

Summaries of UK Patent Applications

Graft Polymer of Cellulose and Caprolactone. GB 2158081A. Filed 1 April 1985, published 6 November 1985. Applicants — Diacel Chemical Industries Ltd, Osaka, Japan.

The preparation of a cellulose ester having an ester group derived from caprolactone as a graft chain is described.

Composition and Method of Deinking of Recycled Cellulosic Material. GB 2158836A. Filed 10 May 1985, published 20 May 1985. Applicants — Albright and Wilson Ltd, West Midlands, UK.

A method for deinking recycled waste cellulosic material such as newsprint is described.

Preparation of a Graft Copolymer and Paint Use Thereof. GB 2159524A. Filed 11 March 1985, published 4 December 1985. Applicants — Nippon Paint Co. Ltd, Osaka-Shi, Japan.

A graft polymer prepared by (1) reacting a cellulose ester with a mono- or di-ester of maleic or fumaric acid thereby obtaining a cellulose derivative bearing polymerisable double bonding, and then (2) copolymerising the said cellulose derivative with other copolymerisable monomer(s) is described. The patent also describes a paint based on the copolymer.

Water-soluble Dry Solid Containing Proteinaceous Bioactive Substance. GB 2160528A. Filed 29 May 1985, published 24

December 1985. Applicants — Kabushiki Kaisha Hayashibara Seitbutsu Kagaku Kenkyujo, Okayama, Japan.

Polysaccharides consisting of α -linked maltotriose units, particularly pullulan and elsinan with molecular weights in the range 20 000–2 000 000, are used as stabilisers for proteinaceous bioactive substances, such as growth hormones, insulin, interferon, etc. It is claimed that when dried with the above polysaccharides biological activity is retained on storage. Examples of other polysaccharides which are less effective are given.

Coated Paper. GB 2160539A. Filed 25 July 1984, published 24 December 1985. Applicant — R. Blickling, Munich, West Germany.

A coated paper of particular use in food packaging is described. It has a weight per unit area of less than 50 g m^{-2} and is obtained by coating a paper substrate with aqueous emulsions of linear polydimethylsiloxanes having reactive terminal OH groups and a proportion of silicone resin.

Support Material for the Immobilisation of Ligands. GB 2160540A. Filed 17 June 1985, published 24 December 1985. Applicants — National Research Development Corporation, London, UK.

A support material for affinity chromatography is described. A polysaccharide, particularly guar gum, containing D-galactose residues is activated enzymatically by D-galactose oxidase to form aldehyde groups which are then reacted with the primary or secondary group of a ligand. Immobilisation can be by cross-linking.

Pulverisation of Cellulosic Material. GB 2161399A. Filed 6 July 1984, published 15 January 1986. Applicant — Mohammed El Hassan El Turabi, Leeds, UK.

To facilitate cellulose powder production, cellulose is embrittled with a difunctional compound, e.g. 1,3-bis (hydroxymethyl)imidazolidone, and a wetting agent, dried and cured at a high temperature and then

crushed without exposure to an acidic or alkaline washing treatment; the crushed cellulose may then be stripped free of the resin by a mild acid treatment to yield a cellulose powder without lowering the degree of polymerisation of the cellulosic fibre.

Anti-tumour Glycoprotein. GB 2161813A. Filed 20 July 1984, published 22 January 1986. Applicants — Michiko Koga, Fukuoka-City, Japan.

An anti-tumour glycoprotein having a molecular weight of 30 000–100 000 which may be obtained from human T cell leukaemia virus infected human cell and murine leukaemia virus infected rat cell is described.

Gradually Disintegrable Moulded Article. GB 2162528A. Filed 11 April 1985, published 5 February 1986. Applicants — Kabushiki Kaisha Hayashibara Seitbutsu Kagaku Kenkyujo, Okayama, Japan.

A variety of moulded articles, e.g. capsules, tablets, films, etc., can be prepared from pullulan. When pullulan alone is used the articles have a high solubility and disintegrability in water, making use in controlled release pharmaceutical applications difficult. The rate of disintegration can be significantly slowed down by the incorporation of a hetero-mannan, e.g. guar gum, tara gum, locust bean gum or konjak mannan. Other polysaccharides do not have this effect.

β -Cyclodextrin Complex of Benzene Sulphonyl Urea Derivatives. GB 2162529A. Filed 6 June 1985, published 5 February 1986. Applicants — Nitrokemia Ipartelepek, Fuzfogyartelep, Hungary.

This complex has useful plant-protecting and growth-regulating properties. An agricultural composition containing the complex is used for treating crops to stimulate their growth for killing weeds.

Printing Paste Thickener Compositions. GB 2163766A. Filed 30 August 1985, published 5 March 1986. Applicants — Kelco/AIL International Ltd, London, UK.

This patent essentially describes a calcium release system for alginate gelation. Salts of a divalent metal, particularly calcium, are blended with a polysaccharide such as guar gum, a small quantity of water is added and a dough formed by mixing in, e.g., a Z-blade or a paddle mixer. The dough is then dried and milled. The powder can be used in the formation of homogeneous aqueous alginate gels. Applications in the printing paste area are discussed.

Polymer Hydrogels. GB 2164343A. Filed 23 July 1985, published 19 March 1986. Applicants — Ed Geistlich Sohne AG Fur Chemische Industrie, Lucerne, Switzerland.

The preferred hydrogels comprise (a) agar together with (b) polyacrylamide cross-linked with about 2% by weight of *N,N'*-methylene-bis-acrylamide. When fully swollen the gel contains about 96.5% by weight of water. These gels have rheological properties which are very similar to human tissue and show a reaction with tissue which is significantly less than that with the common implant materials in clinical use. They appear to be particularly useful in surgery designed to reshape the breast.

A Non-thrombogenic Heparin and a Process for its Obtention. GB 2164346A. Filed 30 August 1985, published 19 March 1986. Applicants — Nicholas Huberto Behrens, Olivos, Argentina.

A non-thrombogenic heparin substantially free from any aggregating effect on the polymorphonuclear neutrophils is described. It is prepared by molecular filtration using a gel which fractionates molecules in the molecular weight range 1500–35 000.

Process for Precipitating Cellulose Carbamate. GB 2164941; **Improvements in Carbamate Production.** GB 2164942–3. Filed 27 September 1985, published 3 April 1986. Applicants — Neste Oy, Espoo, Finland.

These three patents describe various claimed improvements in the technology of cellulose carbamate production.