18, wherein:

the capsule encapsulates about 1000 mg of the pharmaceutical composition of claim 1.

21. The unit dosage form of claim 18, wherein the capsule shell comprises gelatin.

22. The unit dosage form of claim 21, wherein the capsule is a soft gelatin capsule.

23. The unit dosage form of claim 22, wherein the soft gelatin capsule shell comprises porcine Type A gelatin.

24. The unit dosage form of claim 23, wherein the soft gelatin capsule shell comprises sufficient porcine Type A gelatin such that the capsule disintegrates within a time

period of not more than 30 minutes in purified water at 37°C after storage for at least 3 months at 40°C.

25. The unit dosage form of claim 23, wherein the gelatin of the soft gelatin capsule shell comprises at least 5% porcine type A gelatin.

26. The unit dosage form of claim 23, wherein the gelatin of the soft gelatin capsule shell comprises at least 25% porcine type A gelatin.

27. The unit dosage form of claim 26, wherein the soft gelatin capsule shell comprises at least 50% porcine type A gelatin.

28. The unit dosage form of claim 22, wherein the soft gelatin capsule has an exterior coating.

29. The unit dosage form of claim 28, wherein the coating is not pH-sensitive.

30. The unit dosage form of claim 29, wherein the coating comprises a poly(acrylate-methylmethacrylate) copolymer.

31. The unit dosage form of claim 30, wherein the poly(acrylate-methylmethacrylate) copolymer is Eudragit NE-30D.

32. The unit dosage form of claim 29, wherein there is no substantial release of encapsulated pharmaceutical composition earlier than 30 minutes after ingestion.

33. The unit dosage form of claim 32, wherein there is substantial release of encapsulated pharmaceutical composition by about 60 minutes after ingestion.

34. The unit dosage form of claim 28, wherein the coating is a pH-dependent enteric coating.

35. A dosage kit, comprising:
a plurality of unit dosage forms according to claim 18.

36. The dosage kit of claim 35, wherein:
the dosage kit comprises at least 60 unit dosage forms.

37. The dosage kit of claim 35, wherein:
the dosage kit comprises at least 120 unit dosage forms.

38. The pharmaceutical composition of claim 1 for use in the treatment of severe hypertriglyceridemia in a patient, wherein the patient has pre-treatment serum or plasma triglyceride levels ≥500 mg/dL, and

wherein the treatment comprises administering to the patient an amount of the pharmaceutical composition and for a duration effective to reduce serum or plasma triglycerides below pre-treatment levels.

39. The pharmaceutical composition of claim 38, wherein the effective amount is at least about 2g per day.

40. The pharmaceutical composition of claim 38, wherein the effective amount is at least about 3g per day.

41. The pharmaceutical composition of claim 38, wherein the effective amount is at least about 4g per day.

42. The pharmaceutical composition of claim 38, wherein the effective amount is about 2g per day.

43. The pharmaceutical composition of claim 13 for use in the treatment of severe hypertriglyceridemia in a patient, wherein the patient has pre-treatment serum or plasma triglyceride levels ≥500 mg/dL, and

wherein the treatment comprises administering to the patient an amount of the pharmaceutical composition and for a duration effective to reduce serum or plasma triglyceride levels below pre-treatment levels.

44. The pharmaceutical composition of claim 43, wherein the effective amount is at least about 2g per day.

45. The pharmaceutical composition of claim 38, wherein the treatment comprises administration of the pharmaceutical composition daily for at least 30 days.

46. The pharmaceutical composition of claim 43, wherein the treatment comprises administration of the pharmaceutical composition daily for at least 30 days.

47. The pharmaceutical composition of claim 38, wherein the treatment comprises administration of the pharmaceutical composition in the form of one or more unit dosage forms according to claim 20.

48. The pharmaceutical composition of claim 38, wherein the treatment further comprises:

orally administering an effective amount of a statin.

49. The pharmaceutical composition of claim 48, wherein the statin is selected from the group consisting of: pravastatin, lovastatin, simvastatin, atorvastatin, fluvastatin, rosuvastatin, and pitavastatin.

50. An effective amount of a statin and an effective amount of the pharmaceutical composition of claim 1 for use in the treatment of a patient on statin therapy who has serum or plasma triglyceride levels of about 200 mg/dL to about 500 mg/dL.

51. An effective amount of the pharmaceutical composition of claim 1 for use in the treatment of a patient on statin therapy who has serum or plasma triglyceride levels of about 200 mg/dL to about 500 mg/dL.

52. The pharmaceutical composition of claim 50, wherein the effective amount of the pharmaceutical composition of claim 1 is at least about 2g per day.

53. The pharmaceutical composition of claim 50, wherein the effective amount of the pharmaceutical composition of claim 1 is at least about 3g per day.

54. The pharmaceutical composition of claim 50, wherein the effective amount of the pharmaceutical composition of claim 1 is at least about 4g per day.

55. The pharmaceutical composition of claim 50, wherein the effective amount of the pharmaceutical composition of claim 1 is about 2g per day.

56. The pharmaceutical composition of claim 1 for use in the treatment of a patient with elevated pre-treatment serum or plasma triglycerides,

wherein the treatment comprises administering the pharmaceutical composition of claim 1 to the patient in an amount and for a duration effective to reduce arachidonic acid (AA) concentration in plasma by at least about 5%.

57. The pharmaceutical composition of claim 56, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to reduce plasma AA concentration by at least about 10%.

58. The pharmaceutical composition of claim 56, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to reduce plasma AA concentration by at least about 20%.

59. The pharmaceutical composition of claim 1 for use in the treatment of a patient with elevated pre-treatment serum or plasma triglycerides,

wherein the treatment comprises administering the pharmaceutical composition of claim 1 to the patient in an amount and for a duration effective to reduce plasma arachidonic acid (AA) concentration by at least about 50 μg/mL.

60. The pharmaceutical composition of claim 59, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to reduce plasma arachidonic acid concentration by at least about 75 μg/mL.

61. The pharmaceutical composition of claim 1 for use in the treatment of a patient with elevated pre-treatment serum or plasma triglycerides,

wherein the treatment comprises administering the pharmaceutical composition of claim 1 to the patient in an amount and for a duration effective to increase plasma EPA/AA ratio to at least about 0.25.

62. The pharmaceutical composition of claim 61, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to increase plasma EPA/AA ratio to at least about 0.50.

63. The pharmaceutical composition of claim 62, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to increase plasma EPA/AA ratio to at least about 0.65.

64. The pharmaceutical composition of claim 1 for use in the treatment to lower serum or plasma ApoCIII levels in a patient,

wherein the treatment comprises administering the pharmaceutical composition of claim 1 to the patient in an amount and for a duration sufficient to reduce serum or plasma ApoCIII from pre-treatment levels.

65. Use of the pharmaceutical composition of claim 1 in the manufacture of a medicament for the treatment of severe hypertriglyceridemia in a patient, wherein the patient has pre-treatment serum or plasma triglyceride levels ≥500 mg/dL, and

wherein the treatment comprises administering to the patient an amount of the pharmaceutical composition and for a duration effective to reduce serum or plasma triglycerides below pre-treatment levels.

66. The use of claim 65, wherein the effective amount is at least about 2g per day.

67. The use of claim 65, wherein the effective amount is at least about 3g per day.

68. The use of claim 65, wherein the effective amount is at least about 4g per day.

69. The use of claim 65, wherein the effective amount is about 2g per day.

70. Use of the pharmaceutical composition of claim 13 in the manufacture of a medicament for the treatment of severe hypertriglyceridemia in a patient, wherein the patient has pre-treatment serum or plasma triglyceride levels ≥500 mg/dL, and

wherein the treatment comprises administering to the patient an amount of the pharmaceutical composition and for a duration effective to reduce serum or plasma triglyceride levels below pre-treatment levels.

71. The use of claim 70, wherein the effective amount is at least about 2g per day.

72. The use of claim 65, wherein the treatment comprises administration of the pharmaceutical composition daily for at least 30 days.

73. The use of claim 70, wherein the treatment comprises administration of the pharmaceutical composition daily for at least 30 days.

74. The use of claim 65, wherein the treatment comprises administration of the pharmaceutical composition in the form of one or more unit dosage forms according to claim 20.

75. The use of claim 65, wherein the treatment further comprises:
orally administering an effective amount of a statin.

76. The use of claim 75, wherein the statin is selected from the group consisting of: pravastatin, lovastatin, simvastatin, atorvastatin, fluvastatin, rosuvastatin, and pitavastatin.

77. Use of an effective amount of a statin and an effective amount of the pharmaceutical composition of claim 1 in the manufacture of a medicament for the treatment of a patient on statin therapy who has serum or plasma triglyceride levels of about 200 mg/dL to about 500 mg/dL.

78. Use of an effective amount of the pharmaceutical composition of claim 1 in the manufacture of a medicament for the treatment of a patient on statin therapy who has serum or plasma triglyceride levels of about 200 mg/dL to about 500 mg/dL.

79. The use of claim 77, wherein the effective amount of the pharmaceutical composition of claim 1 is at least about 2g per day.

80. The use of claim 77, wherein the effective amount of the pharmaceutical composition of claim 1 is at least about 3g per day.

81. The use of claim 77, wherein the effective amount of the pharmaceutical composition of claim 1 is at least about 4g per day.

82. The use of claim 77, wherein the effective amount of the pharmaceutical composition of claim 1 is about 2g per day.

83. Use of the pharmaceutical composition of claim 1 in the manufacture of a medicament for the treatment of a patient with elevated pre-treatment serum or plasma triglycerides,

wherein the treatment comprises administering the pharmaceutical composition of claim 1 to the patient in an amount and for a duration effective to reduce arachidonic acid (AA) concentration in plasma by at least about 5%.

84. The use of claim 83, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to reduce plasma AA concentration by at least about 10%.

85. The use of claim 83, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to reduce plasma AA concentration by at least about 20%.

86. Use of the pharmaceutical composition of claim 1 in the manufacture of a medicament for the treatment of a patient with elevated pre-treatment serum or plasma triglycerides,

wherein the treatment comprises administering the pharmaceutical composition of claim 1 to the patient in an amount and for a duration effective to reduce plasma arachidonic acid (AA) concentration by at least about 50 μg/mL.

87. The use of claim 86, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to reduce plasma arachidonic acid concentration by at least about 75 μg/mL.

88. Use of the pharmaceutical composition of claim 1 in the manufacture of a medicament for the treatment of a patient with elevated pre-treatment serum or plasma triglycerides,

wherein the treatment comprises administering the pharmaceutical composition of claim 1 to the patient in an amount and for a duration effective to increase plasma EPA/AA ratio to at least about 0.25.

89. The use of claim 88, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to increase plasma EPA/AA ratio to at least about 0.50.

90. The use of claim 89, wherein the treatment comprises administration of the pharmaceutical composition in an amount and for a duration effective to increase plasma EPA/AA ratio to at least about 0.65.

91. Use of the pharmaceutical composition of claim 1 in the manufacture of a medicament for lowering serum or plasma ApoCIII levels in a patient,

wherein the treatment comprises administering the pharmaceutical composition of claim 1 to the patient in an amount and for a duration sufficient to reduce serum or plasma ApoCIII from pre-treatment levels.

92. In a method of making a pharmaceutical composition of polyunsaturated fatty acids in free acid form, the improvement comprising:

subjecting an intermediate feedstock of transesterified fish oil comprising the ethyl esters of

EPA, in an amount of at least about 44% (a/a),

DHA, in an amount of at least about 14% (a/a), and

DPA, in an amount of at least about 1 % (a/a),

to a step of urea inclusion complexation,

wherein the amount of urea used for complexation is calculated according to formula I(a), or according to formula I(b), or according to both formula I(a) and formula I(b) wherein the urea amount is set to a value within the range set by, and inclusive of, the results of formulae I(a) and I(b),

$$[\text{Urea}] = F_{\text{enrichment-DHA}} * ((\text{DHA}_{\text{target}} - \text{DHA-EE}_{\text{input}})/\text{DHA-EE}_{\text{input}})) \quad \text{(Ia)}$$

$$[\text{Urea}] = F_{\text{enrichment-EPA}} * ((\text{EPA}_{\text{target}} - \text{EPA-EE}_{\text{input}})/\text{EPA-EE}_{\text{input}})) \quad \text{(Ib)},$$

[00100] wherein $F_{\text{enrichment-DHA}}$ and $F_{\text{enrichment-EPA}}$ are each about 100/0.34.

93. The method of claim 92, wherein

EPA-EE is present in the intermediate feedstock in an amount of at least about 45% (a/a),

DHA-EE is present in the intermediate feedstock in in an amount of at least about 15% (a/a), and

DPA-EE is present in the intermediate feedstock in in an amount of at least about 2.5% (a/a).

94. The method of claim 92, wherein the pharmaceutical composition is a pharmaceutical composition according to claim 1.

95. A pharmaceutical composition according to claim 1, made by a process according to claim 93.

WHAT IS CLAIMED IS:

1. A pharmaceutical composition, comprising:
Eicosapentaenoic acid ("EPA"), in a weight percent amount of 50% to 60%;
Docosahexaenoic acid ("DHA") in a weight percent amount of 17% to 23%;
Docosapentaenoic acid (n-3) ("DPA") in a weight percent amount of 1% to 8%;
wherein at least 90% by weight of the polyunsaturated acid in the composition is present in the free acid form.

2. The pharmaceutical composition of claim 1, wherein at least 95% by weight of the polyunsaturated fatty acid in the composition is present in the free acid form.

3. The pharmaceutical composition of claim 1, wherein:
DPA is present in a weight percent amount of at least about 2%.

4. The pharmaceutical composition of claim 1, wherein:
DPA is present in a weight percent amount of at least about 3%.

5. The pharmaceutical composition of claim 1, wherein:
DPA is present in a weight percent amount of at least about 4%.

6. The pharmaceutical composition of claim 1, wherein:
DPA is present in a weight percent amount of at least about 4.5%.

7. The pharmaceutical composition of claim 1, wherein:
EPA is present in a weight percent amount of about 55% to about 56%;
DHA is present in a weight percent amount of about 19% to about 20%; and
DPA is present in a weight percent amount of about 4%to about 5%.

8. A unit dosage form suitable for oral administration comprising a capsule encapsulating at least 500 mg of the pharmaceutical composition of any of claims 1 to 7.

9. The unit dosage form of claim 8, wherein: the capsule encapsulates about 1000 mg of the pharmaceutical composition of claim 1.

10. The unit dosage form of claim 9, wherein the capsule is a soft gelatin capsule.

11. The use of a pharmaceutical composition according to claim 1 in the manufacture of a medicament for the treatment of severe hypertriglyceridemia, wherein the treatment, once started, comprises the oral administration of the pharmaceutical composition of any one of claims 1 to 7 to a patient having pre-treatment serum or plasma triglyceride levels ≥500 mg/dL.

12. The use according to claim 11, wherein the treatment, once started, further comprises the oral administration of an effective amount of a statin.

13. The use according to claim 12, wherein the statin is selected from the group consisting of: pravastatin, lovastatin, simvastatin, atorvastatin, fluvastatin, rosuvastatin, and pitavastatin.

14. The use of a pharmaceutical composition according to claim 1 in the manufacture of a medicament for the treatment of patients who have serum or plasma triglyceride levels of about 200 mg/dL to about 500 mg/dL on statin therapy, wherein the treatment, once started, comprises the oral administration of an effective amount of a statin, and the oral administration of an effective amount of the pharmaceutical composition of claim 1.

15. The use according to claim 11 or 14, wherein the effective amount of the pharmaceutical composition is at least about 2g per day.

16. The use according to claim 11 or 14, wherein the effective amount of the pharmaceutical composition is at least about 3 g per day.

17. The use according to claim 11 or 14, wherein the effective amount of the pharmaceutical composition is at least about 4g per day.

18. A method of making a pharmaceutical composition of polyunsaturated fatty acids in free acid form according to claim 1, the improvement comprising:

subjecting an intermediate feedstock of transesterified fish oil comprising the ethyl esters of

EPA, in a weight percent amount of at least about 44%,

DHA, in a weight percent amount of at least about 14%, and

DPA, in a weight percent amount of at least about 1%,

to a step of urea inclusion complexation,

wherein the amount of urea used for complexation is calculated according to formula I(a), or according to formula l(b), or according to both formula l(a) and formula l(b)

wherein the urea amount is set to a value within the range set by, and inclusive of, the results

of formulae l(a) and l(b),

$[Urea] = F_{enrichment\text{-}DHA} * ((DHA_{target} - DHA\text{-}EE_{input})/DHA\text{-}EE_{input}))$ (Ia)

$[Urea] = F_{enrichment\text{-}EPA} * ((EPA_{target} - EPA\text{-}EE_{input})/EPA\text{-}EE_{input}))$ (lb),

wherein $F_{enrichment\text{-}DHA}$ and $F_{enrichment\text{-}EPA}$ are each about 100/0.34.

19. The method of claim 18, wherein

EPA-EE is present in the intermediate feedstock in a weight percent amount of at least about 45%,

DHA-EE is present in the intermediate feedstock in a weight percent amount of at least about 15%, and

DPA-EE is present in the intermediate feedstock in a weight percent amount of at least about 2.5%.