
Model Cellulosic Surfaces Acs Symposium Series

model cellulosic surfaces - pubss - the cellulosic material with the dissolved or dispersed matter and the factors that govern these interactions is desirable, yet often difficult to acquire, in large part because of the complexity of the material's surface with respect to composition and morphology. smooth model surfaces for cellulosic materials offer the **model cellulosic surfaces by maren roman eds - manuals and ...** - model cellulosic surfaces by maren roman eds this pdf e-book model cellulosic surfaces by maren roman eds is to be had inside a few versions at tnpowertogether to your wishes, this model of ebook model cellulosic surfaces by maren roman eds to be had for down load, and additionally has been added to our pdf library. summary : **cellulose model surfaces for studying protein interactions ...** - fied cellulose model surfaces, for studying interac-tions of new materials and analysts. the spr experiments were performed using a bionavis spr model navi 200. the thickness of adsorbed layers and the surface excess concentration were calculated according to equations 1 and 2 in the original publication [1]. **akd and asa model surfaces: preparation and characterization** - "akd and asa model surfaces, ... 652-670. 652 akd and asa model surfaces: preparation and characterization juha lindfors,* jani salmi, janne laine, and per stenius model surfaces of alkyl ketene dimer (akd) and alkenyl succinic anhyd- ... wetting dynamics of akd on cellulosic surfaces (garnier et al. 1999), spreading and adhesion of asa on ... **control of the deposition and the optical properties of ...** - control of the deposition and the optical properties of cellulose nanocrystal films alican gençer . renewable materials and nanotechnology research group **on a novel mechanistic model for simultaneous** - surfaces but also internal surfaces from the voids in the interior of the substrate. figures 1 and 2 illustrate a cellulose elementary fibril and hemicelluloses, and, respectively the subdivision of a single contiguous hemicellulose-cellulosic substrate particle into sacs by savs. note here weusethe 36-chainsquashape model onlyasanexample **adhesion of polymers in paper products from the ...** - adhesion between polymer thin plms and paper surfaces, the adhesion of polymer molecules to cellulose pbers, and surface forces measurements between model cellulosic surfaces. it is concluded that molecular adhesion and viscoelasticity of cellulose polymer cellulose joints play primary roles in the paper strength, **determination of surface functional groups in ...** - determination of surface functional groups in lignocellulosic materials by chemical derivatization and esca analysis ... using the model surfaces were ... chemical functionalities of cellulosic ... **modelling of congo red adsorption on the hydrophobic ...** - modelling of congo red adsorption on the hydrophobic surface of cellulose using molecular dynamics ... a model of a microfibril corner of cellulose ib, exposing one hydrophobic (1 0 0) and the two hydrophilic (1 1 0) and (1 -1 0) surfaces was built. the energetic and geometric features of the dye **effect of polymer adsorption on cellulose nanofibril water ...** - studies mainly concentrate on cellulosic fibres (wågberg 2000) or regenerated cellulose model surfaces (kontturi et al. 2006). the nature of the interaction between cellulose and polymers is strongly affected by the polymer properties, i.e. functional groups, charge properties, molecular weight, structure, etc. (wågberg 2000). **appendix 1 - vtechworks.vt** - model cellulosic surfaces. the f-containing cp derivatives had a telechelic architecture based on mono-functional cp segments of well-defined size; their f-content varied with the type of fluoro-alcohol group. the model cellulosic surface consisted of langmuir-blodgett films prepared from trimethylsilyl (tms) cellulose in accordance with work by **nanometer smooth, macroscopic spherical cellulose probes ...** - cellulosic products in solution.8 new strategies have been ... cellulose model surfaces.19–21 model films are commonly attached to silicon wafers, using cationically charged anchoring polymers, and thin films of cellulose have been the primary method to quantitatively measure interfacial behavior of **durham e-theses functional soil release polymers for ...** - functional soil release polymers for cellulosic surfaces abstract soil release polymers (srps) are additives components of washing detergents for synthetic fibres, as they are effective in removing stains from the fabric surface and in preventing re-deposition of the stain during a wash cycle. **review article bioresources - nc state university** - review article bioresources ... major challenge has involved the lack of compatibility of cellulosic surfaces with a variety of plastic materials. the water-swellaible nature of ... scallan (1968b) proposed a model of the kraft or sulfite pulp fiber structure in which layers of cellulosic material, each just a few nanometers in thickness ... **christian aulin - diva portal** - the smooth cellulosic surfaces prepared had different molecular and mesostructure properties and different surface energies as shown by x-ray diffraction, atomic force microscopy (afm) imaging, ellipsometry measurements and contact angle measurements. the cellulose model surfaces were found to be ideal for detailed wetting studies, and after the **intact and broken cellulose nanocrystals as model ...** - 1 intact and broken cellulose nanocrystals as model nanoparticles to promote 2 dewatering and fine-particle retention during papermaking 3 ... 93 groups at the cellulosic surfaces contribute to rapid wetting, as well as good dispersion in 94 water on account of the repulsive electrostatic forces between adjacent particles. **cationic starches on cellulose surfaces - wageningen ur e ...** - cationic starches on cellulose surfaces a study of polyelectrolyte adsorption ... 6.1 use of theory and model systems 107 6.1.1 general considerations 107 ... cellulosic fibers are the main constituents of plant cell walls and, for papermaking, they are mainly obtained from wood in a chemical (pulping) ... **understanding the mechanical strength of microcapsules and ...** - understanding the mechanical strength of microcapsules and their adhesion on

cellulosic surface katie m liu 1, jon preece 2, david york 3, james bowen 1 and zhibing zhang 1 1school of chemical engineering, the university of birmingham, uk 2school of chemistry, the university of birmingham, uk 3procter & gamble, newcastle, uk introduction results & discussions **185. investigation of water dynamics in a model cellulosic ...** - investigation of water dynamics in a model cellulosic system . hugh o'neill,1 loukas petridis,1 sai venkatesh pingali,1 barbara r. evans,1 junhong he,1 eugene mamontov,1 brian h. davison1* (davisonbh@ornl), volker urban,1 jeremy smith,1,3 paul ... knowledge of water dynamics and structure at cellulose surfaces is important to understand how **cellulosic ethanol: progress towards a simulation model of ...** - cellulosic ethanol: progress towards a simulation model of lignocellulosic biomass loukas petridis and jeremy c smith center for molecular biophysics , oak ridge national laboratory, oak ridge, tn, usa **a biomimetic cellulose-based composite material that ...** - mof-199 immobilized onto a cellulosic fiber can inhibit the growth of e. coli, and a similar report by abdelhameed et al. of a mof-199/cotton nanocomposite details the adsorption of an organic pesticide.15,16 each of these mof-based materials feature composite surfaces created through chemisorption of the mof to **surface chemistry and charge of cellulosic fibres - step itn** - surface chemistry and charge of cellulosic fibres per stenius ps interfaces, stockholm ... • surface force measurements (model surfaces/surface force apparatus, and afm) 11 why is the charge important? wood and fibres: ... • bonding between fibre surfaces **cellulose hydrolysis in evolving substrate morphologies ...** - matic hydrolysis of solid cellulosic substrates, based on our recently developed kinetic model (zhou et al., 2009a, bio- ... micro-organism trichoderma reesei on the model cellulosic substrate avicel. the numerical simulation results are ... surfaces. they thus provide a much more direct indication, compared to the enzyme cutting rate ... **modeling and simulation of an o2 delignification ...** - the mathematical model estimates the kappa number after the reactor, based on two kinetic models given by the literature, one of these models considers oxygen excess in the reaction medium. ... if they are concentrated at the cellulosic surfaces. to confirm his hypotheses, the researcher determined the change in the kappa number given by the ... **characterization of the interface between cellulosic ...** - characterization of the interface between cellulosic fibers and a thennoplastic matrix ... with polystyrene droplets as both model and realistic material systems. all fibers. 422 f. p. liu et ai. 2.3. dynamic contact angle (dca) tests ... reduction of hydroxyl groups on the cellulosic fiber surfaces. the hydroxyl groups .on **adhesion and surface issues in cellulose and nanocellulose** - adhesion and surface issues in cellulose and nanocellulose ... cellulosic nanofibers present a very high surface area which makes the adhesion proper- ... [10-13] on cellulose. many researchers have prepared model sur-faces of cellulose using spin coating [11, 12, 14], and spin casting [15] processes. **adhesion and surface issues in cellulose and nanocellulose** - cellulose nano bers present a very high surface area which makes the adhesion proper- ... the preparation and use of smooth cellulose surfaces has facilitated experimental adhesion studies [10 13] on cellulose. many researchers have prepared model sur-faces of cellulose using spin coating [11, 12, 14], and spin casting [15] processes ... **effect of surface active agents on cellulosic fabric ...** - effect of surface active agents on cellulosic fabric properties faiza, f. s. ebrahim1,4 and salwa, m. i. morsy2,3 1academy of specialized studies, nasr city, cairo, egypt 2egyptian petroleum research institute, nasr city, cairo, egypt 3chemistry department, faculty of science, taif university, kingdom saudi arabia **the dynamic development of exclusion zones on cellulosic ...** - original paper the dynamic development of exclusion zones on cellulosic surfaces belkis sulbara ´n • guillermo toriz • g. graham allan • gerald h. pollack • ezequiel delgado received: 27 ... **preparation, characterisation and wetting of fluorinated ...** - preparation, characterisation and wetting of fluorinated cellulose surfaces christian aulin ... various concentrations onto the two model cellulose surfaces was investigated using dpi. the ... controlling the wetting of cellulosic materials by different types of oil mixtures. these factors **on the influence of physical processes on the transient ...** - on the influence of physical processes on the transient pyrolysis of cellulosic samples colomba di blasi dipartimento di Ingegneria chimica. universita degli studi di napoli federico II piazzale v. tecchio, 80125 napoli, italy abstract a two-dimensional, variable property, mathematical model of the transient pyrol- **probing molecular, nanoscale and adhesive forces related ...** - - cellulosic fibers from regenerated cellulose (lyocell process) with a diameter of 25 µm ... the force profiles with talc are similar to those obtained with two model hydrophobic surfaces the interaction is long-range, even if talc is only slightly hydrophobic (contact angle with water ... **on improved mechanistic modeling for enzymatic hydrolysis ...** - an improved model for enzymatic hydrolysis of cellulose is developed that considers oligomer reactions with beta-glucanases, inhibition of oligomers to cellulases and enzyme decay processes during hydrolysis. our oligomer ... chains exposed on class-σ sac surfaces (mm) ... **evaluations of cellulose accessibilities of ...** - cellulosic surfaces of lignocelluloses by uv-vis spectro-photometry (liu et al., 2011); and (2) to conduct preliminary investigation of the relationship between cellulose accessibility and sed using a set of simple substrates with identical chemical composition but with significant variations in cac, as well as a set of differently **tunability of the adhesion of water drops on a ...** - etched paper surfaces is obtained by depositing a thin film of pentafluoroethane (pfe) from the plasma environment. the fact that these substrates are based on cellulosic paper, a biodegradable, inexpensive, flexible, biopolymer, widens its po-tential commercial interests. 2. experimental 2.1. handsheet formation **the institute of paper chemistry - smartechtech** - by characterizing cellulosic surfaces, information allowing enhancement of desirable surface

interactions or inhibition of unwanted ... the model is fitted to experimental data by graphical or computer techniques. parameter values resulting from this fit characterize the surface. sometimes these parameters can be related to adsorbent character- **royal society of chemistry style - bath** - chemical modification of cellulose surfaces,7,8,12,15-21 rheological behavior of cellulose suspensions,16,17,22 self- assembly of suspensions, 5,22,23 interaction with water, 19 cn composites, 5,7-10,19,24-29 and patent literature. **9 a c s c e l l d i v i s i o n t h e f i b r i l a n g l e** - the fibril angle cellulose and renewable materials division of the american chemical society annual newsletter 2006 issue division program for the 233rd acs national **effects of ball milling on the structure of cotton cellulose** - model's paracrystalline and inaccessible crystallite surfaces were not needed in the model used for the dnp studies. sum frequency generation (sfg) spec- ... modified cellulosic materials. the idea that cellulose has a crystalline component came from x-ray diffraction (xrd). according to the **heterogeneous cellulose by using carbohydrate ...** - surfaces of amorphous cellulose and crystalline cellulose fragments, but its binding cannot distinguish the heteroge-neous surfaces of cellulosic materials. a cbm is a polypeptide module found in carbohydrate-active enzymes that can specifically bind to different car-bohydrates. cbms have been classified into 68 different **formation of carcinogens indoors by surface-mediated ...** - from indoor surfaces to air has been recognized for some time as a source of subsequent exposure (5-7), the potential for ... the cellulosic media). a biexponential model was fitted to the surface nicotine concentration profile to estimate contributions from chemical reaction and desorption. the fitted rate constant **development of enclosure fire model incorporating ...** - field model, is required. in this paper, we describe a new three-dimensional field model which includes the pyrolysis of the cellulosic material, emission of combustion gases from the material, gas phase combustion and feedback of heat from the burning region to the solid, causing further gasification. the model was **abstract - repository home** - using model compounds this effect was found to be correlated with the compounds chemical structure, and underlying mechanisms could be rationalized by hansen solubility parameter considerations. the amphiphilic and hydrophobic nature of the model extractives was found to influence the deposition of extractives on the cellulose surfaces, and **effect of surface modification on water adsorption and ...** - adsorption. to study the water adsorption on cnc surfaces, cncs with two exposed (110) surfaces and dimensions of 10.38 nm along the length of the chain (10 repeat units), 3.31 nm along the width of the crystal (6 chains), and 1.19 nm along the thickness of the crystal (2 layers) were generated using the cellulose-builder tool40 and **evaluation of inter-fiber bonding in wood pulp fibers by ...** - using -oh functionalized afm tips as a model of cellulosic pulp fiber surfaces, pull-off forces and work of adhesion were measured in aqueous media. three distinct tip-surface interactions were identified from force-displacement curves, representing three typical surface conditions of wet pulp fiber surfaces: solid, swollen and micro-fibrillated. **wood extractives promote cellulase activity on cellulosic ...** - wood extractives promote cellulase activity on cellulosic substrates timo leskinen, carlos salas, stephen s. kelley, and dimitris s. argyropoulos* ... found to be the variable that affected the deposition of extractives on cellulose surfaces and the eventual adsorption of cellulolytic ... or if the model compound was not soluble in acetone a ... **dynamic fracture toughness of polypropylene reinforced ...** - chosen as a model cellulosic reinforcing fiber because of its high purity and relatively high aspect ratio and fiber length. this pulp fiber was supplied in pressed and dried sheets. the polypropylene and cellulosic fiber were compounded in a l-l high-intensity thermokinetic mixer (k mixer, synergistics, inc, ste. remi de napierville, **effect of membrane composition and structure on solute ...** - based on a model in which a membrane has n (straight) have recently suggested that the mechanism by which ... cellulosic and cellulose acetate membranes having this ... of complement cascade products with these hydroxyl ples of surfaces endowed with microdomain structures. **ethanol production and safety ethanol production and safety** - introduction u.s. doe vision for bioenergy/bioproducts* 25 15 20 n tage (%) 1 s 0 5 10 perce 200 2010 2020 30 o wer b iofuels b time (year) ioproduct 20 biop biopower - biomass share of electricity & heat demand in utilities and industry

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