化工系凝膠滲透層析儀-Waters（GPC）使用申請單

No. _____

申請日期：____年____月____日

測試日期：____年____月____日____時 至____年____月____日____時

□ GPC-Aqueous Phase (限水溶性高分子)

樣品名稱：_____

沖提液條件：□Water □0.2 M NaCl aqueous solution □0.2 M $NaNO_3$ aqueous solution

預計可能分子量範圍:_____ g/mol (儀器檢量線範圍: ~100–740,000 g/mol)

自備零件及藥品：樣品、沖提液、樣品瓶、針筒、過濾膜/針頭式過濾器(0.22 μm；PVDF)

1.**使用者對儀器之熟稔情形:**

□**首次使用(需Superuser協助或教學)** □**非首次使用(仍需Superuser協助或教學)**

□**Superuser考核** □**可獨立操作之使用者**

2.□借用人使用前需閱讀**精密儀器及常用設備管理辦法**，在借用期間若因操作不當造成儀器或其配件損壞，並影響後續使用者之借用權益，需自行負擔相關賠償責任。

3.使用前先於「儀器使用記錄簿」登記，使用後務必確實清潔並將儀器及其配件歸位。初次違規者，將停止個人使用權一個月；如再犯，將視情節加重處分，停權期間可能為一學期、一年，甚至永久停止使用。違規情節嚴重者，亦可能連帶影響該實驗室使用權限。

4.消耗性器材(紙、筆等)由系採購再由使用者按登記使用時間比例分擔。

5.實驗前，沖提液應滅菌再以過濾膜(0.22 μm孔徑，PVDF)過濾並超音波振除氣(15分鐘)。

6.調整流速時應逐步遞增或遞減，俟其流速穩定，壓力不再變化時，再行調整，最高流速不得超過0.8 mL/min。

7.注入儀器前，**樣品需經針頭式過濾器過濾**，過濾後的溶液需**澄清無雜質**。

8.本系使用者需繳儀器維修基金：500元/天(自操)，700元/天+330元/小時(委測/教學)。一學期年繳滿20000元者，則該學年內不需再行繳交，關於儀器維修基金之繳交，本系使用者得於次一學年開始之兩月內繳清，未繳清前，不得再借用該儀器。

9.校內外系:1700元/日，校外研究單位:4250元/日，以上費用另加收330元/小時(委測/教學)。

10.於使用時間內如超過24小時不使用，應通知技術員，否則即取消該次使用權利，並縮短其往後登記使用該儀器之最長期限。

*本儀器目前負責之Superuser為 賴珮瑄 (E2-517)

*本儀器目前負責之老師為 朱建威 (E2-812)

*技術員意見：借用人此次申請應繳儀器維護金_____元

借用人本學年累計應繳_____元。

□**本人已詳閱並同意上述內容並願遵守精密儀器及常用設備管理辦法。**

借用人簽名：_____

指導教授簽名：_____

儀器負責老師意見及簽名：_____

外系或外校申請者，請化工系主任簽名：_____

備註:系上所有公用儀器設備已取得證照者仍須填寫儀器使用申請表單，並須由其指導教授及儀器負責老師簽名後方可預約並自行借用操作儀器。

化工系凝膠滲透層析儀-Waters（GPC）)使用申請單

Application Form for Gel Permeation Chromatography (GPC)

No._____

Date of Application (YYYY / MM / DD):_____

Test Period： From (Year/Date/Time) _____/____ /____, _____:_____ To _____/____ /____, _____:_____

□ GPC-Aqueous Phase (Water-soluble polymers only).

Sample Name:_____

Eluent Conditions: ☐ Water ☐ 0.2 M NaCl aqueous solution ☐ 0.2 M $NaNO_3$ aqueous solution

Estimated Molecular Weight Range:_____g/mol (Instrument Calibration Range: ~100–740,000 g/mol)
Self-provided Parts & Chemicals：Eluents, Sample bottle, Syringe, Filter membrane /Syringe filters (0.22 μm; PVDF).

1. User Proficiency

   ☐ First-time user (Requires Superuser assistance/training) ☐ Superuser Qualification Exam

   ☐ Non-first-time user (Still requires Superuser assistance/training) ☐ Independent Operator

2. ☐ The applicant must read the "Management Regulations for Precision Instruments and Common Equipment" before use. If the instrument or its accessories are damaged due to improper operation during the rental period, affecting subsequent users, the applicant shall bear full responsibility for compensation.
3. Log your usage in the "Instrument user book" before starting. After use, ensure the instrument and accessories are thoroughly cleaned and returned to their original positions. First-time violators will be suspended from use for one month; repeat offenders will face heavier penalties, including suspension for one semester, one year, or a permanent ban. Serious violations may also affect the access rights of the entire affiliated laboratory.
4. Consumables (paper, pens, etc.) are purchased by the department; costs will be shared among users proportional to their registered usage time.
5. Eluents must be autoclaved; then filtered through a 0.22 μm membrane and degassed for 15 min by ultrasonication before use.
6. Increase or decrease the flow rate incrementally. Wait for the flow to stabilize and the pressure to stop fluctuating before further adjustment. The maximum flow rate must not exceed 0.8 mL/min.
7. All samples must be **filtered via a syringe filter** before injection. The filtered solution must be clear and free of impurities.
8. Maintenance Fees (Departmental Users): NT$ 500/day(Self-operation); NT$ 700/day + NT$ 330/hr (Service/Teaching). Users who have paid NT$ 20,000 within one semester are exempt from further payments for that academic year. Fees must be settled within the first two months of the following academic year. Further use is prohibited until outstanding balances are cleared.
9. External Users:Other Departments (On-campus): NT$ 1,700/day; External Research Institutes: NT$ 4,250/day. An additional NT$ 330/hr will be charged for service/teaching.
10. If the instrument is left idle for more than 24 hours during the reserved slot, the technician must be notified. Failure to do so will result in the cancellation of usage rights for that session and a reduction in the maximum duration for future bookings.

*The current Superuser of this instrument is Pei-Hsuan Lai (E2-517).

* The professor currently in charge of this instrument is Chien-Wei Chu (E2-812).

☐ **I have read and agree to the above terms and am willing to comply with the regulations for the management of precision instruments and general equipment.**

Applicant’s Signature: _____

Advisor’s Signature: _____

In-charge Professor’s Comments & Signature: _____

Department Chair Signature (For external applicants from other departments or institutions): _____