CLAIMS

1. A process for purifying a sample comprising a biomolecule, comprising contacting said sample with a bed of fiber media, said fibers having a cross-section comprising a body region defining a substantially longitudinal axis, and having a plurality of projections extending outwardly from said body region, said fibers having imparted thereon functionality enabling ion-exchange chromatography.
2. The process of claim 1, wherein said bed of fiber media is an axially compressed bed of cut nylon staple fiber media, and wherein said functionality is anion exchange functionality that enables purification in a flow through mode.
3. The process of claim 1, wherein said functionality enables purification in a bind/elute mode.
4. A process of purifying a sample comprising a biomolecule of interest and impurities, comprising:

   providing a sample comprising the biomolecule of interest and impurities;

   contacting said sample with a chromatography media comprising an axially compressed bed of cut nylon staple fibers, said fibers having a cross-section comprising a region comprising a body region defining a substantially longitudinal axis, and a plurality of projections

extending outwardly from said body region, said fibers having imparted thereon anion-exchange functionality, acrylic polymer functionality or cation-exchange functionality thereby to bind the biomolecule of interest or impurities; and

recovering the biomolecule of interest.

5. The process of claim 4, wherein the biomolecule of interest is bound to the chromatography media, and is recovered by elution.

6. The process of claim 4, wherein the impurities are bound to the chromatography media, and the biomolecule of interest is recovered in a flow-through mode.

7. The process of claim 1, wherein said biomolecule comprises a monoclonal antibody.

8. A process for purifying a negatively-charged virus, comprising providing a sample containing negatively-charged virus; contacting said sample containing said negatively-charged virus with an axially compressed bed of cut nylon staple fiber media, wherein said cut fibers have a cross-section comprising a body region defining a substantially longitudinal axis, and have a plurality of projections extending outwardly from said body region, and wherein said fibers have imparted thereon a polymeric functionality, wherein the surfaces of said polymeric functionality are modified with pendant trimethylammonium groups; washing said fibers to remove

unbound species; and eluting said negatively-charged virus, thereby to purify the negatively-charged virus; wherein said negatively charged virus is bacteriophage ø6.

9. A process for removing a negatively-charged virus from a sample, comprising providing a sample containing negatively-charged virus; contacting said sample containing said negatively-charged virus with an axially compressed bed of cut nylon staple fiber media, wherein said cut fibers have a cross-section comprising a body region defining a substantially longitudinal axis, and have a plurality of projections extending outwardly from said body region, said fibers having imparted thereon a polymeric functionality, wherein the surfaces of said polymeric functionality are modified with pendant trimethylammonium groups, thereby binding said negative-charged virus to said fibers, washing said fibers to remove unbound species; and eluting said negatively-charged virus; wherein said negatively charged virus is bacteriophage ø6.
10. The process of claim 1, wherein said fibers are packed in a container at a density of between 0.1 and 0.5 g/ml and are randomly oriented.
11. The process of claim 4, wherein said fibers are packed in a container at a density of between 0.1 and 0.5 g/ml and are randomly oriented.

12. The process of claim 8, wherein said fibers are packed in a container at a density of between 0.1 and 0.5 g/ml and are randomly oriented.
13. The process of claim 9, wherein said fibers are packed in a container at a density of between 0.1 and 0.5 g/ml and are randomly oriented.
14. The process of claim 8, wherein said fibers are epoxy-functionalized fibers modified with trimethylamine.
15. The process of claim 9, wherein said fibers are epoxy-functionalized fibers modified with trimethylamine.