

Title (en)

Apparatus and method for regulating the temperature of a liquid

Title (de)

Vorrichtung und Verfahren zum Einstellen einer Temperatur einer Flüssigkeit

Title (fr)

Dispositif et proeedé pour regler la temperature d'un liquide

Publication

EP 1642648 A1 20060405 (DE)

Application

EP 05017580 A 20050812

Priority

- EP 04023309 A 20040930
- EP 05017580 A 20050812

Abstract (en)

Liquid samples (11-20) which need to be raised to a set temperature within a fixed short interval are moved through e.g. an infrared radiation zone (2). Inert beads of material of thermal conductivity greater than 0.6W/mK are added to the samples in order to accelerate the heating rate. The temperature of each sample is monitored (3) and may be used to control the heater. Independent claims are included for the method of increasing sample heating rate by addition of heat absorption material, and for the use of infrared heating.

IPC 8 full level

B01L 7/00 (2006.01)

CPC (source: EP US)

B01L 7/00 (2013.01 - EP US); **B01L 3/50851** (2013.01 - EP US); **B01L 2300/1872** (2013.01 - EP US)

Citation (applicant)

- DE 4203202 A1 19930812 - BOEHRINGER MANNHEIM GMBH [DE]
- EP 0160282 B1 19900117
- EP 0318255 A2 19890531 - EASTMAN KODAK CO [US]
- WO 9838487 A2 19980903 - CEPHEID [US], et al
- US 6210882 B1 20010403 - LANDERS JAMES P [US], et al
- EP 0345882 A1 19891213 - INSTRUMENTATION LAB SPA [IT]
- WO 9641811 A1 19961227 - BOEHRINGER MANNHEIM GMBH [DE], et al
- US 6255477 B1 20010703 - KLEIBER JOERG [DE], et al
- WO 0032762 A1 20000608 - ROCHE DIAGNOSTICS GMBH [DE], et al
- US 6545143 B1 20030408 - HARTTIG HERBERT [DE], et al
- WO 0137291 A1 20010525 - ROCHE DIAGNOSTICS GMBH [DE], et al
- US 2003224366 A1 20031204 - WEINDEL KURT [DE], et al

Citation (search report)

- [X] US 5721123 A 19980224 - HAYES DONALD J [US], et al
- [X] WO 9641864 A1 19961227 - UNIV CALIFORNIA [US]
- [X] WO 9808978 A1 19980305 - VISIBLE GENETICS INC [CA], et al

Citation (examination)

WO 9806876 A1 19980219 - PHARMACIA BIOTECH INC [US], et al

Cited by

US8777078B2

Designated contracting state (EPC)

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DOCDB simple family (publication)

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DOCDB simple family (application)

EP 05017580 A 20050812; CA 2516885 A 20050824; JP 2005286954 A 20050930; US 22681805 A 20050913; US 55382709 A 20090903