

★★★<第13回知的財産翻訳検定試験【第6回英文和訳】>★★★

<<1級課題-化学->>

【解答にあたっての注意】

1. ***START***から***END***までを和訳してください。
2. 解答語数に特に制限はありません。
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] 次の米国特許明細書中の背景技術にかかわる記載内容について翻訳してください。

START

[0001] Carbon nanotubes (also referred to as carbon fibrils) are seamless tubes of graphite sheets with full fullerene caps which were first discovered as multi-layer concentric tubes or multi-walled carbon nanotubes and subsequently as single-walled carbon nanotubes in the presence of transition metal catalysts. Carbon nanotubes have shown promising applications including nanoscale electronic devices, high strength materials, electron field emission, tips for scanning probe microscopy, and gas storage.

[0002] Generally, single-walled carbon nanotubes are preferred to multi-walled carbon nanotubes for use in these applications because they have fewer defects and are therefore stronger and more conductive than multi-walled carbon nanotubes of similar diameter. Defects are less likely to occur in single-walled carbon nanotubes than in multi-walled carbon nanotubes because multi-walled

carbon nanotubes can survive occasional defects by forming bridges between unsaturated carbon valences, while single-walled carbon nanotubes have no neighboring walls to compensate for defects.

END

[問 2] 次の米国特許明細書中の実施形態にかかわる記載内容について翻訳してください。

課題図表として表示される formula I を参考にしてください。

RCM は Ring Closing Metathesis の略です。

START

[0011] The RCM methodology disclosed to date suffers from modest yields and low catalyst selectivity. This translates into low efficiency and higher costs. The object of the present invention therefore is to find superior metathesis catalysts and an improved process that is applicable on technical scale and is able to overcome the disadvantages exhibited by catalysts known in the art. The compounds of formula I can advantageously be used in metathesis reactions, particularly in ring closing metathesis or cross metathesis reactions.

[0012] Ru-complexes of formula I wherein R1, R2, R3', R3'', X1, X2, Y1, L, a, b, c and d, are as defined herein above and the dotted line is an optional bond, have been found to be very useful catalysts in metathesis reactions such as in ring closing metathesis and in cross metathesis reactions. If the optional bond is absent (i.e. the amide carbonyl group does not coordinate to the ruthenium) the complex is a pentacoordinated ruthenium complex and if the optional bond is present, (i.e. the amide carbonyl group coordinates to the ruthenium) the complex is a hexacoordinated ruthenium complex.

END

[問 3] 次の米国特許明細書中の実施例にかかわる記載内容について翻訳してください。

START

[0031] Fabrication and Photovoltaic Performance of Cells with a TiO₂ Film
Cografted with K19 Dye and 1-decylphosphonic Acid Coadsorbate

A screen-printed double layer of TiO₂ particles was used as photoanode. A 10 micrometer thick film of 20 nm sized TiO₂ particles was first printed on the fluorine-doped SnO₂ conducting glass electrode and further coated by 4 micrometer thick second layer of 400 nm sized light scattering anatase particles.

Fabrication procedure for the nanocrystalline TiO₂ photoanodes and the assembly as well as photoelectrochemical characterization of complete, hot-melt sealed cells has been described above. The electrolyte used for device E contained 0.6 M 1,2-dimethyl-3-propylimidazolium iodide (DMPII), 0.1 mM M I₂, and 0.5 M N -methylbenzimidazole in 3-methoxypropionitrile. The TiO₂ electrodes were immersed at room temperature for 12 h into a solution containing 300 micromolar K19 dye and 75 micromolar 1-decylphosphonic acid coadsorbate in the mixture of acetonitrile and tert-butanol (volume ratio: 1:1).

END

[問 4] 次のクレームを翻訳してください。

なお、1. は参照用であり、翻訳する必要はありません。

1. Crystalline N-(2-aminophenyl)-4-[N-(pyridine-3-yl)methoxycarbonylamino]methyl]benzamide polymorph B of formula I substantially free of N-(2-aminophenyl)-4-[N-(pyridine-3-yl)methoxycarbonylamino]methyl]benzamide polymorph A.

* * * START * * *

2. A process for preparing the crystalline N-(2-aminophenyl)-4-[N-(pyridine-3-yl)methoxycarbonylamino]methyl]benzamide polymorph B compound of formula I

comprising:

a) dissolving crude

N-(2-aminophenyl)-4-[N-(pyridine-3-yl)methoxycarbonylamino]methyl]benzamide in water and adding diluted hydrochloric acid to the resultant reaction mixture, at a constant internal reaction vessel temperature below 5 °C;

b) adding charcoal to said reaction mixture and then stirring the reaction mixture for 1 to 20 hours at a temperature below 5 °C;

c) filtering to remove the charcoal and rinsing with water;

d) while keeping the internal vessel temperature below 5 °C adjusting the pH of the reaction mixture to greater or equal to 8 with a diluted sodium hydroxide solution;

e) washing the resulting precipitated

N-(2-aminophenyl)-4-[N-(pyridine-3-yl)methoxycarbonylamino]methyl]benzamide with water and ethanol, and drying;

f) suspending the precipitate into a mixture of ethanol and water and heating up to a temperature of 40-90 °C for 1 to 10 hours; and

g) after cooling down the mixture, rinsing the resulting precipitate with water

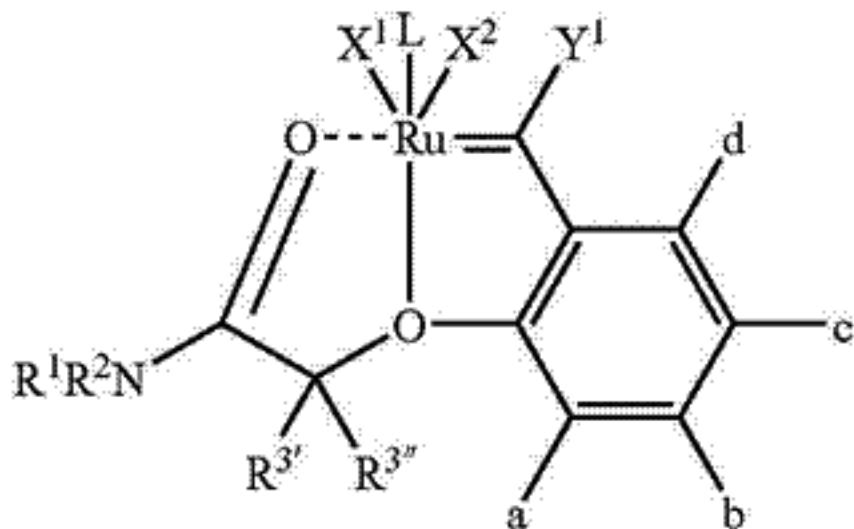
and ethanol to give the pure

N-(2-aminophenyl)-4-[N-(pyridine-3-yl)methoxycarbonylamino]methyl]benzamide

polymorph B which is subsequently dried at a temperature between 30-60 oC

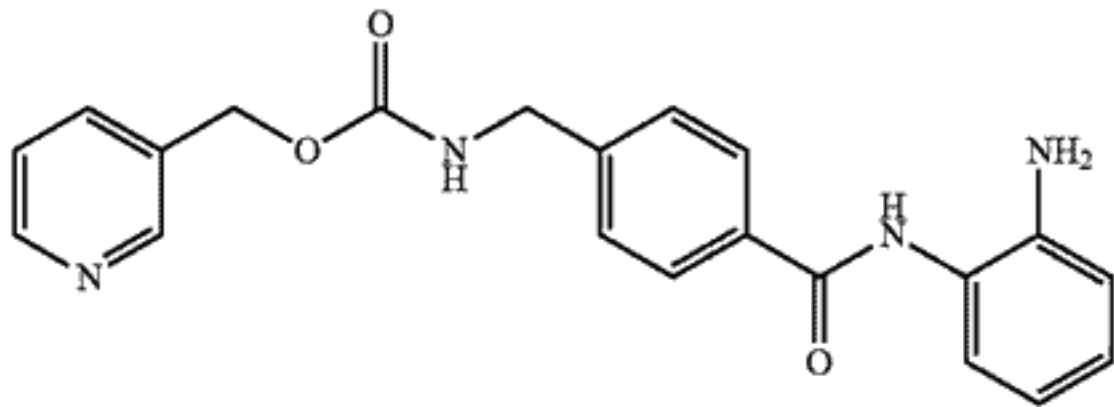
END

【1級/化学/問2/図面】 ←



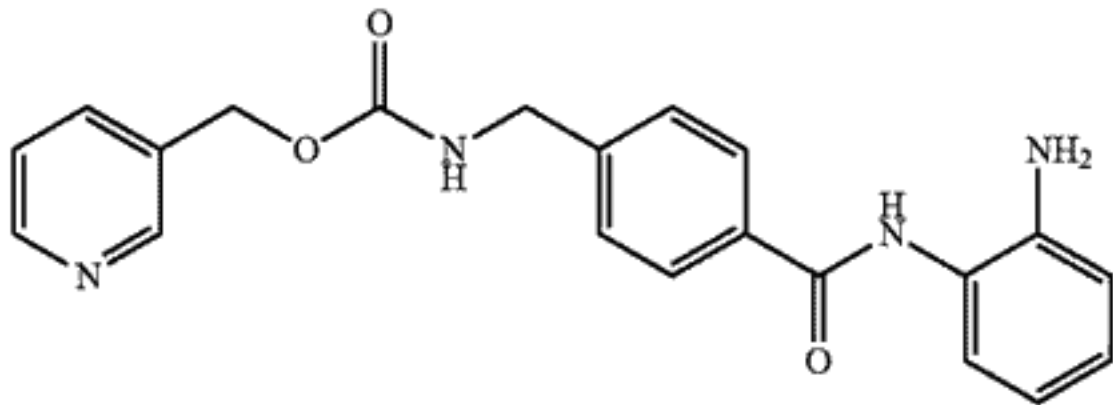
I

【1級/化学/問4/図面1】



I

【1級/化学/問4/図面2】



I