

Acrylic Vessel R&D in Taiwan

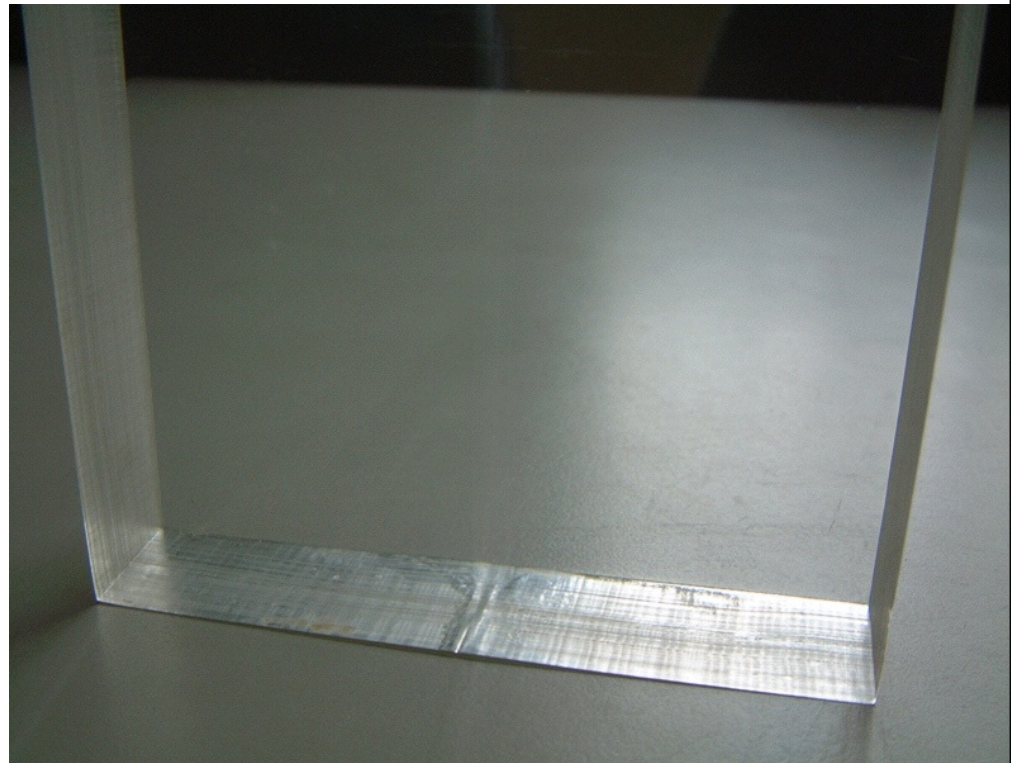
Yee Bob Hsiung
NTU

November, 18, 2006

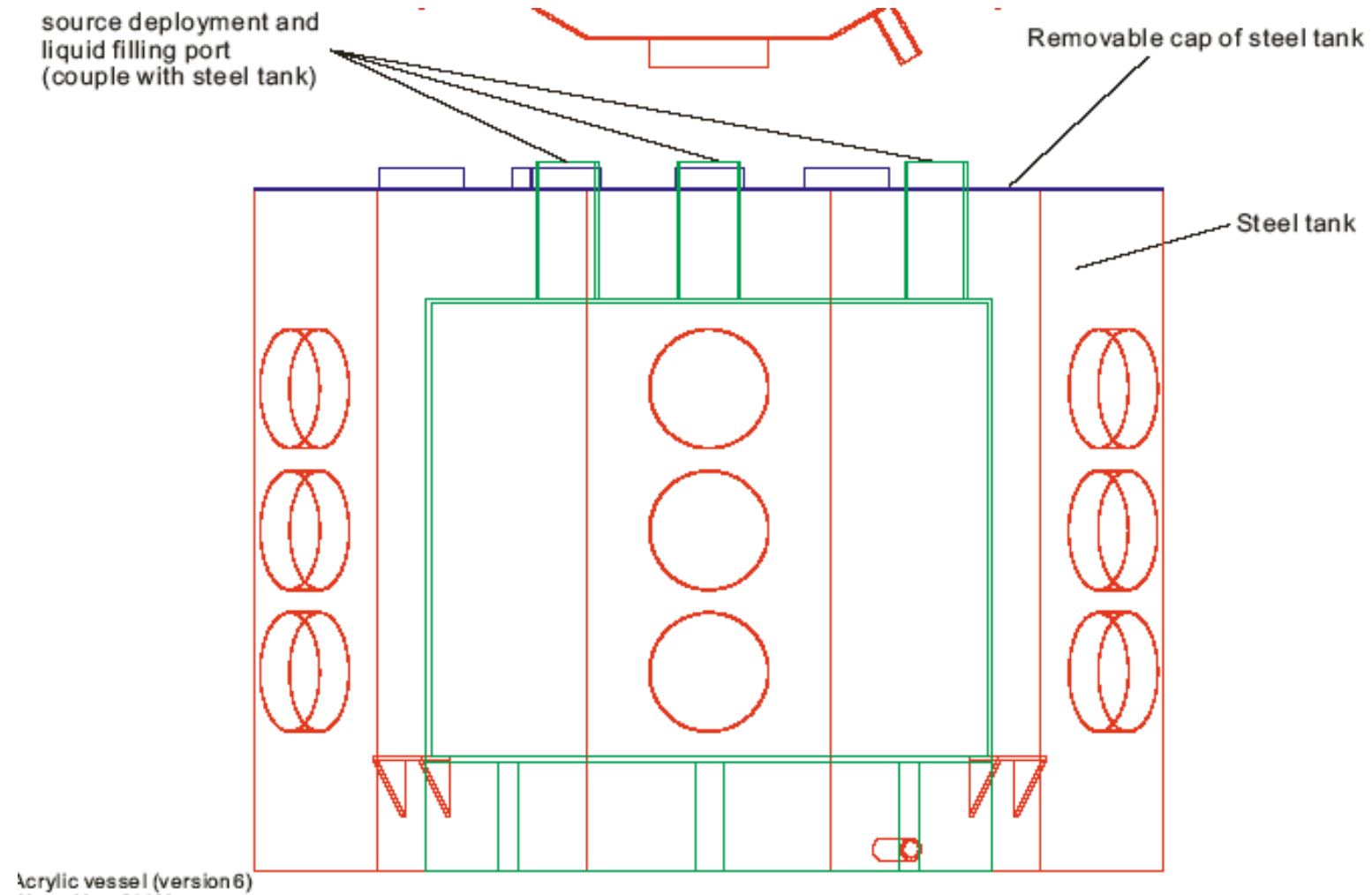
@ IHEP Beijing Data Bay Collaboration meeting

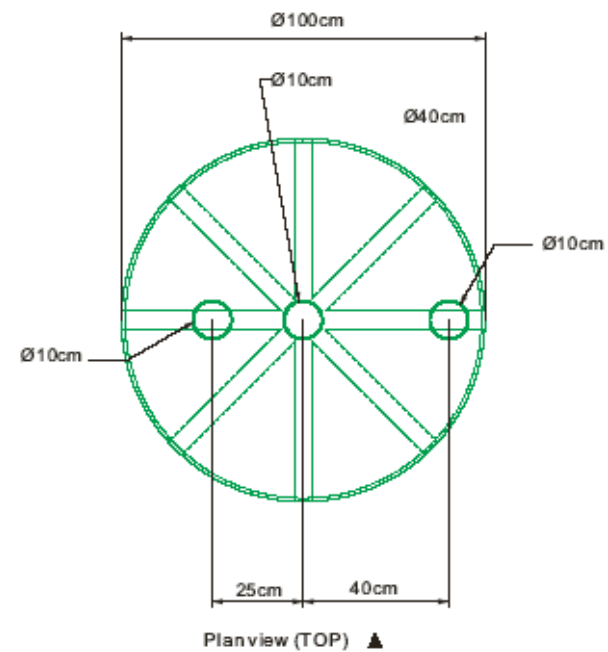
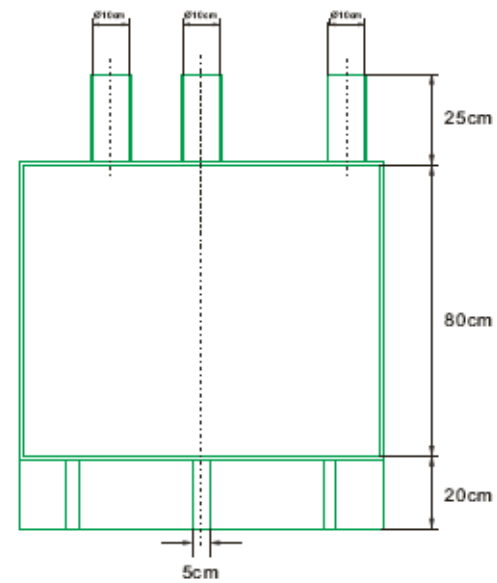
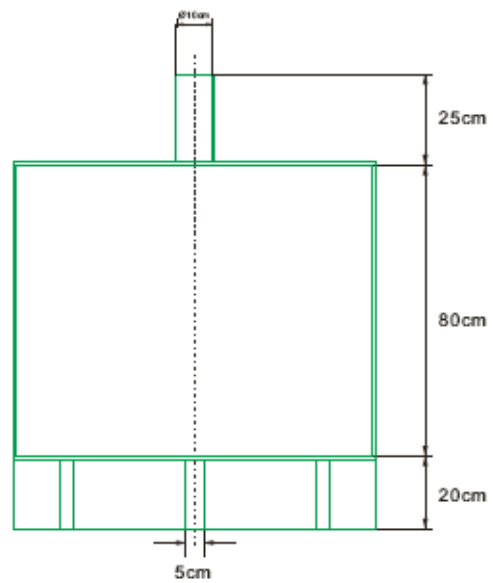
- Preliminary prototype design with Nakano Co. for Aberdeen and Daya Bay
- Investigate UVT acrylic sheets (Shall we use UVT or regular acrylic sheet?)
- Price quote and delivery schedule for prototype
- Plan

2m size aquarium tank from Nakano Co.

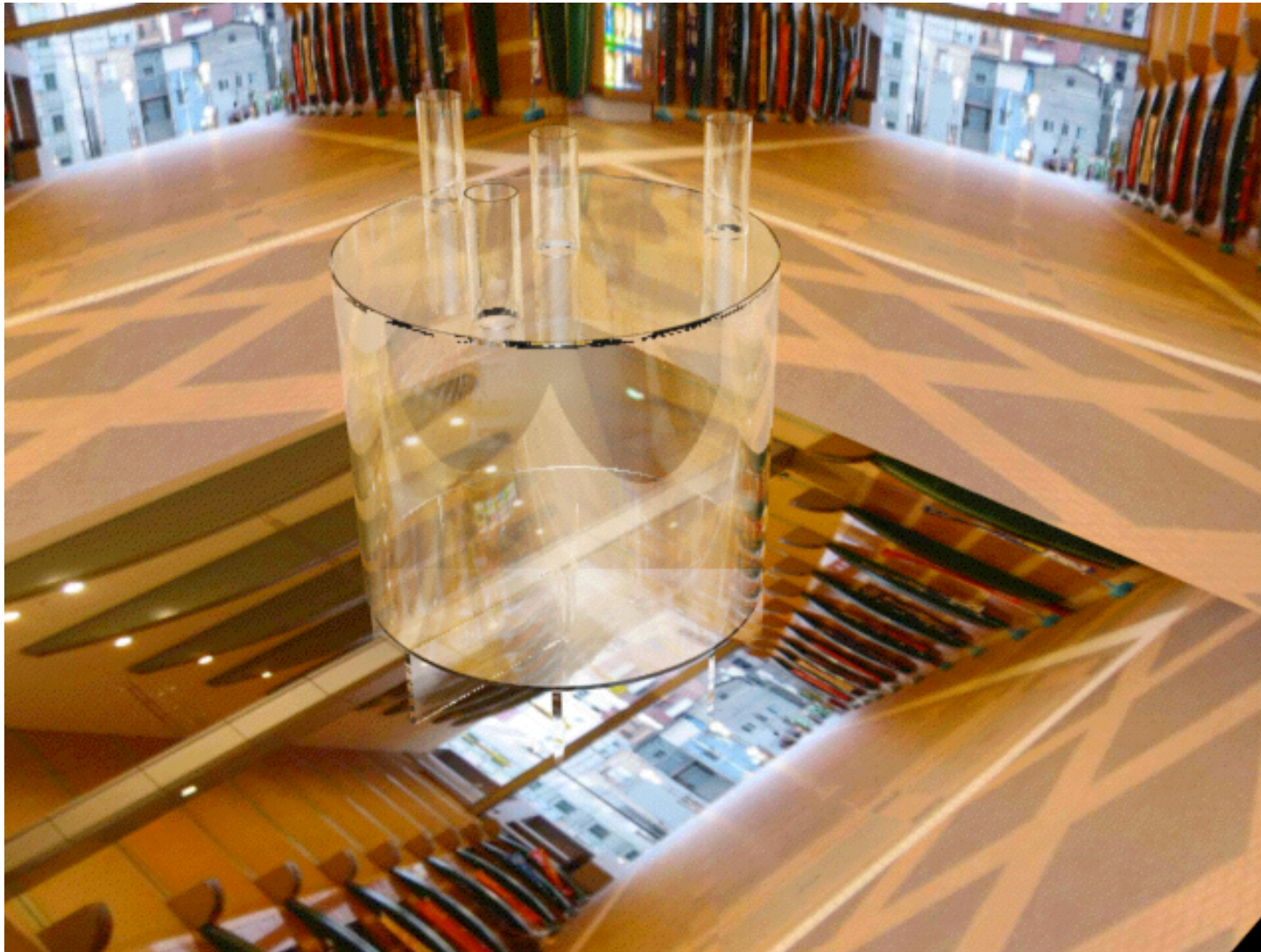


Acrylic Vessel Im Prototype Design





earlier 3D deisgn from Nakano (中野)





Nakano's 3D assembly movie

中野國際有限公司 備忘錄

客戶Client：

台大高能實驗所

熊 怡 教授Meeting Date：

Place：撰寫日期Date：

95/10/26撰寫人Written by：

曾先生02-89926622

0933427050主旨Subject:有關UVT壓克力板料相關事宜副本致送Distribution：執行Action by：

A:經本公司與日本三菱了解後報告如下:

1製造商: Mitsubishi Rayon Corp., Japan

2品名: UVT PMMA sheet採接單訂製生產

3顏色: 透明無色

4尺寸: 10mm x 1380mm x 2440mm

5價格: NT\$ 17,600/片

6基本出貨數量: 40片

7壓克力板總計金額:NT\$704,000(報價有效至2006/11/10日止)

8板片交貨期: 訂單確認後，60~75天由日本運出

9(若貴單位可於2006/11/10日前確認訂單，日本可安排於12月底前將貨運出)

10實驗用壓克力圓桶製品1套:NT\$138,000

11. 壓克力圓桶製品訂製期約:45天

12.上述報價未含稅捐,及國外運費

B:如採用國內一般壓克力板料訂製報告如下:

1.可縮短整體訂製天數

2.板片取得容易

3訂製成本可降低

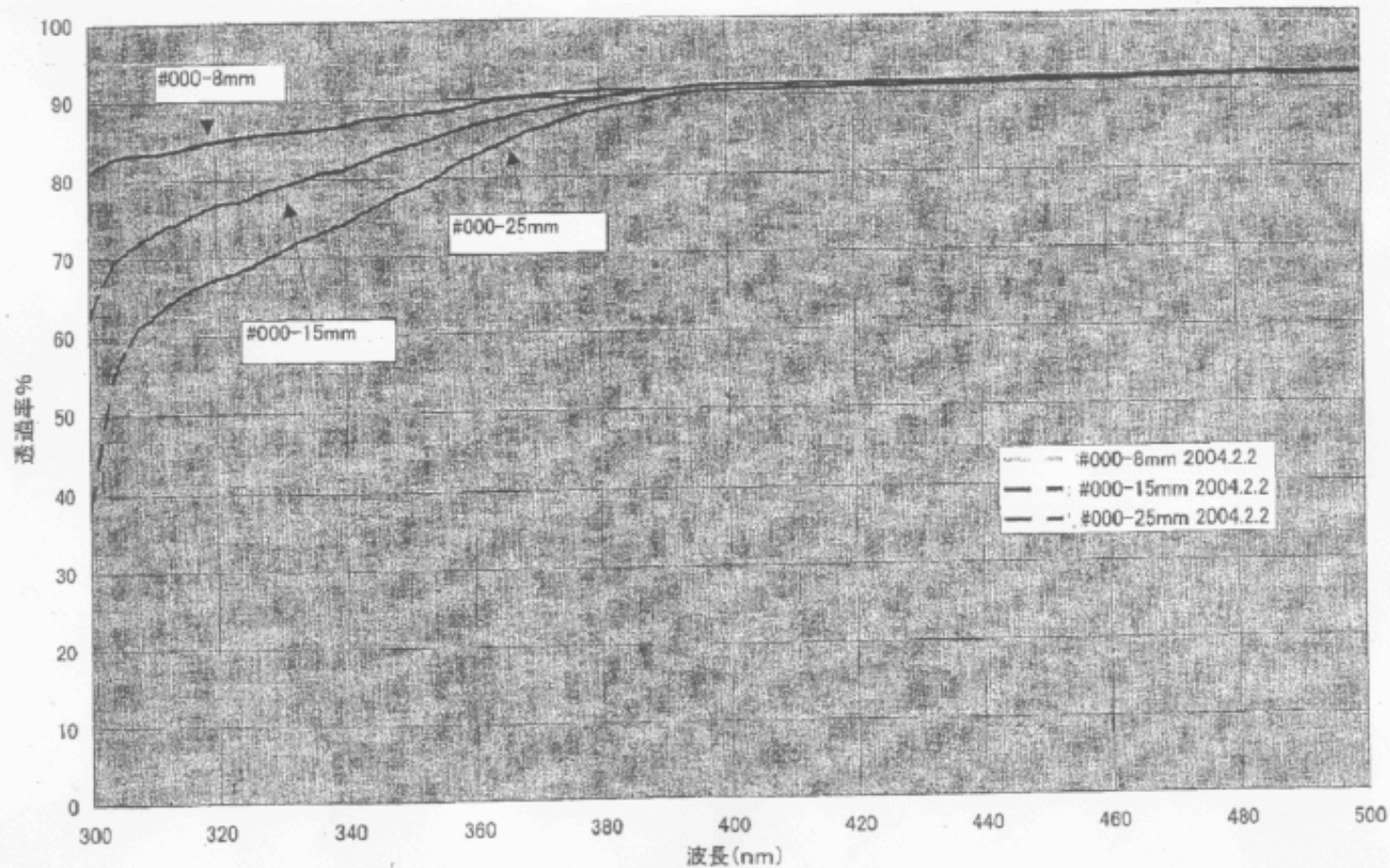
4. 實驗用壓克力圓桶製品1套:NT\$178,000

5壓克力圓桶製品訂製期約:45天

6上述報價未含稅捐,及國外運費

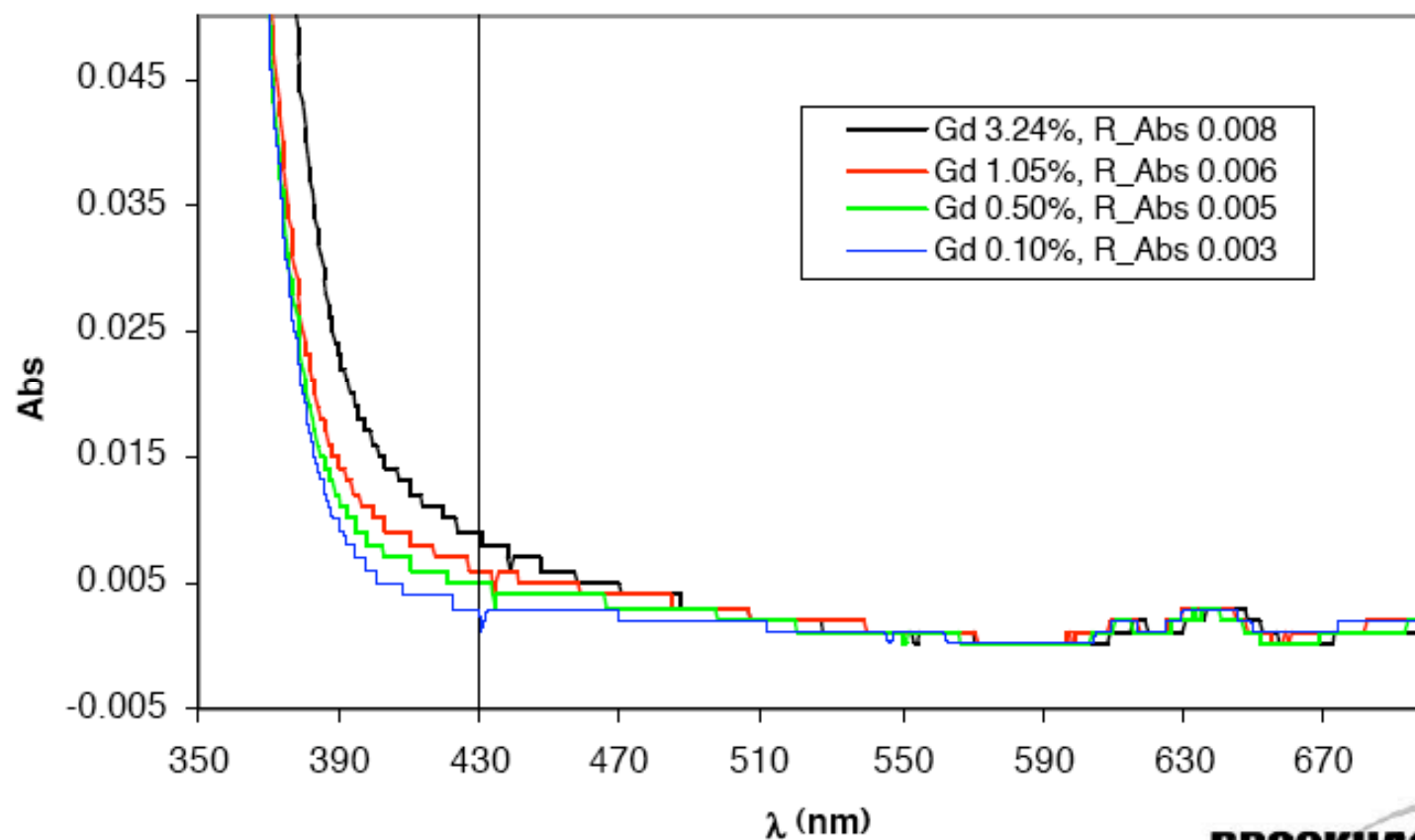
- Price quote and delivery schedule for 1m prototype
- Regular Acrylic: ~US\$5500, 45 days delivery including all material cost.
- UVT PMMA Acrylic sheets from Mitsubishi Rayon Co. has 40 sheets min order (~\$21,600, or \$540/sheet), sheet size 10mmx1380mmx2440mm, 60-75 days delivery. Plus construction cost \$4250/vessel and another 45 days.
- Rohm/Degussa will only produce 8mm thick, but larger size (2-3m) UVT.

UVT acrylic sheet from Mitsubishi Rayon Co. transmission rate



Note: Bicron LS emission peak @430nm.
will measure the transmission rate in Taiwan

UV Spectra of BNL Gd-LS Samples



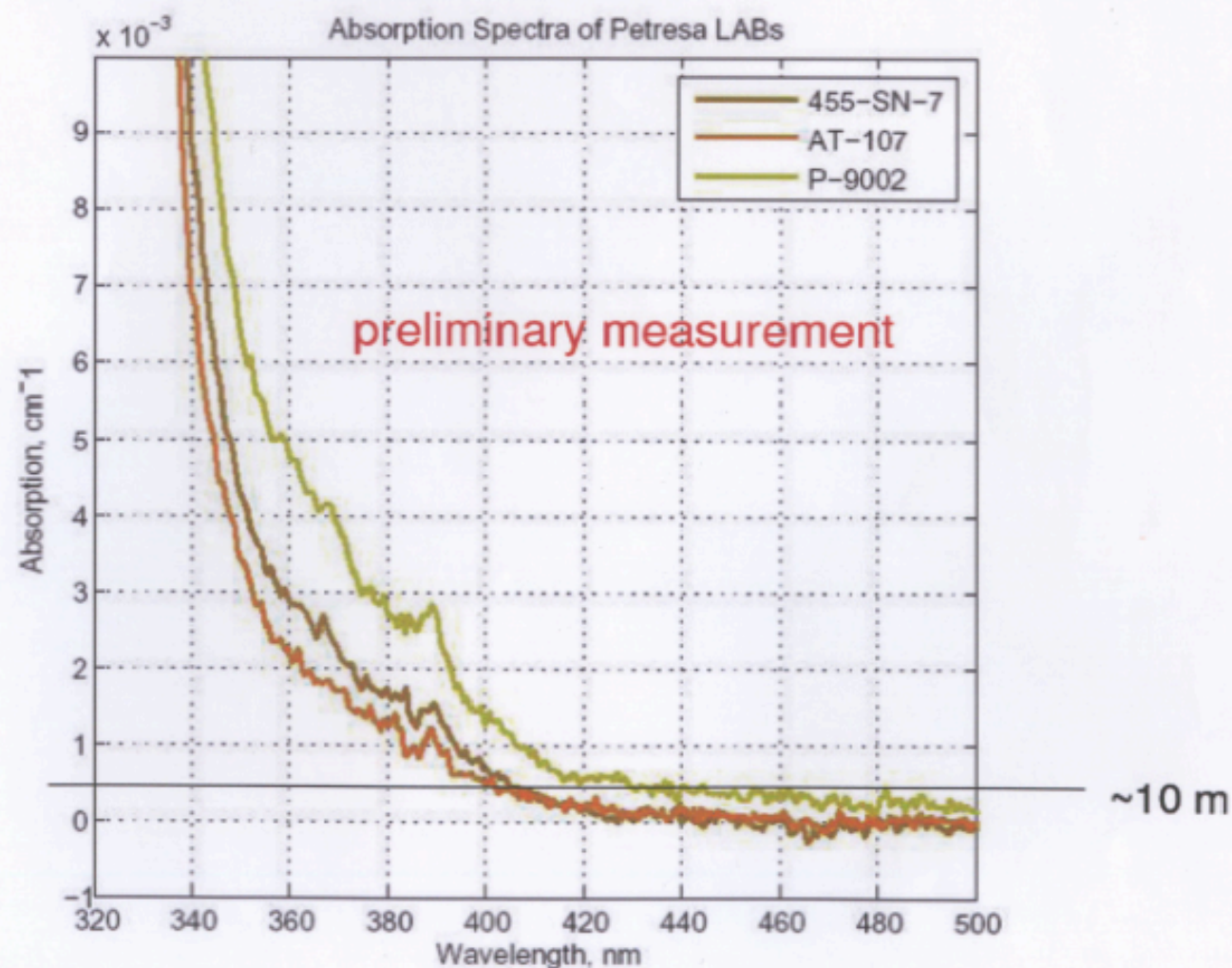
M. Yeh

6. Linear Alkyl benzene specification

(d) Light Attenuation Length

**Petresa LAB
as received**

**attenuation
length
exceeds 10 m**



Summary

- Proceed the prototype acrylic vessel R&D in Taiwan with Nakano Co.
- For Aberdeen prototype plan to proceed with regular acrylic type by the end of this year.
- Measure the transmission rate of acrylic samples and vessels.
- Measure the compatibility of acrylic samples with LAB and other LS samples (received samples from BNL).
- Mechanic prototype next spring and first real size vessel by the end of 2007.