

I would like to find patents containing information on the oxidative cleavage of c-c bonds (like those found in styrene) into carboxylic acids using manganese-containing catalysts. Then I want to export the list in a PDF

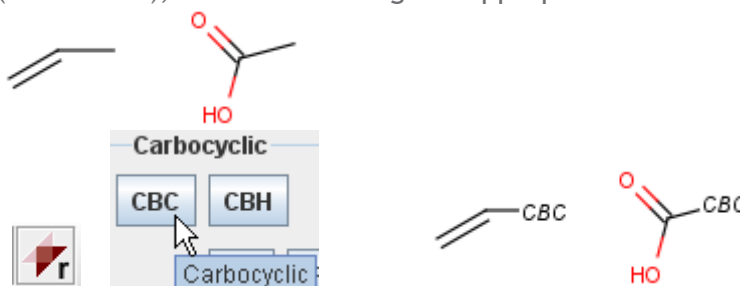


Mn catalysts

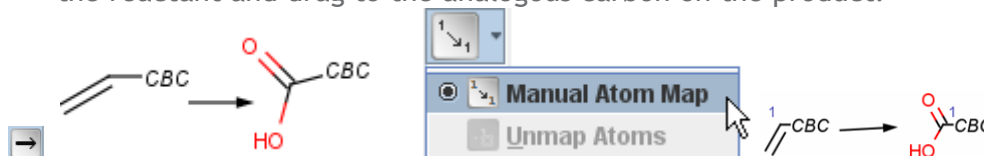
1. Click the **Reactions** theme from the **Reaxys Start page**. Click the structure box to open the structure editor (MarvinSketch is used here).



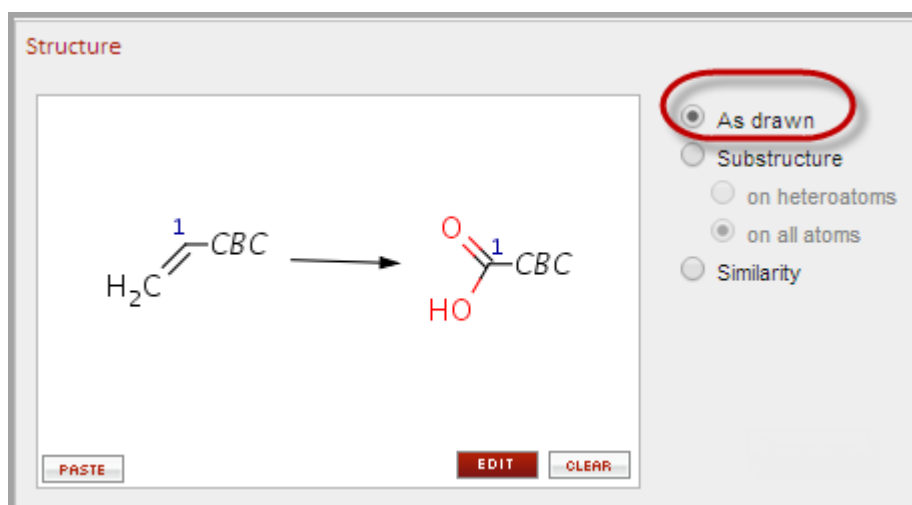
2. Draw the propylene and acid fragments. Then add the appropriate **Reaxys Generic Group (CBC)** by clicking the “R” button, selecting the abbreviation (click **Close**), and then clicking the appropriate carbons in the reaction.



3. Draw the **arrow**. Then click the **Atom mapping** button, click a carbon on the reactant and drag to the analogous carbon on the product.

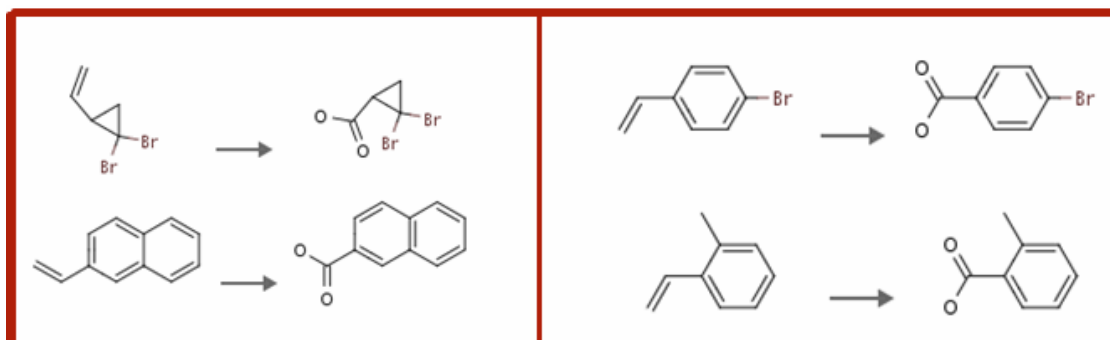


The final query looks like this:



Results:

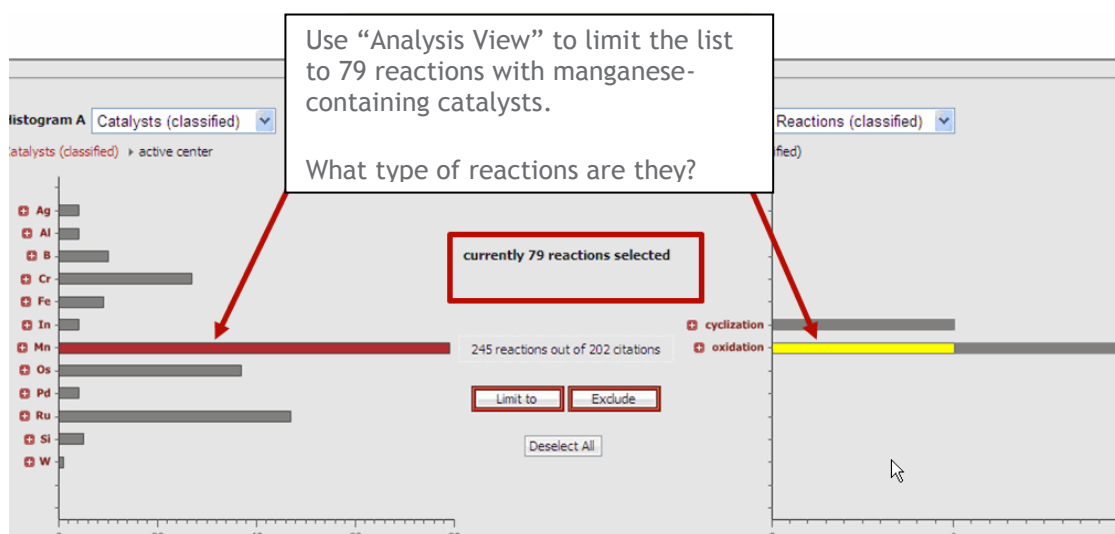
245 reactions, like these, are retrieved:



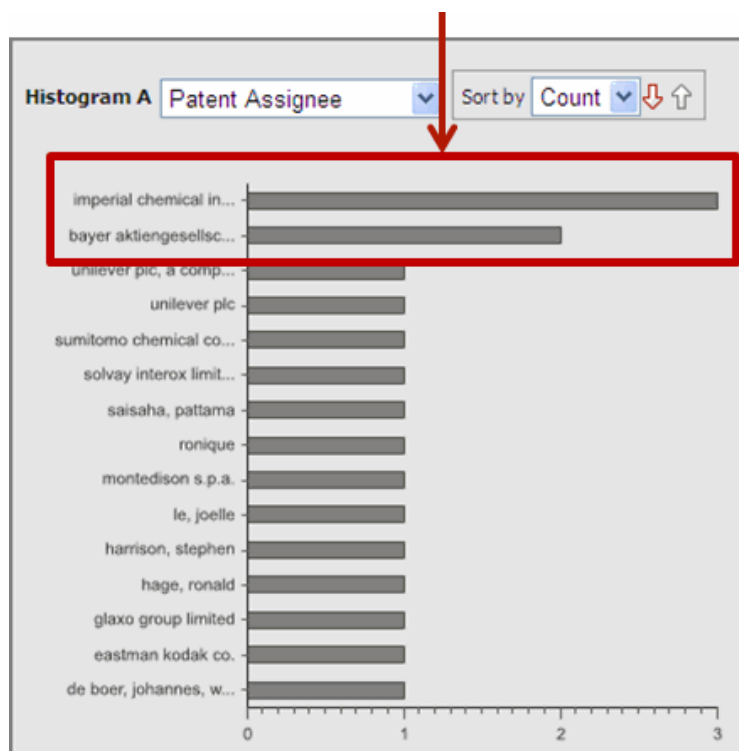
Which ones use manganese-containing catalysts? Click the **Analysis View** button.



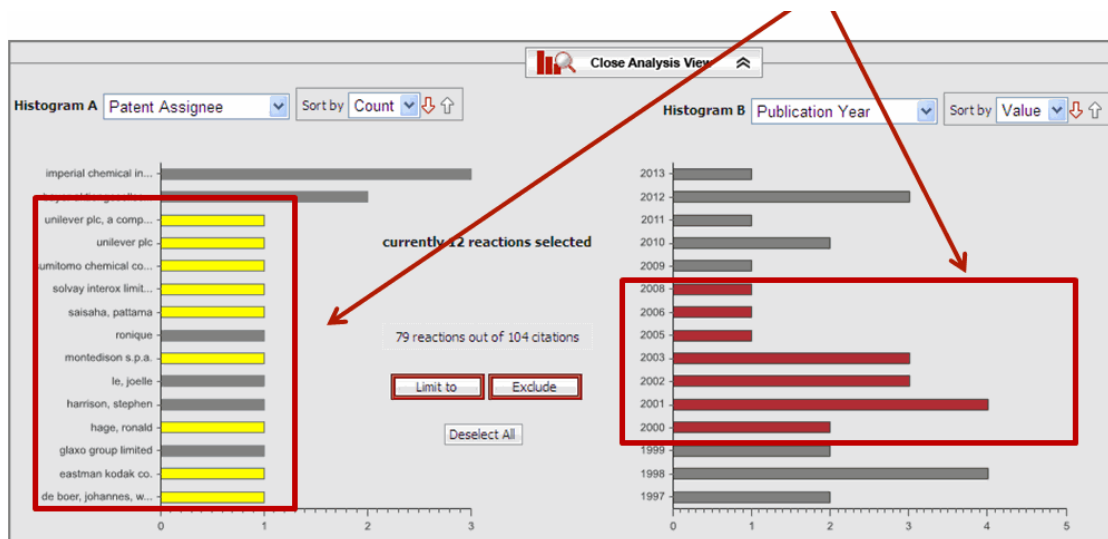
Then select the appropriate criteria from the drop-down menus as shown below.



Which Patent Assignees show up most frequently in this list of 79 reactions?

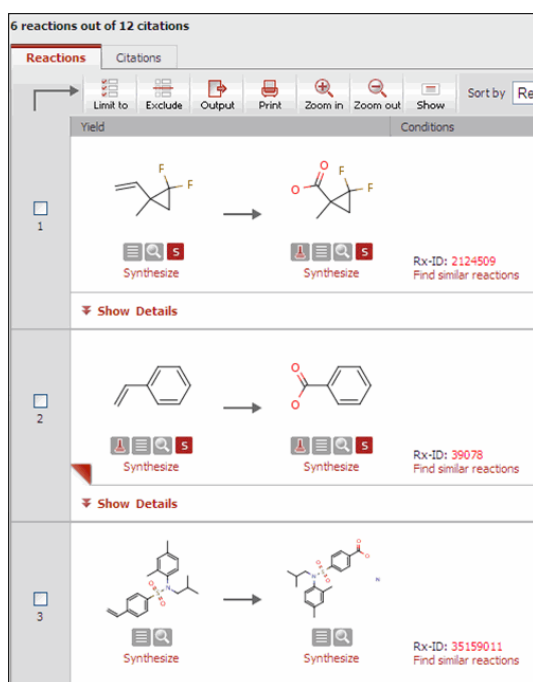


Who received patents with this type of reaction between 2000 - 2008?



Limit the list to reactions found in patents:

View the list of 6 reactions or 12 citations.



Title of the Document	Authors	Year	Source
SULFONAMIDE COMPOUNDS AND THEIR USES IN THE TREATMENT OF RESISTANT ORPHAN RECEPTOR	GLAXO GROUP LIMITED; BRALYT, Henriette; CARPILLI, Amanda; Jemiller; MARSDON, Stephen LE, Jelle	2013	Patent: WO2013/0451 A1; 2013; Patent Family: WO2013/0451 A1; Pub Text
METHOD FOR THE OXIDATION OF UNSATURATED ORGANIC COMPOUNDS	UNILEVER PLC; HAGE, Ronald DE BOER, Johannes; SAISHA, Petrus	2012	Patent: WO2012/0842 A1; 2012; Patent Family: EP2409962 A1; WO2012/0842 A1; EP289947 A1; Pub Text
A one-pot method for the oxidation of unsaturated organic compounds	Unilever PLC, A Company Registered in England and Wales under Company no. 4424	2012	Patent: EP240962 A1; 2012; Patent Family: EP240962 A1; WO2012/0842 A1; EP289947 A1; Pub Text

Click Output.



And then export the list in various formats, such as PDF.

REAXYS®

GLAXO GROUP LIMITED, BIRLAULT, Veronique; CAMPBELL, Amanda; Jennifer; HARRISON, Stephen; LE, Jodie
SULFONAMIDE COMPOUNDS AND THEIR USE IN THE MODULATION RETINOID - RELATED ORPHAN RECEPTOR
Patent: WO2013/04311; (21/12) (A1)
Abstract: The present invention is directed to novel retinoid-related orphan receptor gamma (RORγ) modulators of formula (I), processes for their preparation, pharmaceutical compositions containing these modulators, and their use in the treatment of inflammatory, metabolic and autoimmune diseases mediated by RORγ wherein R₁ to R₅ are as defined in claim 1.
[View in Reaxys](#) 1/3

Patent Assignees / Inventors				
Assignees	Inventors (Authors)			
GLAXO GROUP LIMITED, BIRLAULT, Veronique; CAMPBELL, Amanda; Jennifer; HARRISON, Stephen; LE, Jodie	BIRLAULT, Veronique; CAMPBELL, Amanda; Jennifer; HARRISON, Stephen; LE, Jodie			

Publication / Application Data					
Patent No.	Kind Code	Publ. Date	Application No.	Filing Date	Indexed Patent
WO2013/04311	A1	2013/04/04	WO2012/068846	2012/09/28	yes

Patent Classification	
Main IPC	Secondary IPC
A61K 31/18	A61K 31/33; C07C 311/21; C07C 311/26; C07C 213/32; C07D 213/38; C07D 213/41; C07D 213/46; C07D 213/48; C07D 213/76; C07D 233/02; C07D 239/26; C07D 349/08; C07D 267/04; C07D 261/08

Reaction 1 of 1 / citation 1 of 3

Rx-ID: 3519011 [View in Reaxys](#)

Yield	Conditions & References
8 mg	Example Name P180 (Page/Page column 82) Example Title Preparation of Product P180: 4-(N-(2,4-dimethylphenyl)-N-isobutylsulfamoyl)benzoic acid, ammonia salt N-(2,4-dimethylphenyl)-N-isobutyl-4-vinylbenzenesulfonamide (0.06 g, 0.175 mmol) was dissolved in acetone (0.240 mL) and cooled to -2 °C, with stirring. A solution of potassium permanganate (0.018 g, 0.117 mmol) and magnesium sulfate (7.00 mg, 0.058 mmol) in water (0.4 mL) was prepared and added dropwise to the acetone solution, over 20 minutes. The mixture was stirred for an additional 10 minutes, then the temperature increased to room temperature and the mixture filtered and concentrated under a stream of nitrogen. LC/MS analysis confirmed presence of some acid product as well as dihydroxylated product, but showed mainly unreacted starting material. So above procedure was repeated again using this crude material, with the post-addition stirring increased to 2.75 hours at 0 °C then 15 minutes warming to rt. Analysis confirmed improved conversion. View in Reaxys Stage 1: With potassium permanganate, magnesium sulfate in water, acetone, T=-2-20°C, inert atmosphere Stage 2: With ammonia in methanol

REAXYS®

UNILEVER PLC, HANDE, Ronald; DE BOER, Johannes; Wietse; SAJJANA, Patana
METHOD FOR THE OXIDATION OF UNSATURATED ORGANIC COMPOUNDS
Patent: WO2012/10842; (20/12) (A1)
Abstract: The present invention concerns a method for the oxidative cleavage of unsaturated carbon-carbon bonds into carboxylic acids or ketones using a manganese catalyst and hydrogen peroxide.
[View in Reaxys](#) 2/3

Patent Assignees / Inventors				
Assignees	Inventors (Authors)			
UNILEVER PLC, HANDE, Ronald; DE BOER, Johannes; Wietse; SAJJANA, Patana	HANDE, Ronald; DE BOER, Johannes; Wietse; SAJJANA, Patana			

Publication / Application Data					
Patent No.	Kind Code	Publ. Date	Application No.	Filing Date	Indexed Patent
EP2409962	A1	2010/10/28	EP2010-170239	2010/07/21	
WO2012/10842	A1	2012/01/26	WO2011-081093	2011/07/21	yes
EP2896947	A1	2013/05/29	EP2011-736028	2011/07/21	

Priority Data	
Priority No.	Priority Date
EP2010-170239	2010/07/21

Patent Classification	
Main IPC	Secondary IPC
C07C 61/08	C07C 63/126; C07C 65/02; C07C 65/14; C07C 63/06

Reaction 1 of 1 / citation 1 of 3

Rx-ID: 39078 [View in Reaxys](#)

Yield	Conditions & References
Example Name 4 (Page/Page column 18-19) Experiment 4: styrene → benzoic acid A mixture of (Ph) ₂ CO (Me ₂ TACN) (0.114 g, 0.1 mmol) and 2, 6-dichlorobenzoic acid (0.73 mg, 0.30 mmol) in CH ₂ Cl ₂ (7 ml) was added H ₂ O ₂ (30 μl of a 50 percent aq. solution, 0.63 mmol) at room temperature and the resulting mixture was stirred for 20 min. Subsequently, styrene (1.04 g, 10 mmol) was added together with CH ₂ Cl ₂ (2 ml), H ₂ O ₂ (3.22 ml of a 50 percent aq. solution, 55.8 mmol) was then added at room temperature using a syringe pump (0.14 ml/h). A second amount of (Ph) ₂ CO (Me ₂ TACN) (0.114 g, 0.1 mmol) was added to the reaction mixture 8 hours after the addition of hydrogen peroxide had commenced. When the addition of hydrogen peroxide was completed, the mixture was stirred for an additional hour. Water (10 ml) and diethyl ether (10 ml) were added and the pH of the aqueous layer was set to pH > 10 by adding some 4 M NaOH (aq.). The	

With dihydrogen peroxide, 2,6-di-chlorobenzoic acid, Mn2O3(Me3-TACN)2(PF6)2 H2O in water, acetonitrile, Time=32h. T= 20C

Do you have an idea for a workflow example?

Please contact me:

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c.flemming@elsevier.com