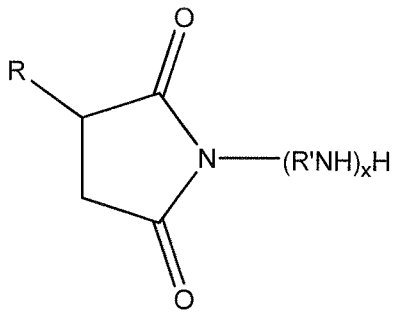
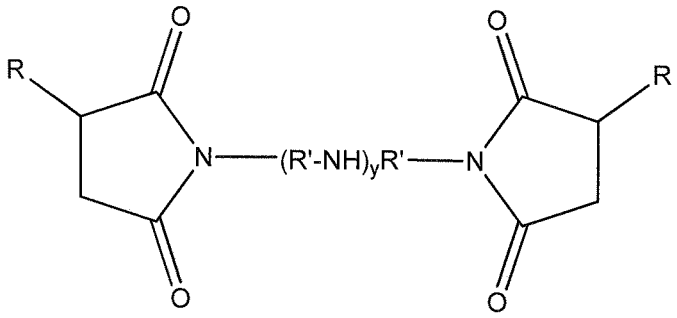
WHAT IS CLAIMED IS:

1. A process for preparing a molybdated succinimide complex, the process comprising:

(a) reacting an alkyl or alkenyl succinimide of a polyamine of formula I or formula II or mixtures thereof:



Formula (I)



Formula (II)

wherein R is an ~~about~~ C_{12} to C_{30} alkyl or alkenyl group, R' is a straight or branched-chain alkylene group having 2 to 3 carbon atoms, x is 1 to 11, and y is 1 to 10, with an α,β-unsaturated mono-carboxylic acid or carboxylic acid ester, in a charge mole ratio of the α,β-unsaturated mono-carboxylic acid or carboxylic acid ester to the succinimide of formula I or formula II or mixtures thereof of ~~about~~ 0.1:1 to ~~about~~ 6:1, and wherein the reaction temperature is no greater than ~~about~~ 135°C; and

(b) reacting the succinimide product of step (a) with an acidic molybdenum compound to provide the molybdated succinimide complex, wherein the molybdated succinimide complex prepared is a liquid at room temperature.

2. The process of Claim 1, wherein R is about C_{12} to about C_{24} alkyl or alkenyl group, R' is 2, and x is 2 to 5 and y is 1 to 4.

3. The process of Claim 1, wherein the α,β-unsaturated mono-carboxylic acid or carboxylic acid ester is selected from the group consisting of acrylic acid, methacrylic acid and mixtures thereof.

4. The process of Claim 1, wherein the acidic molybdenum compound is selected from the group consisting of molybdic acid, ammonium molybdate, sodium molybdate, potassium molybdates, hydrogen sodium molybdate, $MoOCl_4$, MoO_2Br_2, $Mo_2O_3Cl_6$, molybdenum trioxide and mixtures thereof.

5. The process of Claim 1, wherein the α,β-unsaturated mono-carboxylic acid or carboxylic acid ester is acrylic acid and the acidic molybdenum compound is molybdenum trioxide.

6. The process of Claim 2, wherein the α,β-unsaturated mono-carboxylic acid or carboxylic acid ester is acrylic acid and the acidic molybdenum compound is molybdenum trioxide.

7. The process of Claim 1, wherein the molar ratio of the α,β-unsaturated mono-carboxylic acid or carboxylic acid ester thereof to the succinimide of formula I is ~~about~~ 1:1 to ~~about~~ 6:1.

8. The process of Claim 1, wherein the molar ratio of the α,β-unsaturated mono-carboxylic acid or carboxylic acid ester thereof to the succinimide of formula I is ~~about~~ 1:1 to ~~about~~ 2:1.

9. The process of Claim 1, wherein the molar ratio of the molybdenum compound to the succinimide product of step (a) is ~~about~~ 0.1:1 to ~~about~~ 2:1.

10. The process of Claim 1, wherein the alkyl or alkenyl succinimide of step (a) is a mixture of the succinimides of Formula I and Formula II.

11. The process of Claim ~~13~~1, wherein the ratio of the succinimide of Formula I to the succinimide of Formula II in the succinimide mixture is from ~~about~~ 1:1 to 10:1.

12. The process of Claim 1, wherein there is no visible particulate matter in the molybdated succinimide complex product.