



香港城市大學
City University of Hong Kong

Development of anticancer vaccines: gold complexes inducing immunogenic cell death

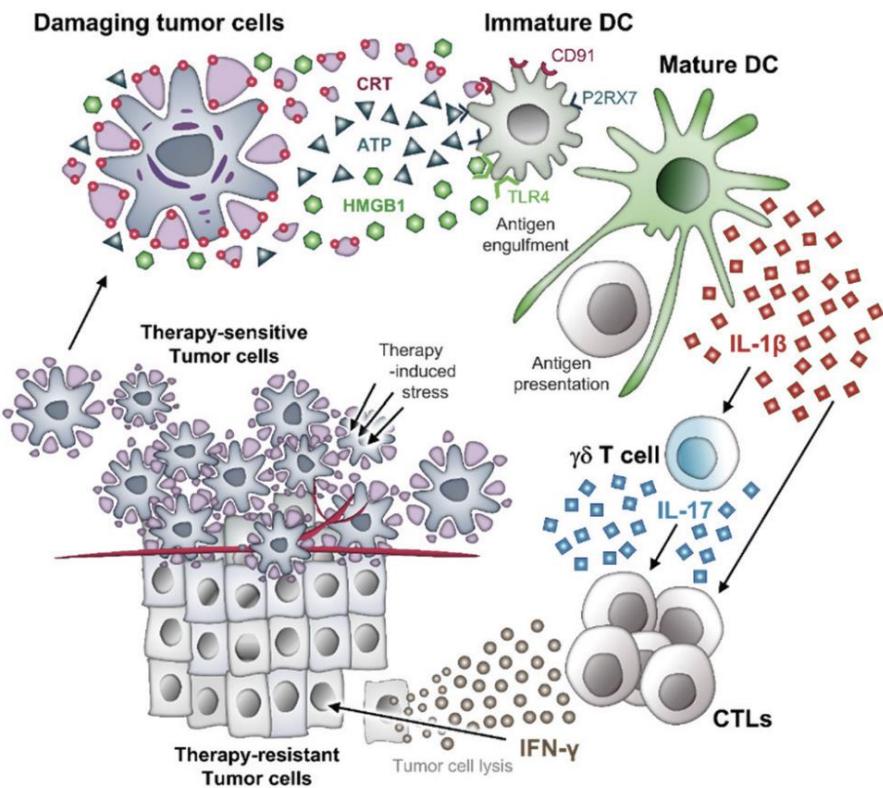
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Supervisor: Dr Maria V. Babak.

2022
Hong Kong

Introduction

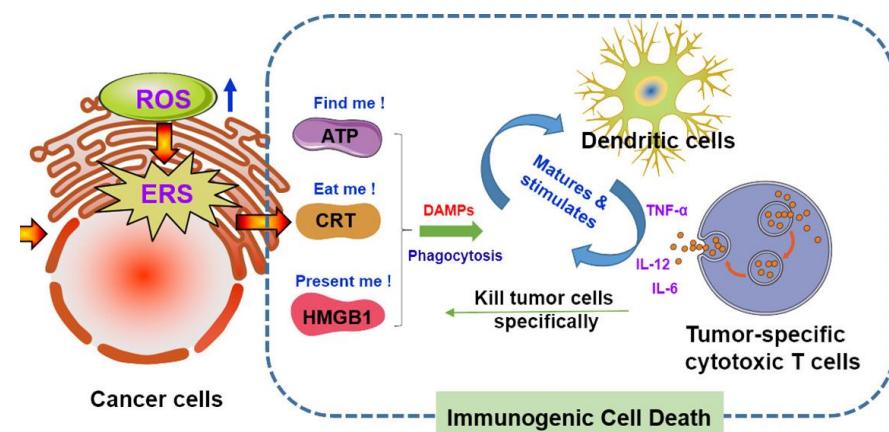
What is Immunogenic cell death? (ICD)

- the use of a patient's dying cells as a vaccine that stimulates a cancer-specific immune response.



Damage-associated molecular patterns (DAMP):

- ATP
- CRT
- HMGB1



Subject of Work

Aim

To figure out the structure-activity relationships of gold complexes for ICD

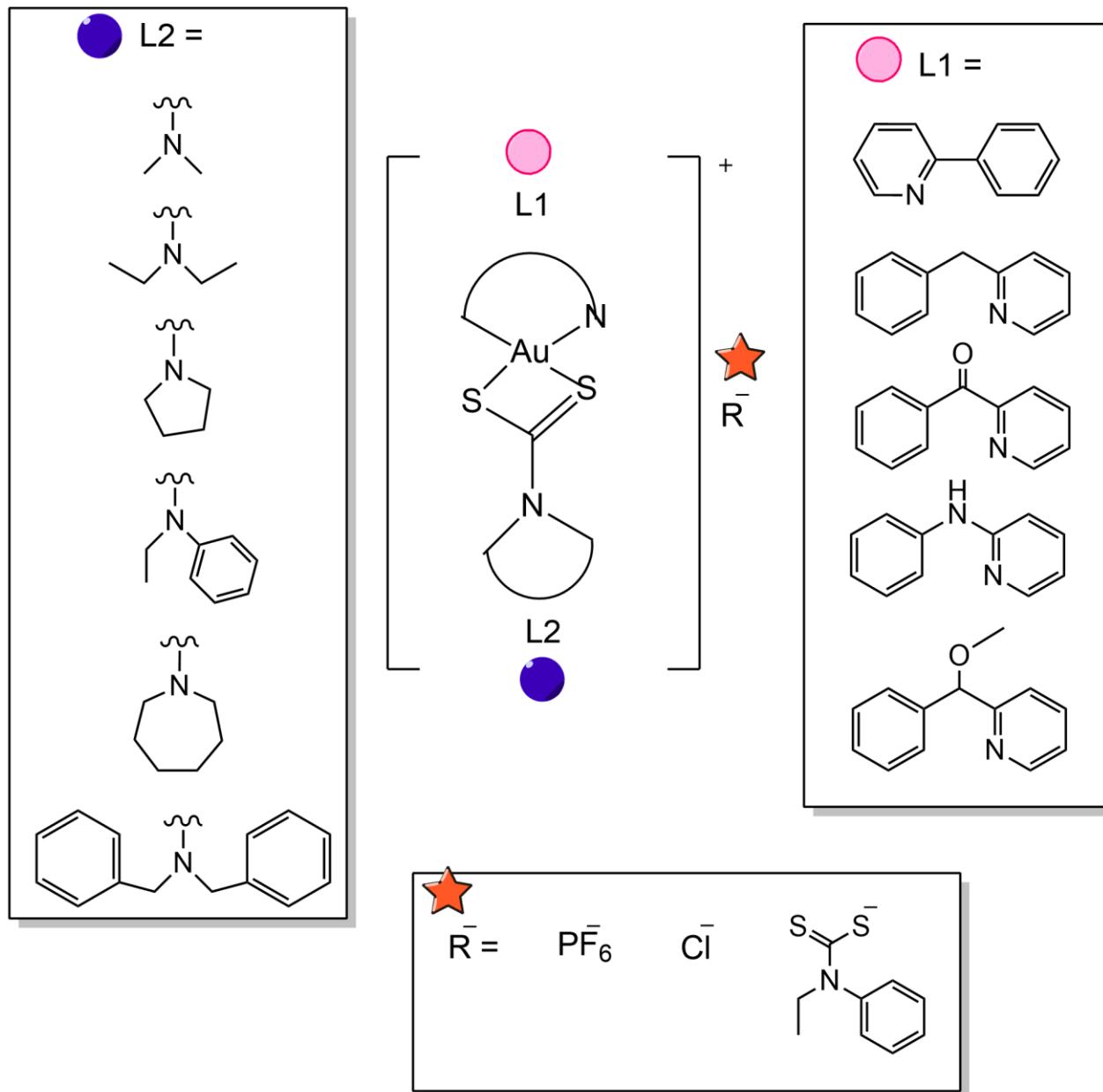
Plan

1. Determination of drug concentrations (ICP-OES)
2. Drug preparation
3. Assessing cell metabolic activity (MTT assay)
4. Reveal structure-activity relationship

Drug List

AD01		3A*	
AD03		1B	
AD04		1D	
AD05		2B	
AD06		2D	
AD07		3B	
AD013		5A	
1A*		6A	

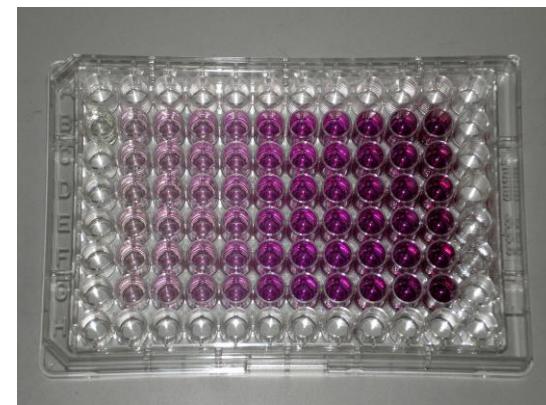
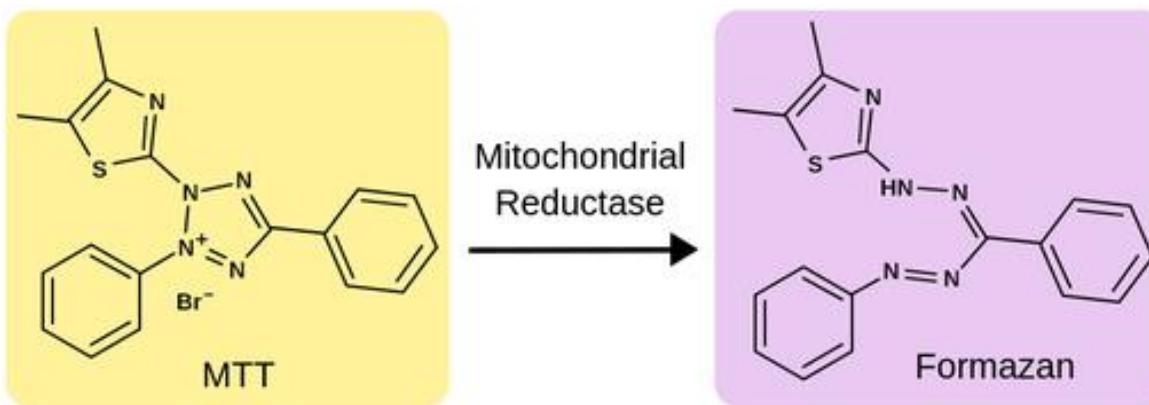
Subject of Work



Methods

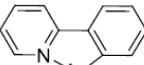
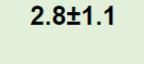
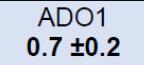
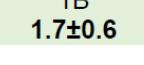
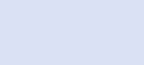
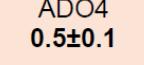
MTT Assay

The cytotoxicity of the drugs was tested using the colorimetric (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay.

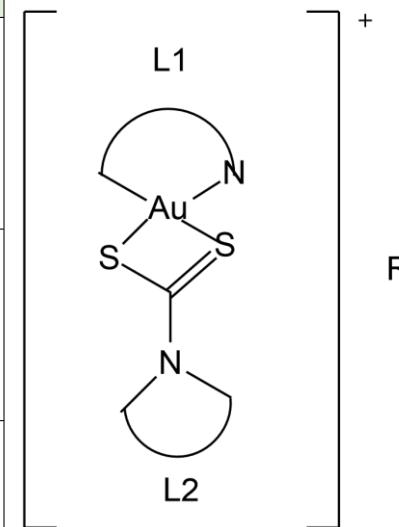


In the MTT assay, MTT (left) is converted by mitochondrial reductase to formazan (right).

MTT cytotoxicity at 72h of exposure

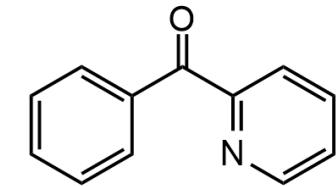
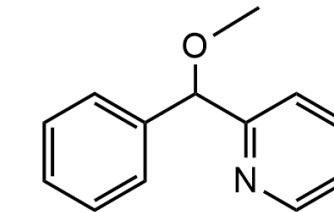
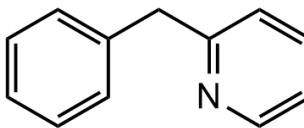
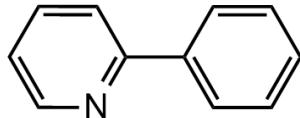
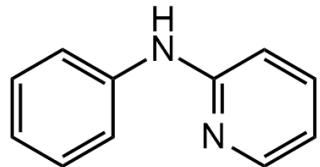
	Ph	Bn	Benzoyl	Amino	OMe	
Me		1A 2.8±1.1	ADO6 2.4±0.7	3A 3.7±0.8	5A 2.1±0.4	6A 3.0±0.9
Et		ADO1 0.7 ±0.2	ADO7 3.0 ±0.1	3B 3.2±0.6		
Pyrrolidine		ADO3 0.7±0.2	ADO5 1.3±0.3			
Et+Ph		ADO4 0.5±0.1				
Azepane		ADO13 0.4±0.1				
Benz		1D 1.8±0.2	2D 3.4±0.3			

Cl-
PF6-
Special

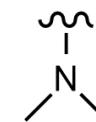
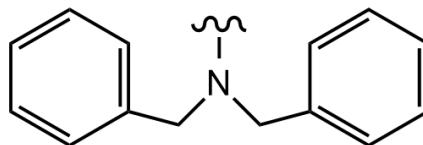
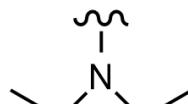
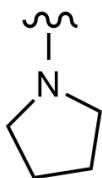
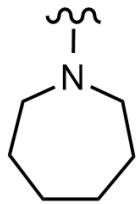


Results and Discussion

L1



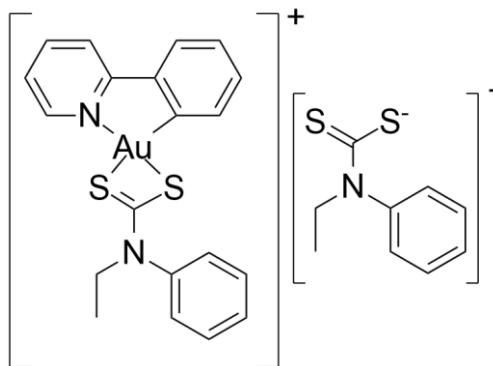
L2



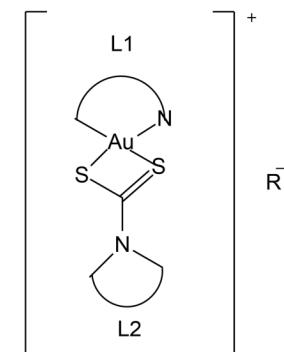
R

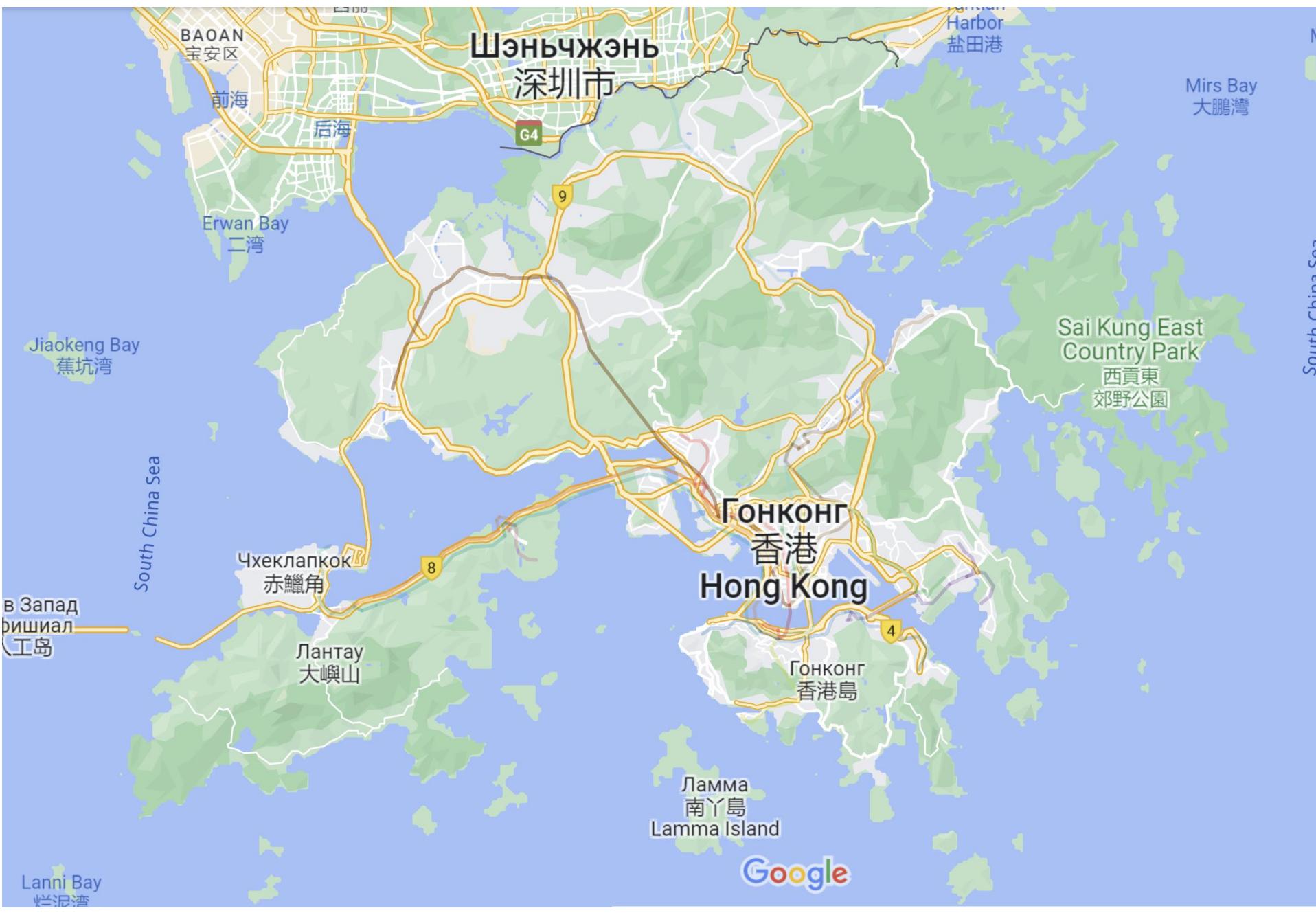


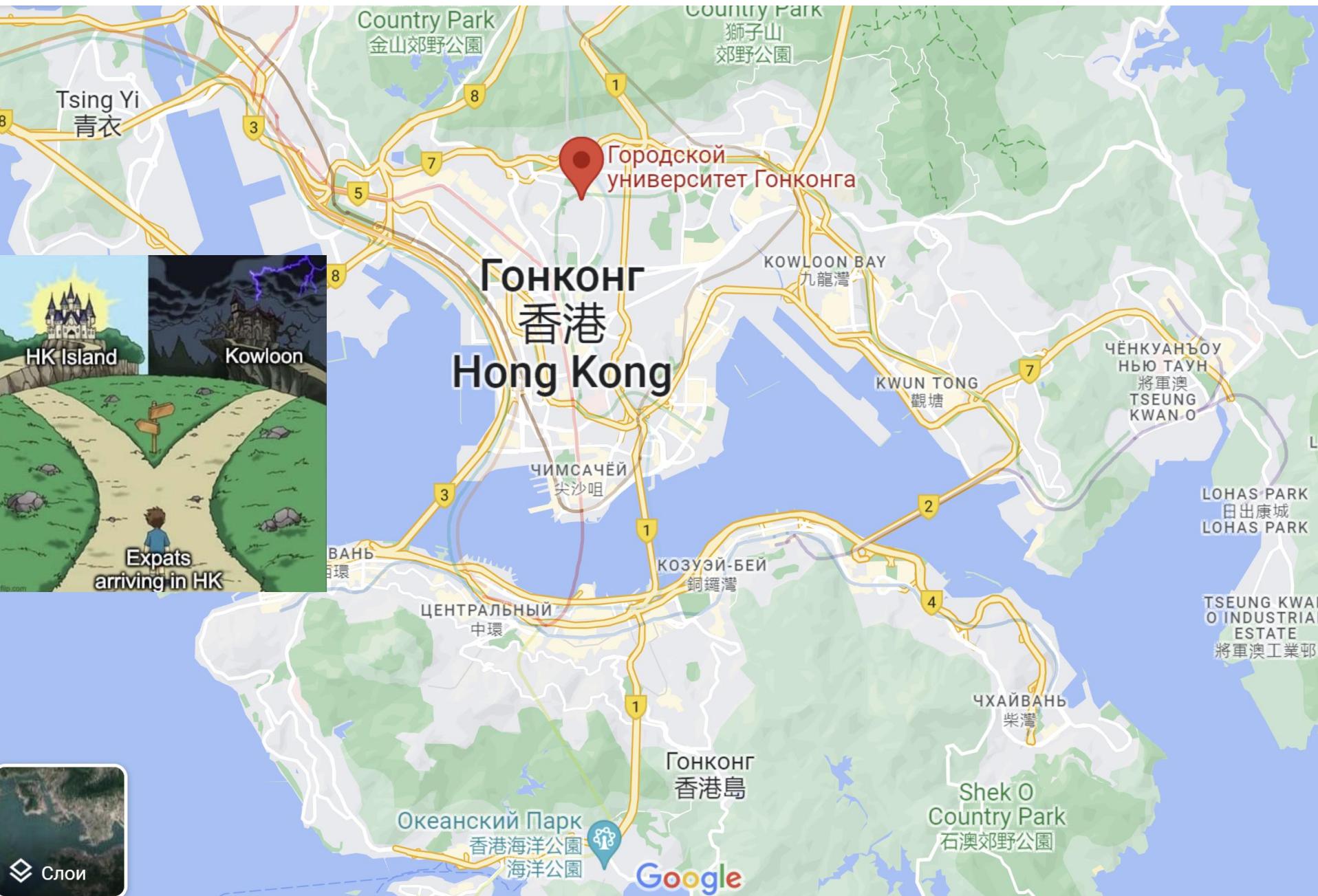
Decrease in activity



The most toxic!







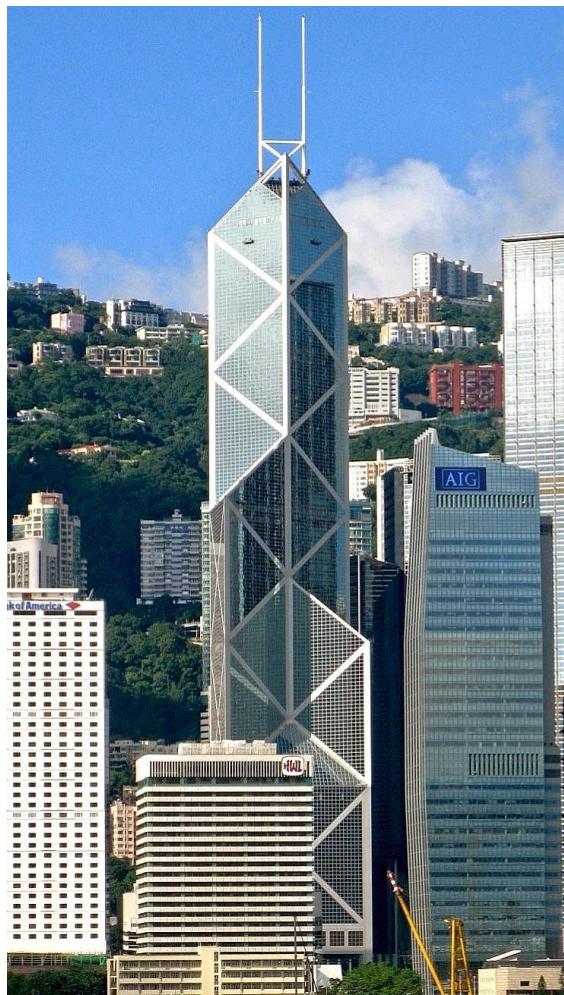
Expat's Guide to Kowloon



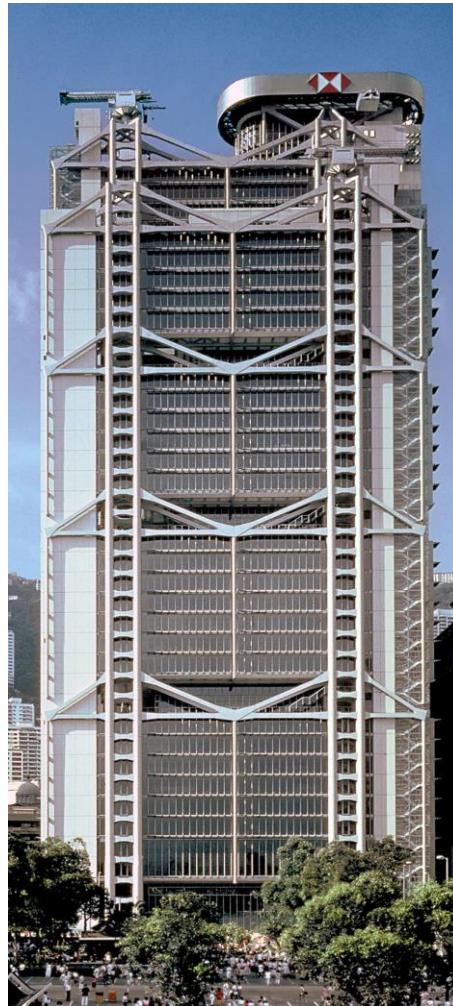
Expat Guide to HK Island



Фэншуй в Гонконге



Bank of China
Похоже на лезвие



HSBC
Направили «пушки»



Фэншуй в Гонконге



Hopewell center
На крыше бассейн, который
никто не использует



Фэншуй в Гонконге



Многие небоскребы имеют
отверстия







