

★★★ <第 21 回知的財産翻訳検定試験【第 10 回英文和訳】> ★★★

≪ 1 級課題 -化学- ≫

【解答にあたっての注意】

1. 問題の指示により和訳してください。
2. 解答語数に特に制限はありません。適切な個所で改行してください。
3. 課題文に段落番号がある場合、これを訳文に記載してください。
4. 課題は 4 題あります。それぞれの課題の指示に従い、4 題すべて解答してください。

問 1 ***START***から***END***までを和訳してください。

START

1. A process for bending glass sheets, wherein the glass sheets are part of a composition of a laminate, the process comprising:
raising the temperature until the sheets soften;
shaping the sheets, wherein after the shaping, the sheets are cooled rapidly to a temperature at most equal to that of a glass transition range thereof, wherein the cooling is carried out in a controlled temperature atmosphere with forced convection treating the two faces of the sheets exposed to the atmosphere; and
ensuring a uniform temperature over the entire area of the sheets, not including optionally the edges of the sheets if the sheets are in contact with a support during the cooling.
2. The process as claimed in claim 1, wherein the cooling of the sheets takes the sheets to a temperature substantially below the glass transition temperature, the sheets then being heated to close to the glass transition temperature range for a relaxation of the stresses introduced in the preceding cooling operation, the heating being followed by a new cooling operation.
3. A laminated glazing unit, comprising glass sheets, wherein the glass sheets are subjected, during the shaping thereof, to the process as claimed in claim 1.

END

問 2 ***START***から***END***までを和訳してください。

START

[0002]

Soaps representing salts of fatty acids with alkali are a mainstay for many skin cleansers. When properly formulated they provide rich and creamy lather together with excellent rinsability and squeaky clean perception. However soap-based compositions are relatively harsh to the skin with tight skin feel, have problems with stability in liquid form and do not foam well in hard water and form lime soap upon rinsing. [0003] In order to address these issues various surfactants, polymers and solvents have been added to the soaps since decades. Although some of the major problematic issues could be resolved in this way, the composition cost is usually increased due to the additional ingredients. Also very often the improvement of one property impairs another one. For example the addition of high concentration of surfactants may increase the product mildness and the foaminess, especially in hard water, but could deteriorate the foam creaminess and the product rinsability. Similarly the addition of high amount of polymers, especially cationic ones, may increase the foam creaminess and the product mildness and stability, but will affect also the product rinsability and the wet skin afterfeel.

END

問 3 ***START***から***END***までを和訳してください。

START

According to another embodiment of this invention, a process of manufacture of melphalan comprises the following steps, preferably, but not necessarily, in order: (a) reacting 4-amino-L-phenylalanine with ethylene oxide at essentially ambient or room temperature, preferably at a temperature in the range of from about 20°C. to about 40°C.; (b) isolating and optionally purifying crude 4-(bis(2-hydroxyethyl)amino)-L-phenylalanine; (c) esterifying 4-(bis(2-hydroxyethyl)amino)-L-phenylalanine refluxing with lower alkyl alcohols, preferably n-C1-6, to produce the corresponding alkyl ester; (d) chlorinating 4-(bis(2-hydroxyethyl)amino)-L-phenylalanine alkyl ester to produce 4-(bis(2-chloroethyl)amino)-L-phenylalanine alkyl ester at a temperature essentially elevated from ambient, preferably at a temperature in the range of from about 50°C. to about 90°C.; (e) hydrolyzing 4-(bis(2-chloroethyl)amino)-L-phenylalanine alkyl ester at a reflux temperature of about 100°C. to produce 4-(bis(2-chloroethyl)amino)-L-phenylalanine melphalan; and (f) optionally purifying, isolating, and/or drying the melphalan obtained in step (e) at a temperature essentially

elevated from ambient, preferably at a temperature in the range of from about 35°C. to about 60°C.

END

問4 ***START***から***END***までを和訳してください。

START

Example 1

Preparation of Chemically Functionalized Carbon Nanotubes

Multi-walled carbon nanotubes (50 mg) were added to a 50 mL beaker and mixed with 5.0 g of ammonium persulfate (98%) and 15.0 mL of a 1.0 M H₂SO₄ (98%) aqueous solution by stirring with a magnetic stir plate at room temperature for 48 h. The reaction mixture was transferred into two 15 mL plastic centrifuge tubes and centrifuged at 8,500 rpm for 2 min. The supernatant became clear and was removed. The product was washed with water 5 times using centrifugation to collect the nanotubes. The time required to centrifuge the nanotubes increased with each wash, indicating that the size of the nanotubes was in the nanometer range. The final centrifugation required 60 min. The chemically functionalized carbon nanotubes were dispersed in water so well that they were not spun down by centrifuging at 12,500 rpm for 20 min. The final product was near neutral (pH=6.0) and was dried by lyophilization for 24 h. The dried carbon nanotubes were readily dispersed in water.

END