CLAIMS

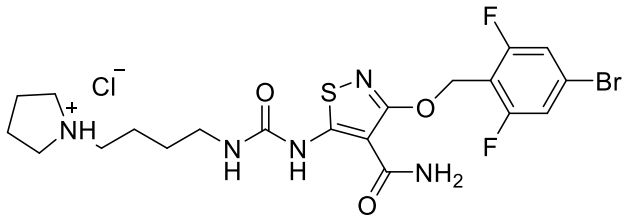
1. A polymer composition comprising:

a multi-block thermogelling polymer comprising a hydrophilic poly(alkylene glycol), a hydrophobic polymer, and a polyether or polyester chemically coupled together by at least one of urethane/carbamate, carbonate, ester, carbamide, an amide, ether, amine, triazole, linkages or combinations thereof; and

a tyrosine kinase inhibitor (TKI) intermixed with the multi-block thermogelling polymer, wherein the TKI comprises one or more of the following:

i. CP-547632 or pharmaceutically acceptable salts thereof; or

ii. a compound of Formula (I),



Formula (I).

2. The polymer composition as claimed in claim 1, wherein the TKI interacts with the multi-block thermogelling polymer to facilitate gelation of the multi-block thermogelling polymer.

3. The polymer composition as claimed in any one of the preceding claims, wherein the TKI increases the viscosity of the polymer composition at least 10 times as compared to when the TKI is absent.

4. The polymer composition as claimed in any one of the preceding claims, wherein the hydrophilic poly(alkylene glycol) comprises poly(ethylene glycol) (PEG);

optionally wherein the hydrophobic polymer is selected from the group consisting of poly(propylene glycol) (PPG), poly(lactic-co-glycolic acid)

(PLGA), polylactic acid (PLA), poly(N-isopropylacrylamide) (PNIPAAM), polypeptides, or combinations thereof; and

optionally wherein the polyether or polyester comprises one or more of polycaprolactone (PCL), polytetrahydrofuran (PTHF), polyhydroxybutyrate (PHB), polylactic-co-glycolic acid (PLGA), and polylactic acid (PLA).

5. The polymer composition as claimed in any one of the preceding claims, wherein the concentration of TKI in the polymer composition is no less than about 10 mg/L.

6. The polymer composition as claimed in any one of the preceding claims, wherein the molar ratio of the hydrophilic poly(alkylene glycol) to the hydrophobic polymer is 1-10:1; and

optionally wherein the molar ratio of the hydrophilic poly(alkylene glycol) to the hydrophobic polymer to the polyether or polyester in the multi-block polymer is in the range of about 1 – 10: 1: 0.01 – 1.5.

7. The polymer composition as claimed in any one of the preceding claims, wherein the polyether or polyester is present in an amount falling in the range of from 1 wt% to 10 wt% in the multi-block polymer.

8. The polymer composition as claimed in any one of the preceding claims, wherein the multi-block polymer is present at an amount of up to 30% w/v in an aqueous medium.

9. The polymer composition as claimed in any one of the preceding claims, wherein the pH of the composition falls in the range of from 7.1 to 7.4; and/or

wherein the critical gelation temperature of the composition is no less than 4 °C.

10. The polymer composition as claimed in any one of the preceding claims, further comprises one or more pharmaceutically active ingredient that is different from the TKI, optionally wherein the pharmaceutically active ingredient that is different from the TKI is selected from the group consisting of aflibercept, sunitinib malate, and combinations thereof.

11. The polymer composition as claimed in any one of the preceding claims, wherein the polymer composition has a drug release profile of no less than 2 months or no less than 12 months.

12. The polymer composition as claimed in any one of the preceding claims, for use in medicine.

13. The polymer composition as claimed in any one of the preceding claims, for use in treating or preventing an eye condition, for treating or preventing tumour, treating or reducing angiogenesis, and/or treating cancer,

optionally wherein the eye condition is selected from the group consisting of neovascular retinal diseases, age related macular degeneration (AMD), diabetic macular edema (DME), and retinal vein occlusion (RV); and

optionally wherein the cancer is selected from the group consisting of breast cancer, leukemia, gastrointestinal cancer, kidney cancer, lung cancer (e.g., non-small cell lung cancer), non-Hodgkin lymphoma, melanoma, ovarian cancer, fallopian tube cancer, ocular cancer.

14. Use of the polymer composition as claimed in any one of the preceding claims, in the manufacture of a medicament for treating or preventing an eye condition, for treating or preventing tumour, treating or reducing angiogenesis, and/or treating cancer,

optionally wherein the eye condition is selected from the group consisting of neovascular retinal diseases, age related macular

degeneration (AMD), diabetic macular edema (DME), and retinal vein occlusion (RV); and

optionally wherein the cancer is selected from the group consisting of breast cancer, leukemia, gastrointestinal cancer, kidney cancer, lung cancer (e.g., non-small cell lung cancer), non-Hodgkin lymphoma, melanoma, ovarian cancer, fallopian tube cancer, ocular cancer.

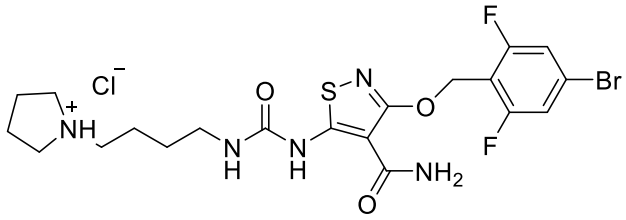
15. A method of preparing the composition as claimed in any one of claims 1 to 14, the method comprising:

providing a multi-block thermogelling polymer comprising a hydrophilic poly(alkylene glycol), a hydrophobic polymer, and a polyether or polyester chemically coupled together by at least one of urethane/carbamate, carbonate, ester, carbamide, an amide, ether, amine, triazole, linkages or combinations thereof; and

mixing a TKI with the multi-block thermogelling polymer, wherein the TKI comprises one or more of the following:

i. CP-547632 or pharmaceutically acceptable salts thereof; or

ii. a compound of Formula (I),



Formula (I).