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Injectable liquid polymers extend the delivery of corticosteroids for the treatment of osteoarthritis

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IF: 7.877

5y IF: 8.683

21/171=12.3%, CHEMISTRY, MULTIDISCIPLINARY

8/261=3%, PHARMACOLOGY & PHARMACY

Contributions by country/region



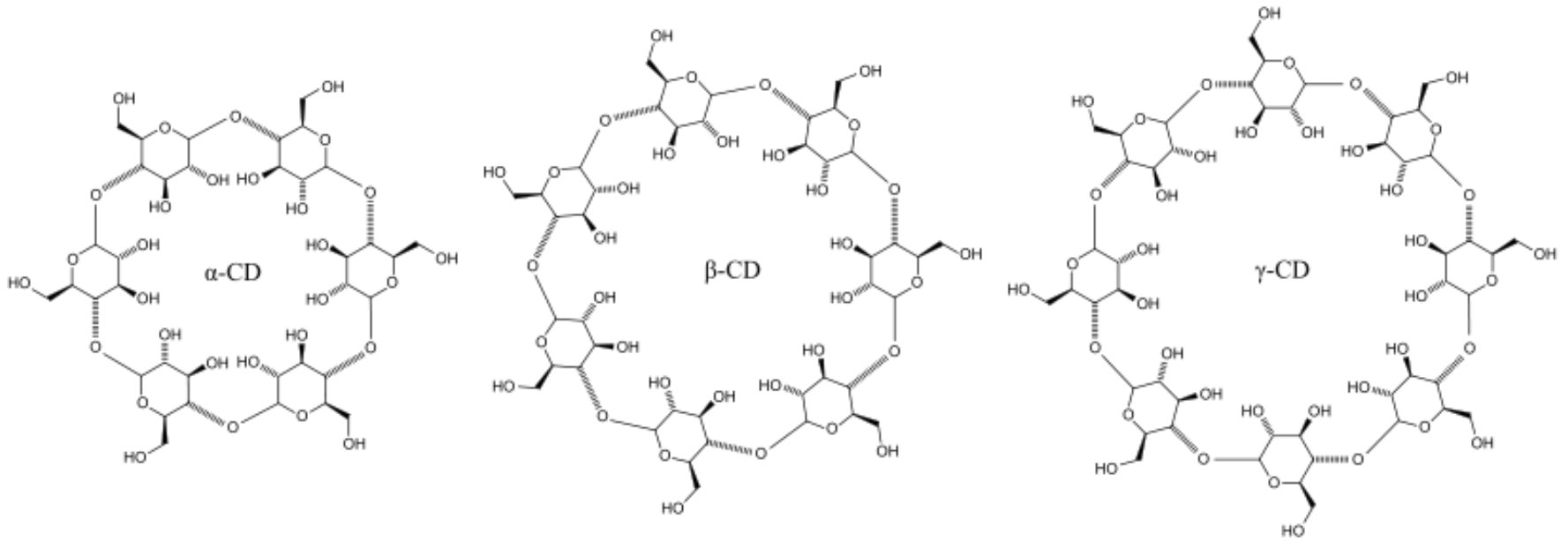
COUNTRY	COUNT
1. CHINA MAINLAND	753
2. USA	655
3. South Korea	166
4. GERMANY (FED REP GER)	132
5. Japan	102
6. England	98
7. Netherlands	79
8. France	72
9. Canada	53
10. Spain	51

Contributions by organizations

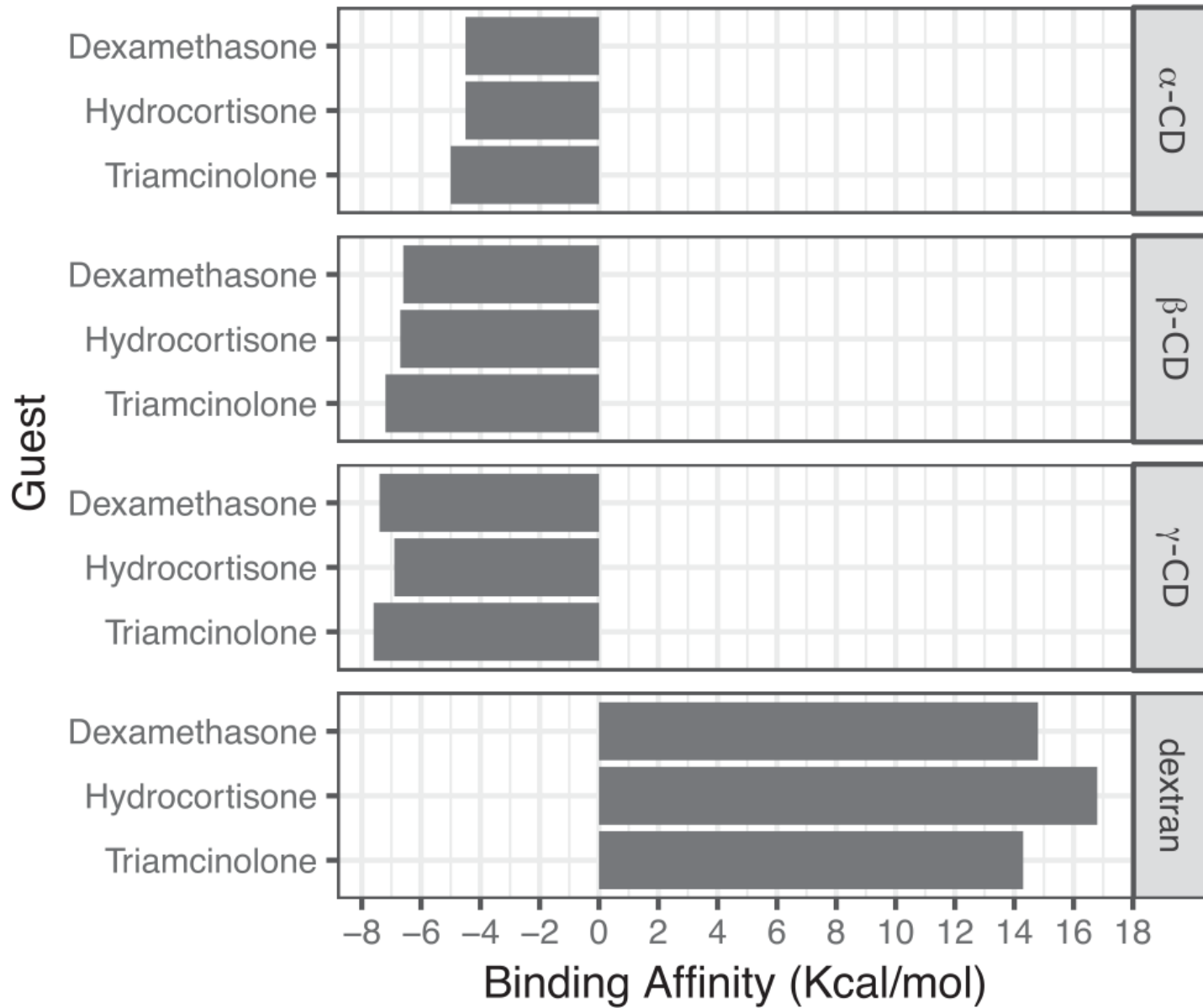


ORGANIZATION	COUNT
1. CHINESE ACADEMY OF SCIENCES	128
2. PURDUE UNIVERSITY SYSTEM	81
3. UNIVERSITY OF CALIFORNIA SYSTEM	55
4. SUZHOU UNIVERSITY	53
5. CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)	43
6. HARVARD UNIVERSITY	41
7. UNIVERSITY OF SCIENCE & TECHNOLOGY (UST)	40
8. SHANGHAI JIAO TONG UNIVERSITY	39
- SICHUAN UNIVERSITY	39
10. JOHNS HOPKINS UNIVERSITY	37

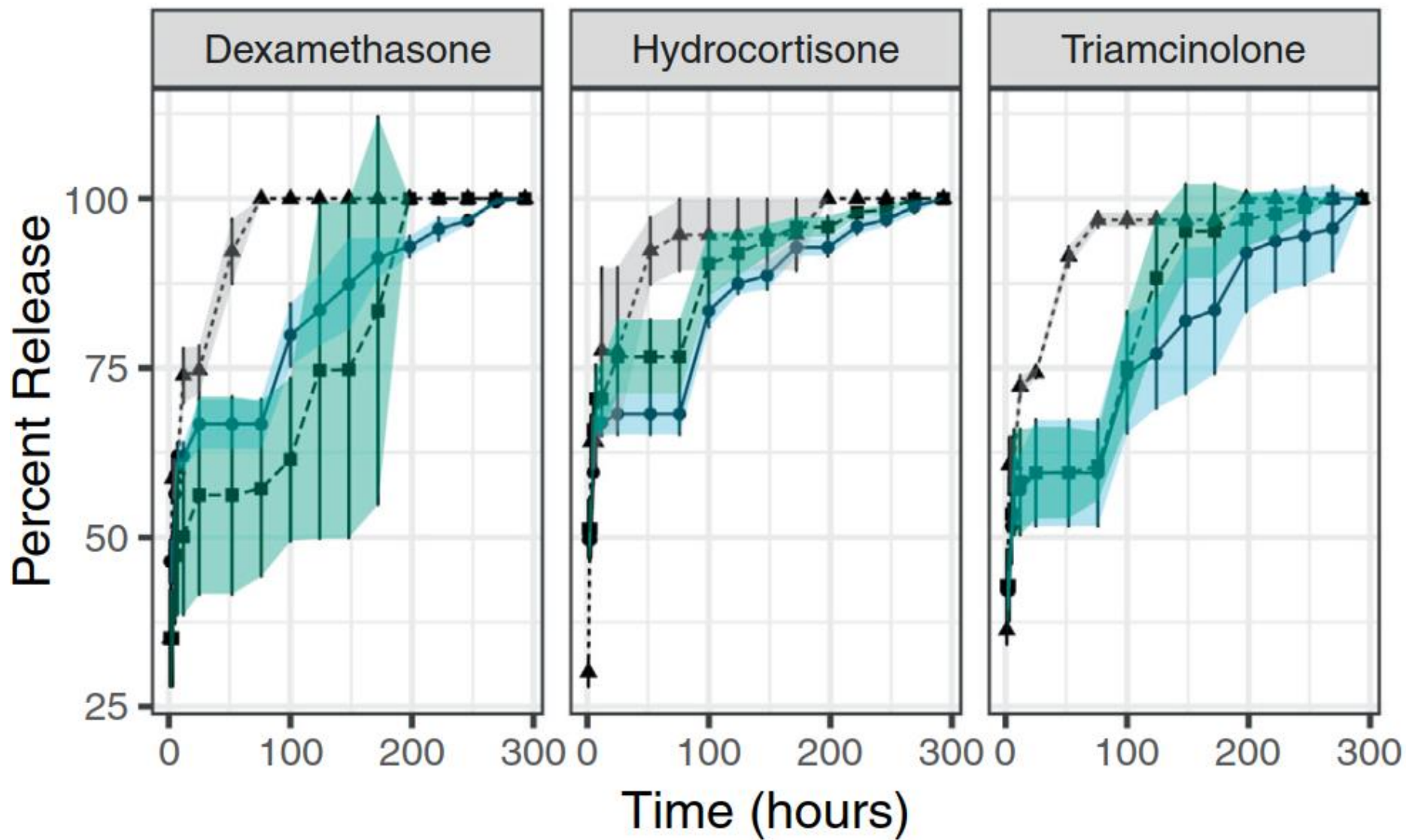
Cyclodextrins 環糊精



Affinity-based drug delivery

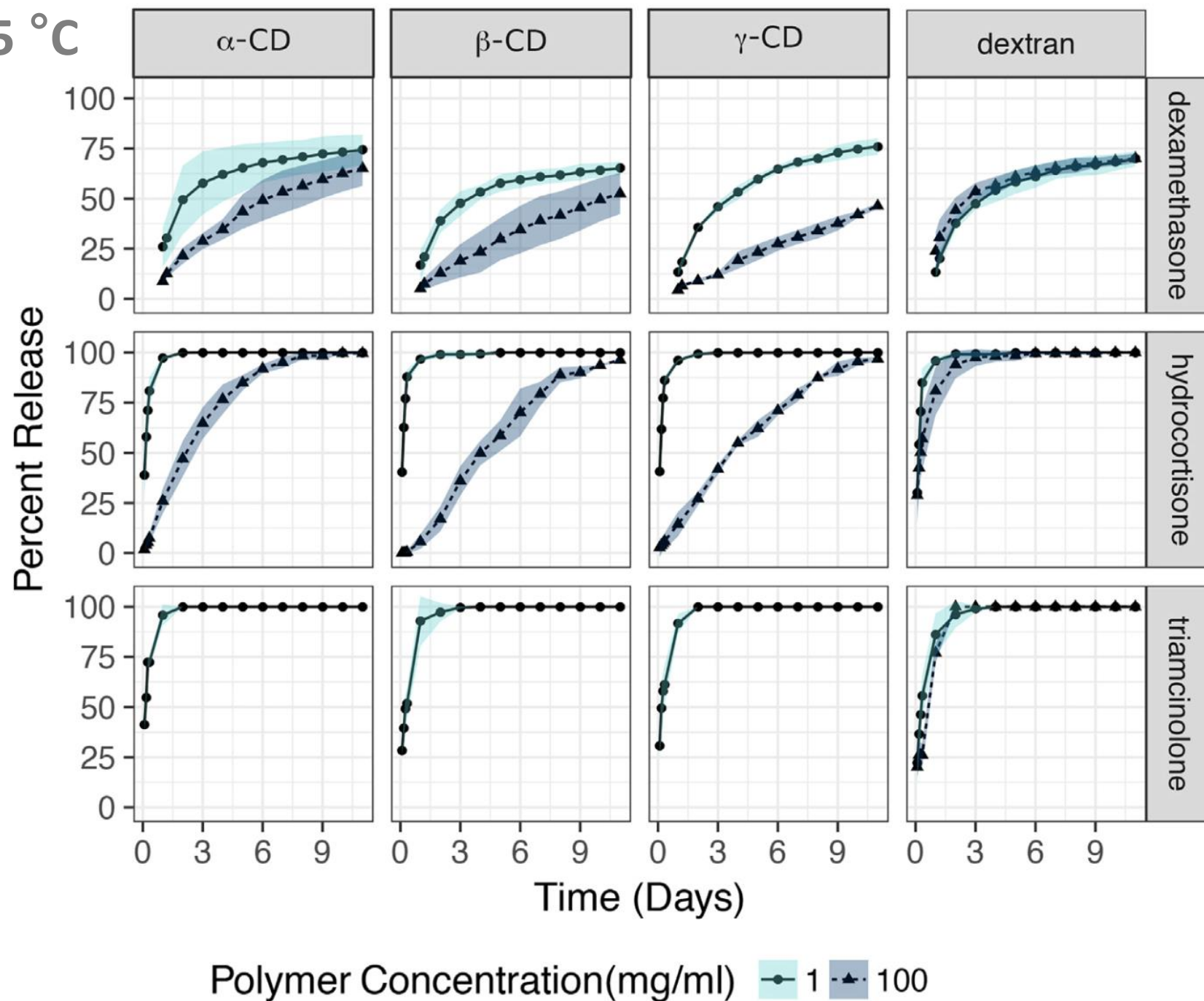


數字愈小親和力愈強

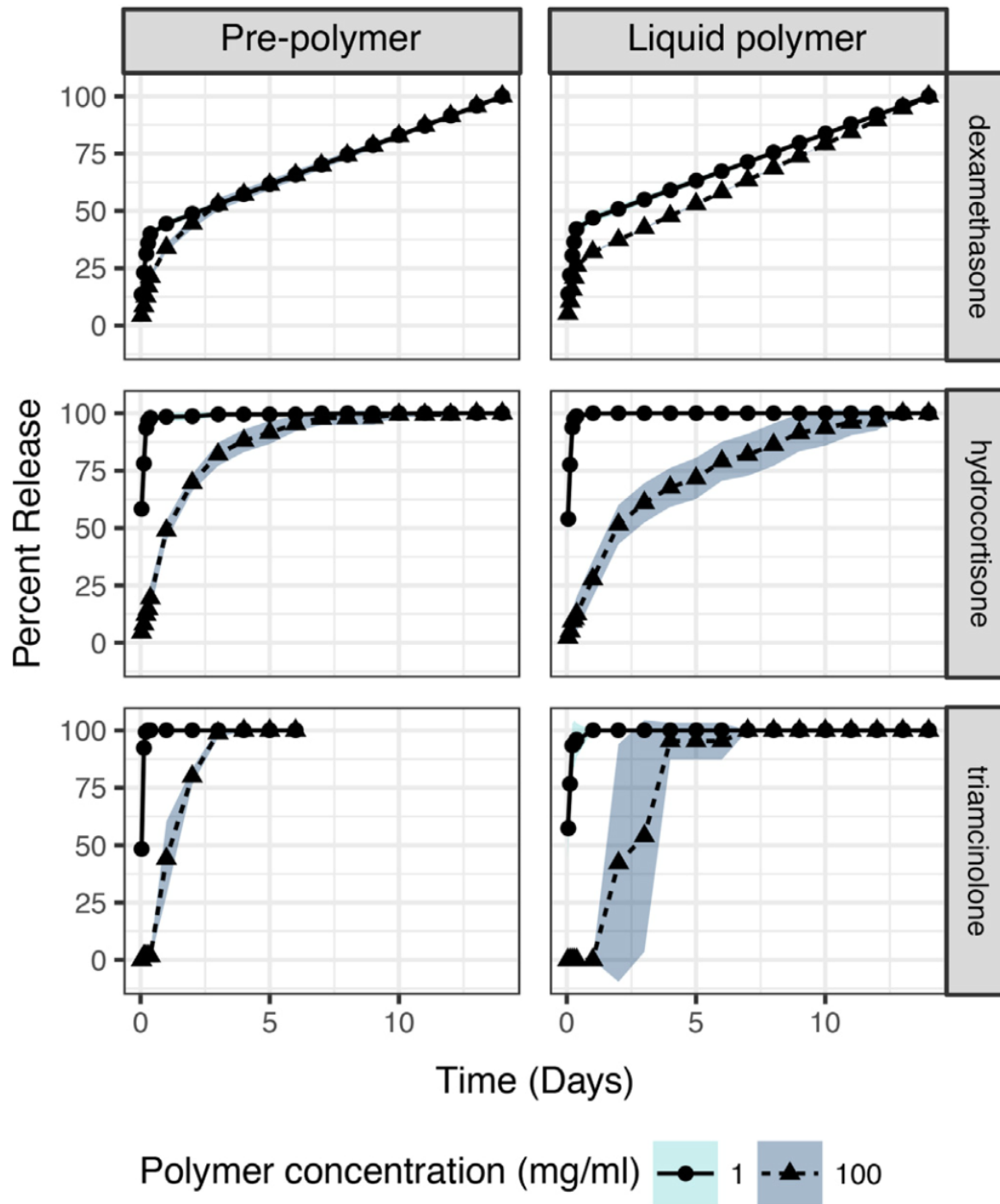


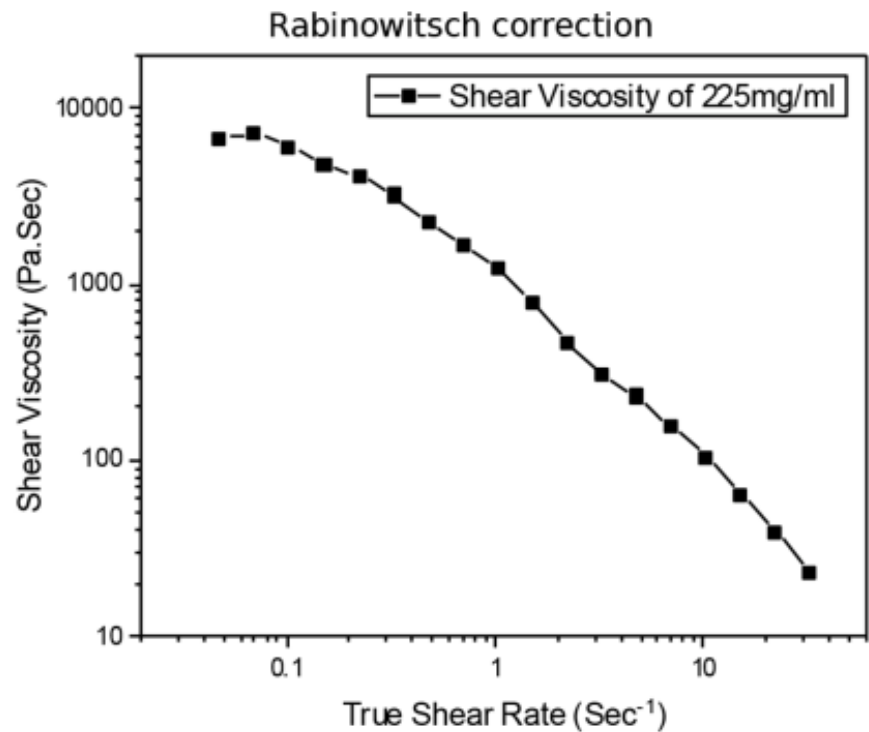
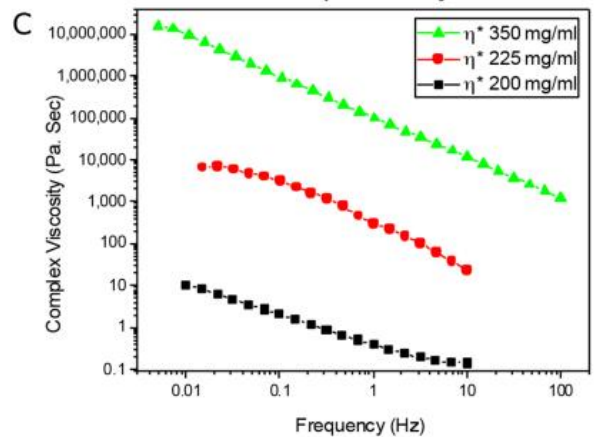
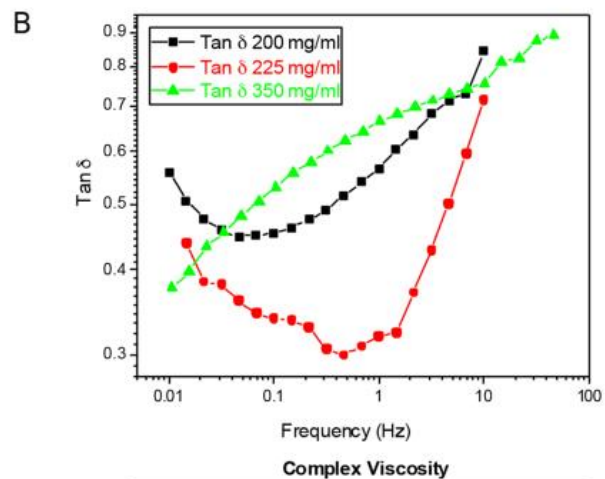
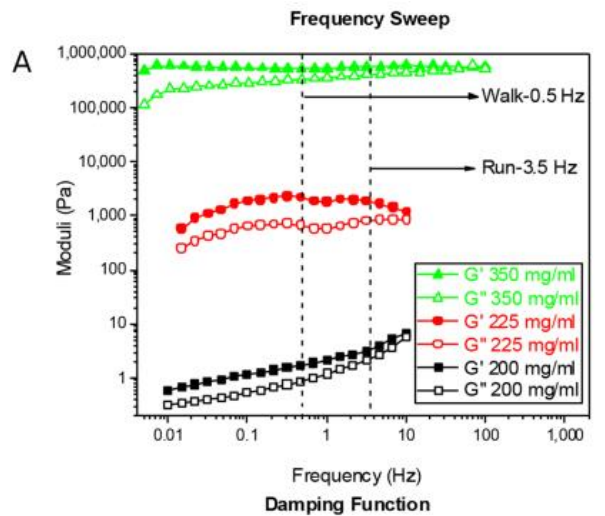
Polymer Dextran β -CD γ -CD

25 °C

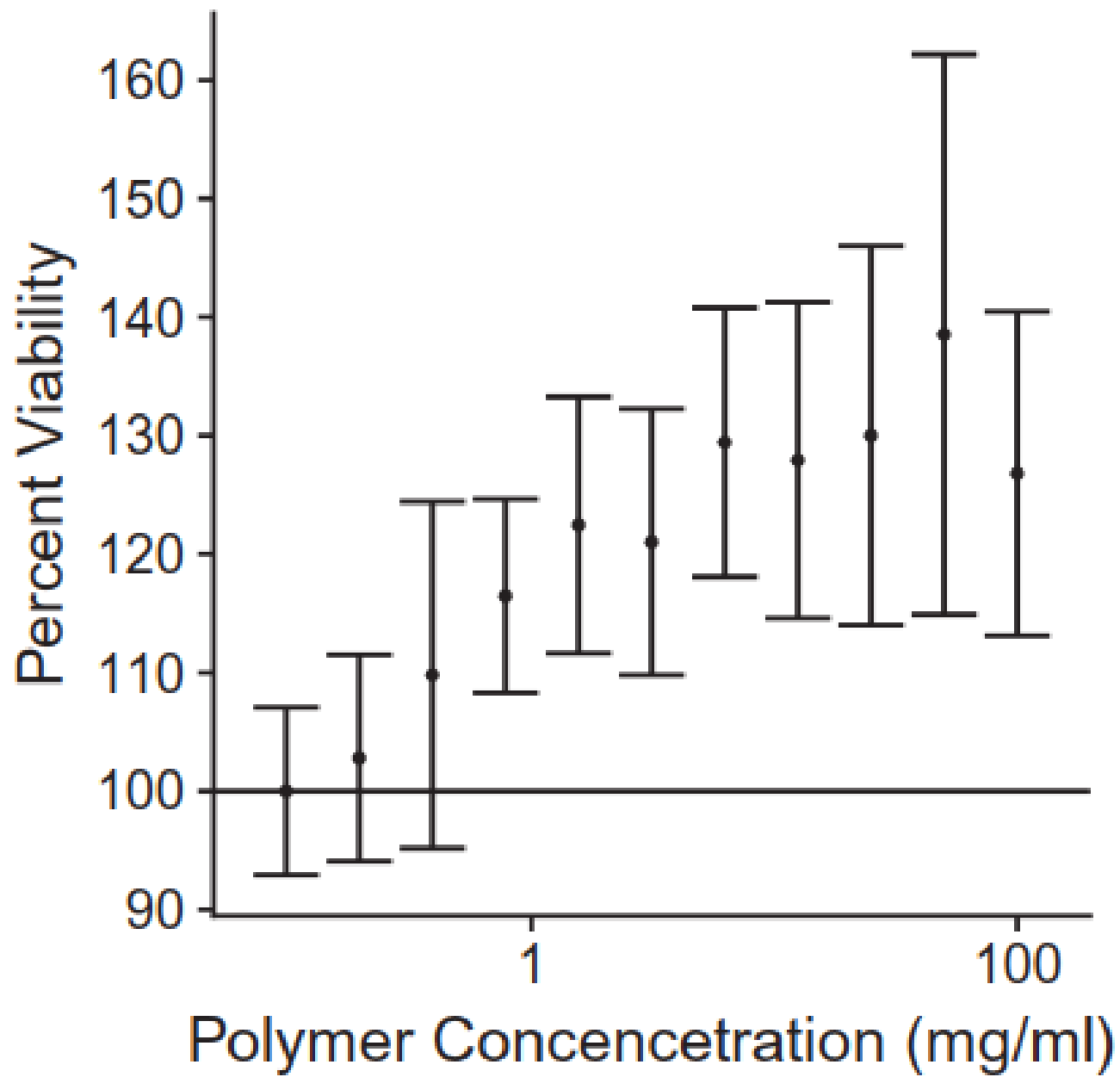


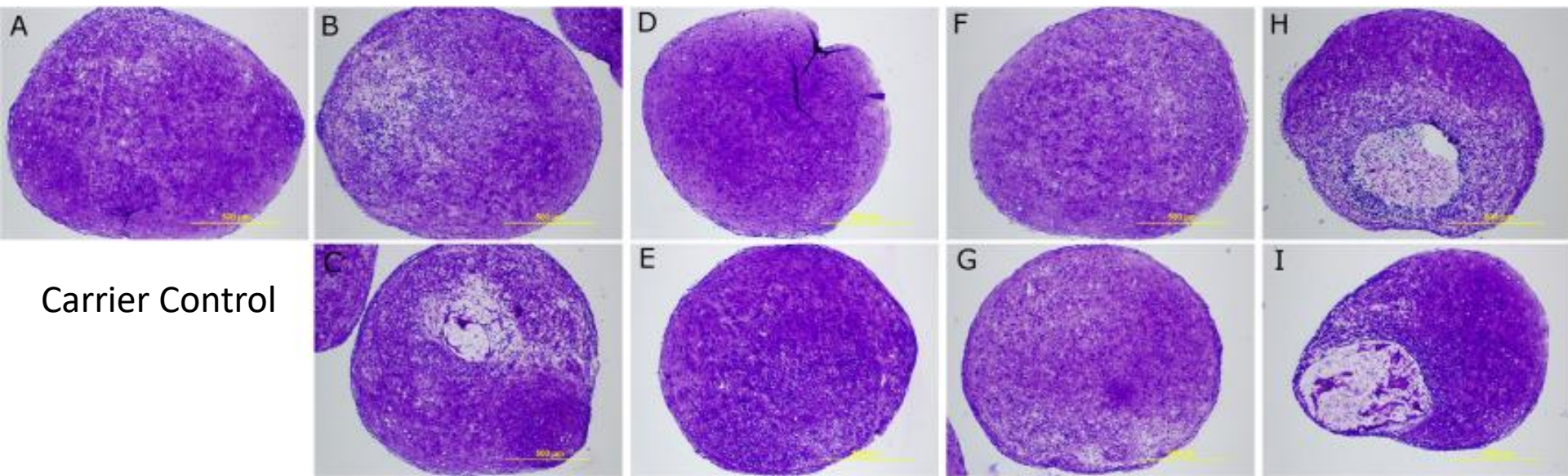
37 °C





近似以 25 號針在
10 秒內注射 1ml





Carrier Control

α -CD liquid

β -CD liquid

γ -CD liquid

Dextran crosslinked

hMSC chondrocyte pellet differentiation assay

Toluidine blue: presence of proteoglycan

Affinity-based mechanism

Low diffusivity fluid-phase polymers

Similarity to the viscoelastic fluids used in current clinical practice

No impact on the differentiation of hMSC to cartilage

Not cytotoxic to a common cell line (NIH 3T3)