24. The composition of claim 23 wherein a plus c is selected from 50 and 75.

25. A specific binding assay method for use in an automated analysis system for determining the presence of an analyte ligand in a sample, the method comprising the steps of:

contacting the test sample with a composition comprising a binding partner for the analyte ligand; a detection system comprising a first compound and a second compound; a vesicle containing the first compound of said detection system and having incorporated with its surface analyte ligand or analyte ligand analog; a substance which modifies the rupturability or permeability of the medium external to the vesicle; and at least one surfactant which does not modify vesicle rupturability or permeability by the medium external to the vesicle; and observing any detectible response.

26. A specific binding assay method for use in an automated apparatus for determining the presence of an analyte ligand in a test sample, the method comprising:

(a) contacting the sample with a composition comprising a binding partner for the analyte ligand the second component of a detection system having a first and a second component, and at least one surfactant;

(b) contacting the mixture of step (a), above, with a second composition comprising a vesicle which is selectively rupturable or permeable by a medium external to the vesicle, which vesicle has incorporated with its surface analyte ligand or analyte ligand analog; the vesicle containing the first component of the detection system; a substance which modifies vesicle rupturability or permeability by the medium surrounding the vesicle in response to binding of surface-incorporated analyte ligand or analyte ligand analog and the binding partner; and at least one surfactant; and observing any detectable response with the proviso that the at least one surfactant of (a) and (b) does not modify vesicle rupturability or permeability by the medium surrounding the vesicle.

27. The specific binding assay method of claim 26 wherein:

(a) comprises reacting the sample with a first composition comprising (i) antibody to said ligand, (ii) components of said detection system comprising an enzyme substrate and a substance which is detectably altered by the interaction of the substrate with an enzyme therefor and (iii) at least one surfactant which does not modify vesicle rupturability or permeability;

(b) comprises reacting the reaction mixture of (a) with a second composition comprising (iv) a liposome having a surface incorporated with ligand or ligand analog and, within said liposome, an enzyme which is reactive with said substrate to so alter said detectably alterable substance, (v) complement and (vi) at least one surfactant which does not modify vesicle rupturability or permeability.

28. A method for performing specific binding assay in a fluid system of controlled hydrodynamic characteristics which method comprises:

reacting in said fluid system a sample with a composition comprising: a binding partner for said ligand; a detection system having a first and second component; a selectively accessible vesicle having a surface-incorporated ligand or ligand analog and, within said vesicle, a first component of said detection system which is reactive with said second component to produce a detectable response; a substance which modifies vesicle rupturability or permeability in response to binding of surface-incorporated ligand or ligand analog and the binding partner; and at least one surfactant which does not modify vesicle rupturability or permeability and is compatible with hydrodynamic requirements of the fluid system; and observing any detectable response so-produced.

29. A specific binding assay method for detecting a ligand in selected liquid segments of a stream of an alternating sequence of gas and liquid segments flowing in a single conduit having a single inlet and sequential first, second and third sections, which method comprises:

(a) introducing into said single inlet a first liquid segment of a sample suspected to contain said ligand and a first reagent comprising (i) a binding partner for said ligand, (ii) a second component of a detection system having a first and second component and (iii) at least one surfactant which does not modify vesicle accessibility;

(b) introducing into said single inlet a first air segment which is occlusive in said single inlet and said first conduit section;

(c) introducing into said single inlet a second liquid segment of a second reagent comprising (iv) a selectively accessible vesicle having a surface incorporated with ligand or ligand analog and, within said vesicle, a first component of a detection system which is reactive with said second component to produce a detectable response, (v) a substance which modifies vesicle rupturability or permeability accessibility in response to binding of surface incorporated ligand or ligand analog and the binding partner, and (vi) at least one surfactant which does not modify vesicle rupturability or permeability;

(d) introducing into said single inlet a second air segment which is occlusive in said inlet and said first conduit section;

(e) maintaining said segments separate while in said probe and first conduit sections;

(f) passing said segments which had been maintained separate in said first conduit section having a diameter sufficiently greater than that of said first conduit section to render said first gas segment non-occlusive in said second section;

(g) combining said first and second liquid segments in said second conduit section;

(h) coalescing said first and second gas segments in said second conduit section;

(i) maintaining said combined liquid segment separate from other liquid segments by occluding said second and third conduit sections with said coalesced gas segment;

(j) completely mixing said combined liquid segments in said third conduit section;

(k) analyzing said completely mixed combined liquid segment for said detectable response while it is passing through said third conduit section.

30. The method of claim 29 wherein each of said surfactants is independently selected from a polyoxyethylene polymer having at least about 23 ethylene oxide monomer units.