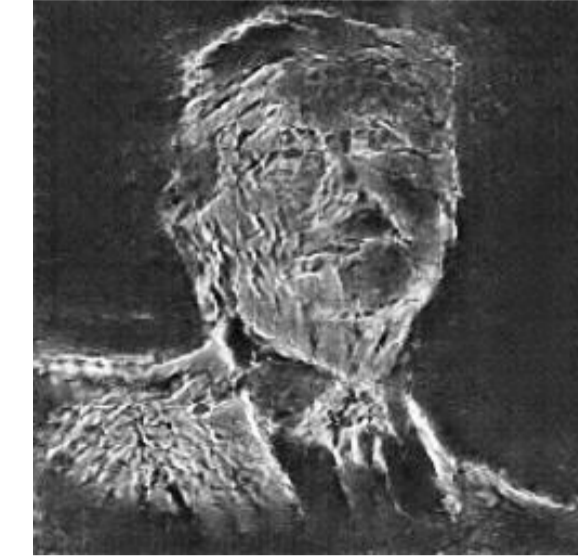
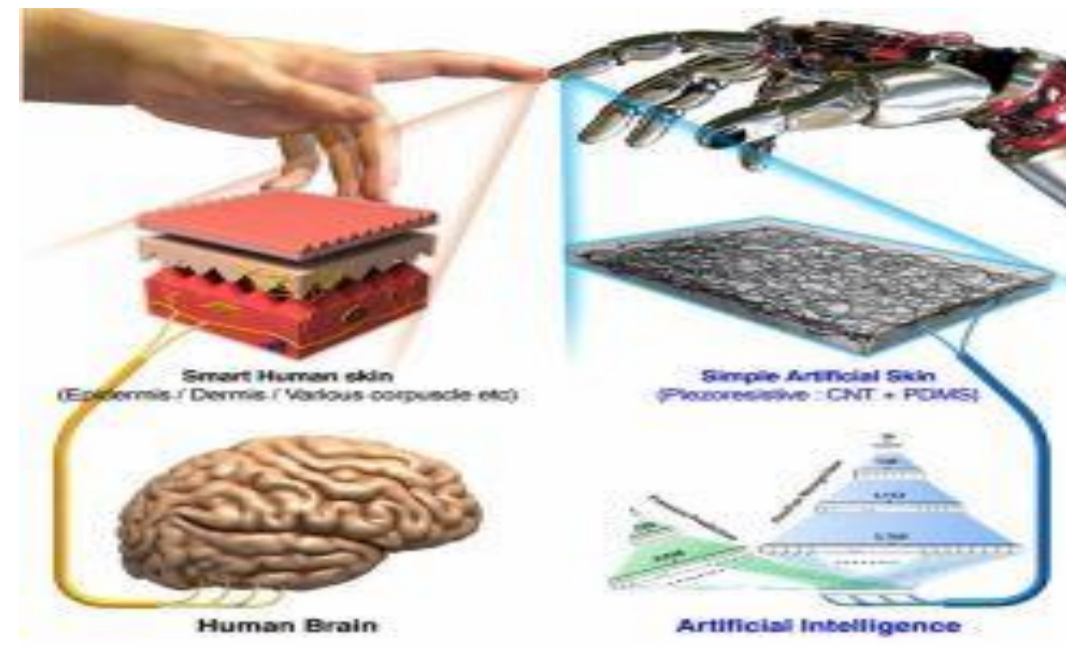
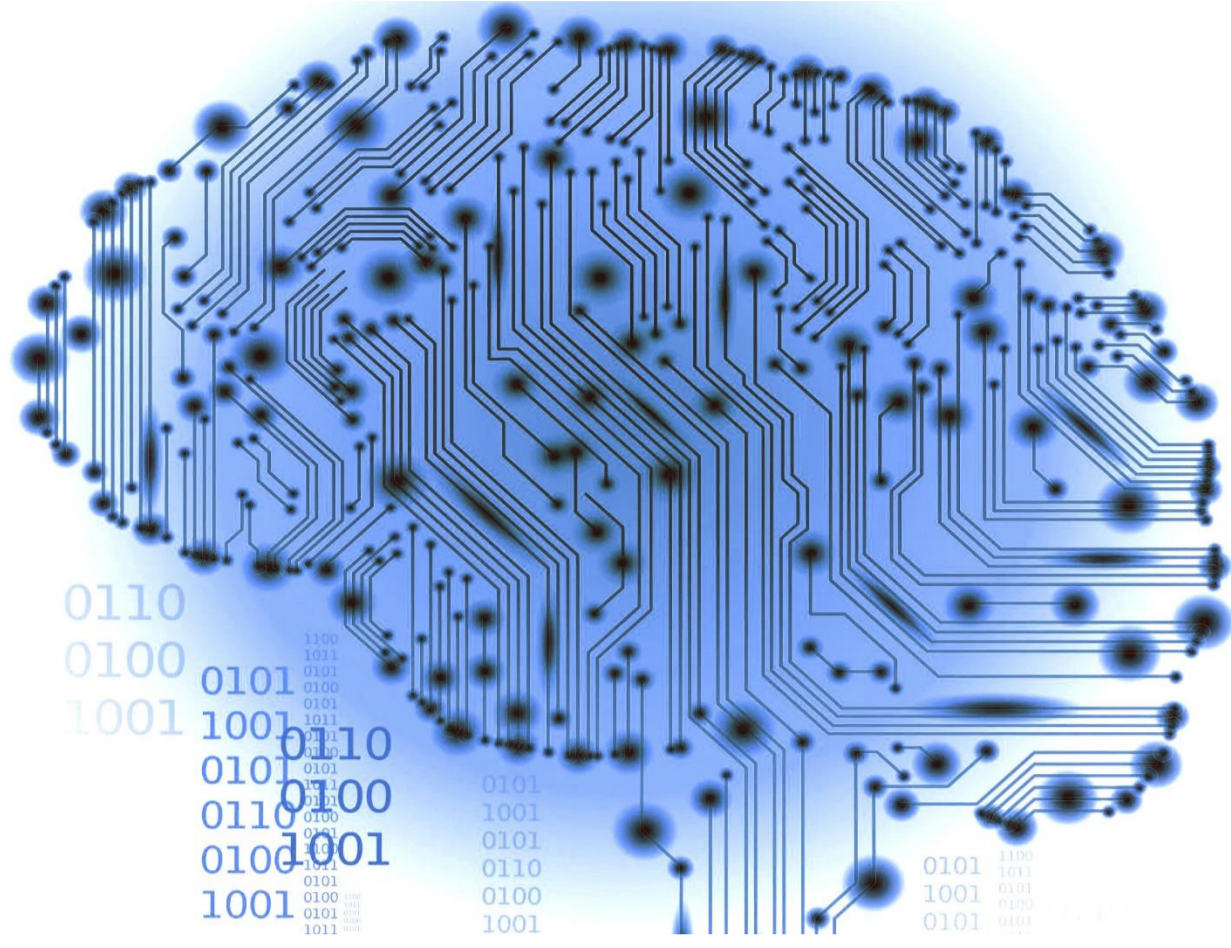




Future Material Discovery Laboratory based on Computing Science

손기선(Kee-Sun Sohn) E-mail : kssohn@sejong.ac.kr Tel : +82-2-3408-4477

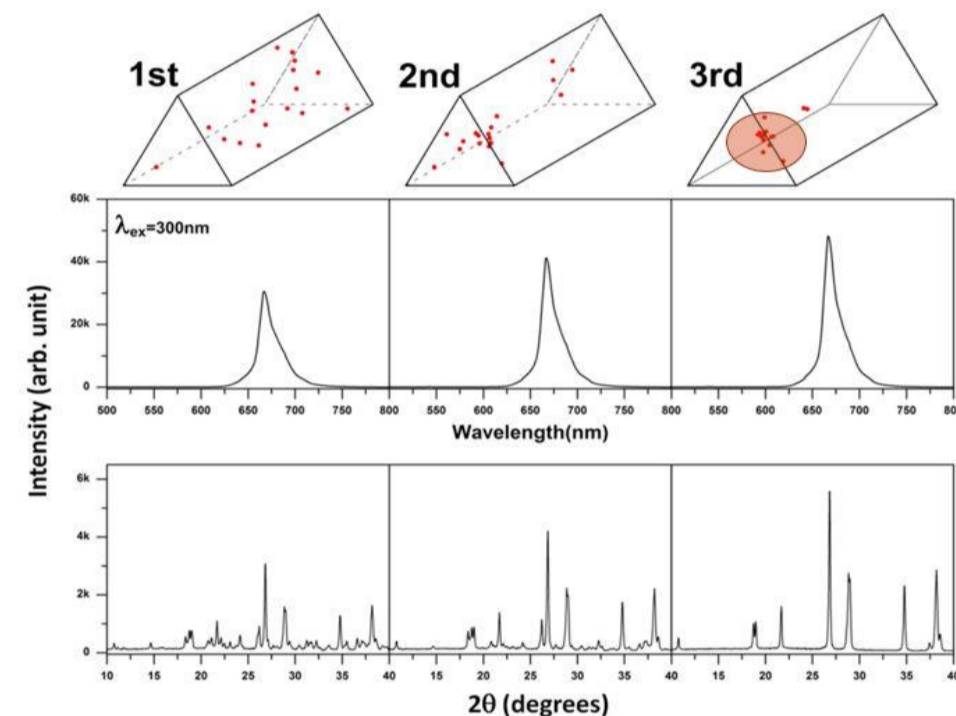
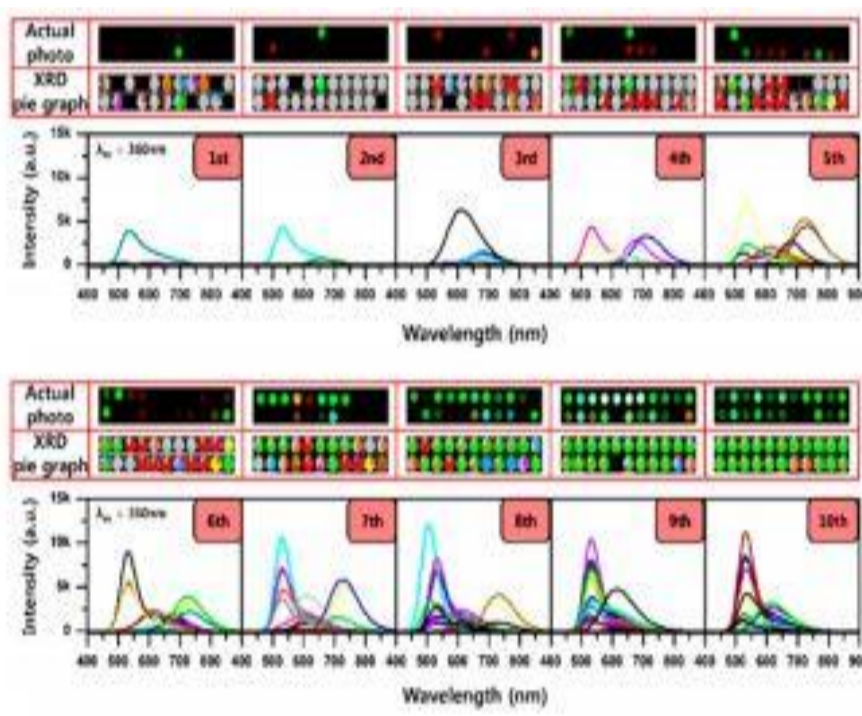


Martensitic Trump



Martensitic Wolf

Artificial Intelligence



Metaheuristics

Heuristics optimization-based Combi-chem



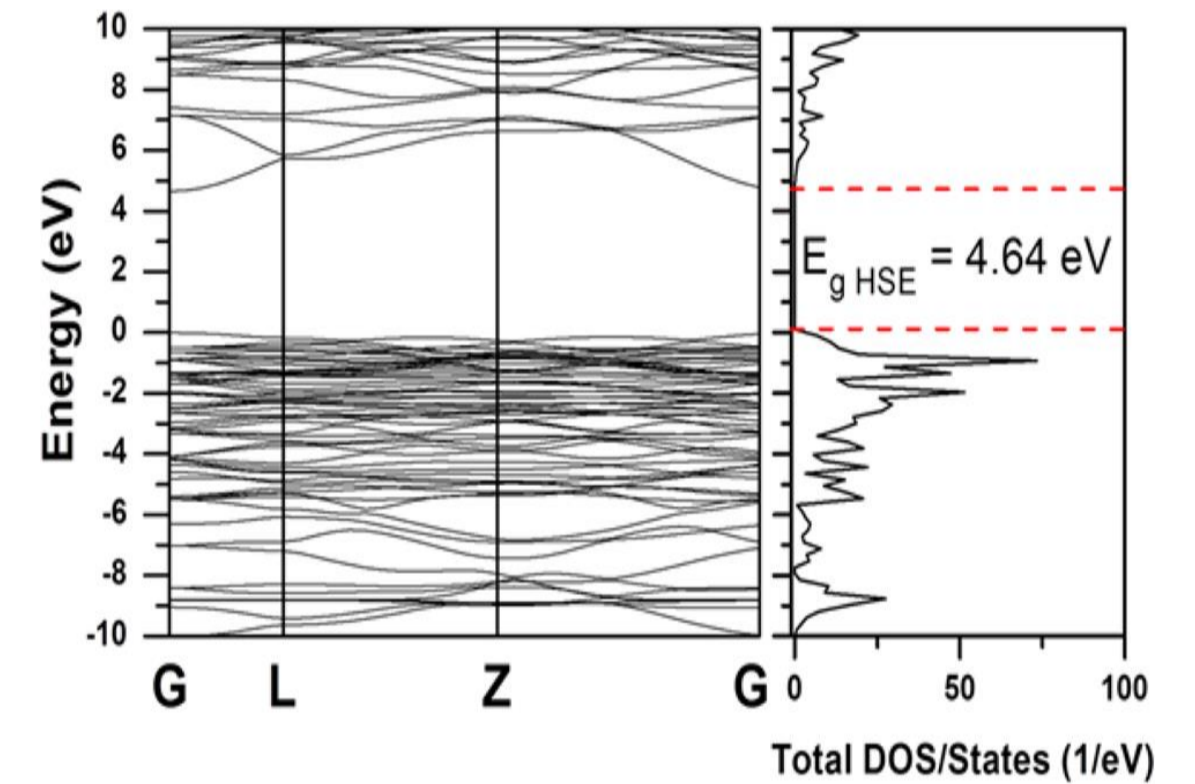
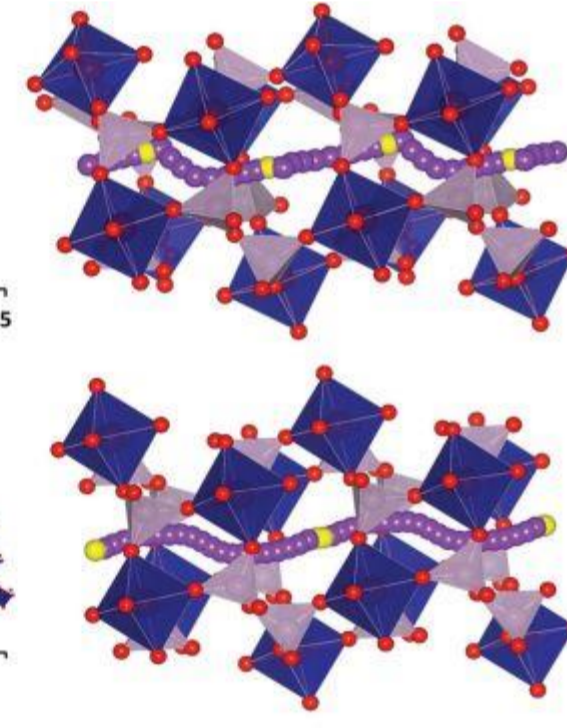
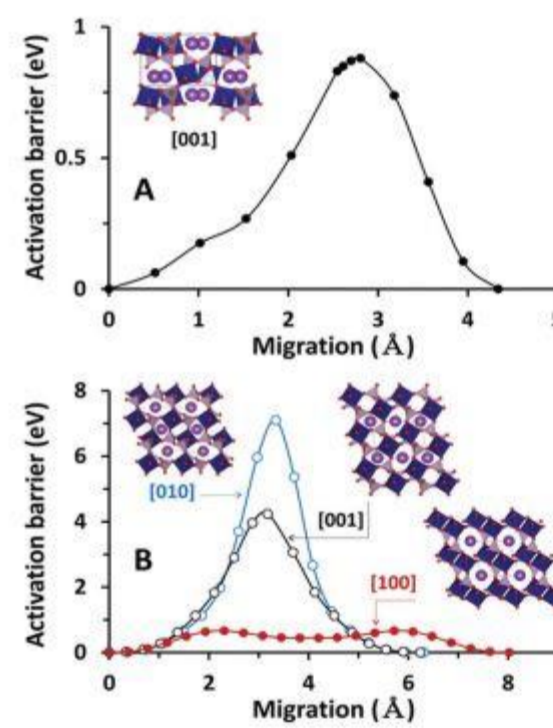
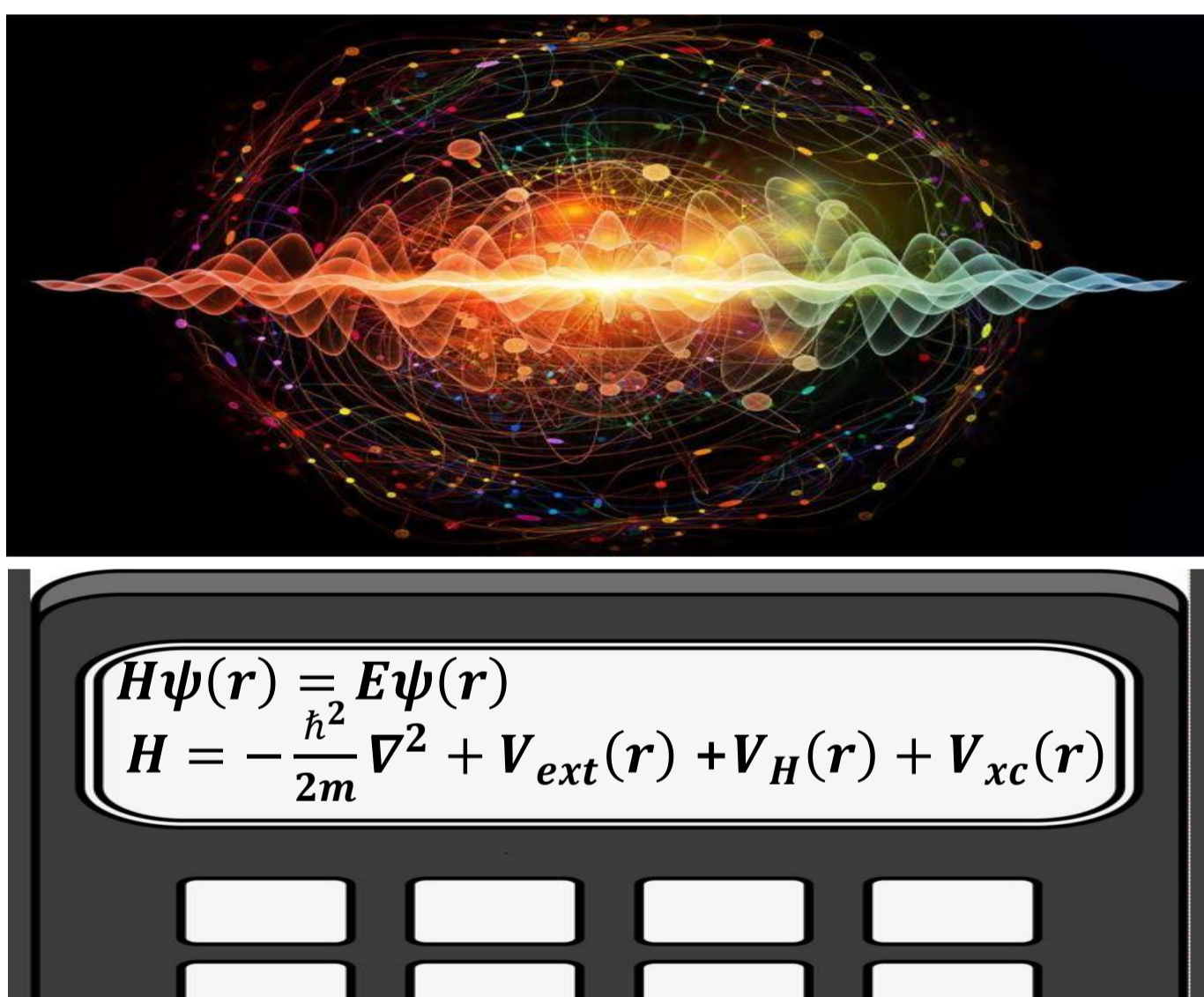
Computation
NSGA & PSO



Experimental Evaluation
of fitness
HTE based-Synthesis &
characterization



Parameterization
of material
novelty
Crystallographic
data base

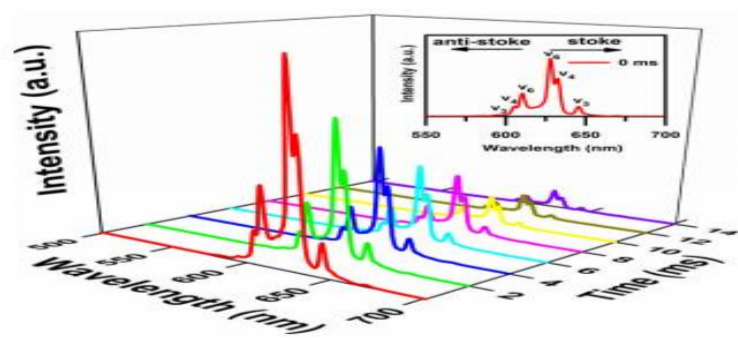


Ab Initio Calculation

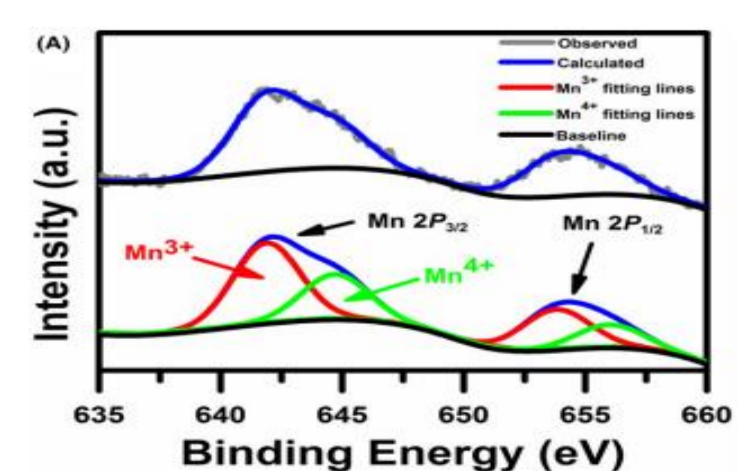
Phosphor

Inorganic phosphor material

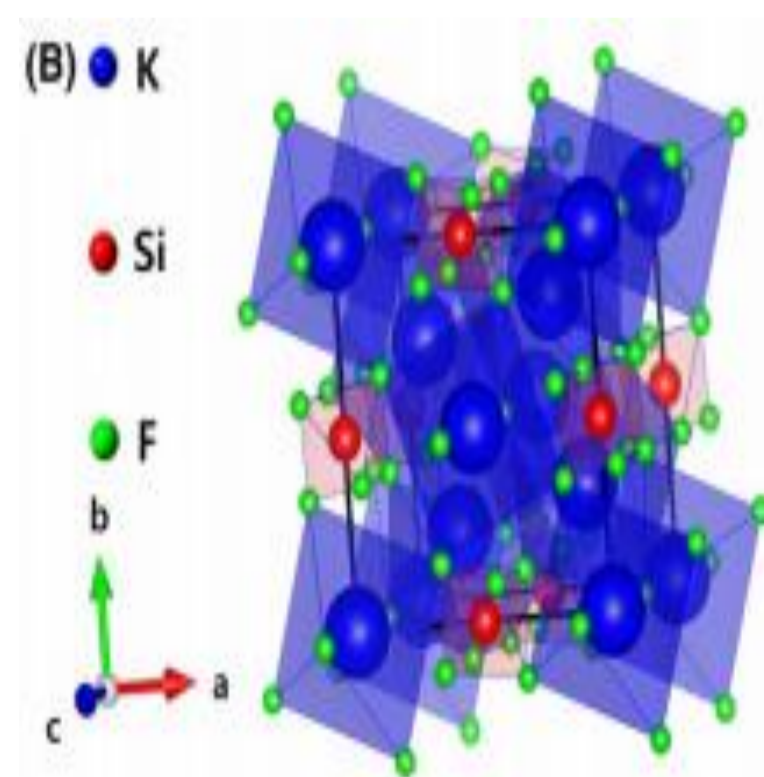
Material that absorbs external energy and emits visible light



Time-resolved photoluminescence spectra



X-ray photoelectron spectra

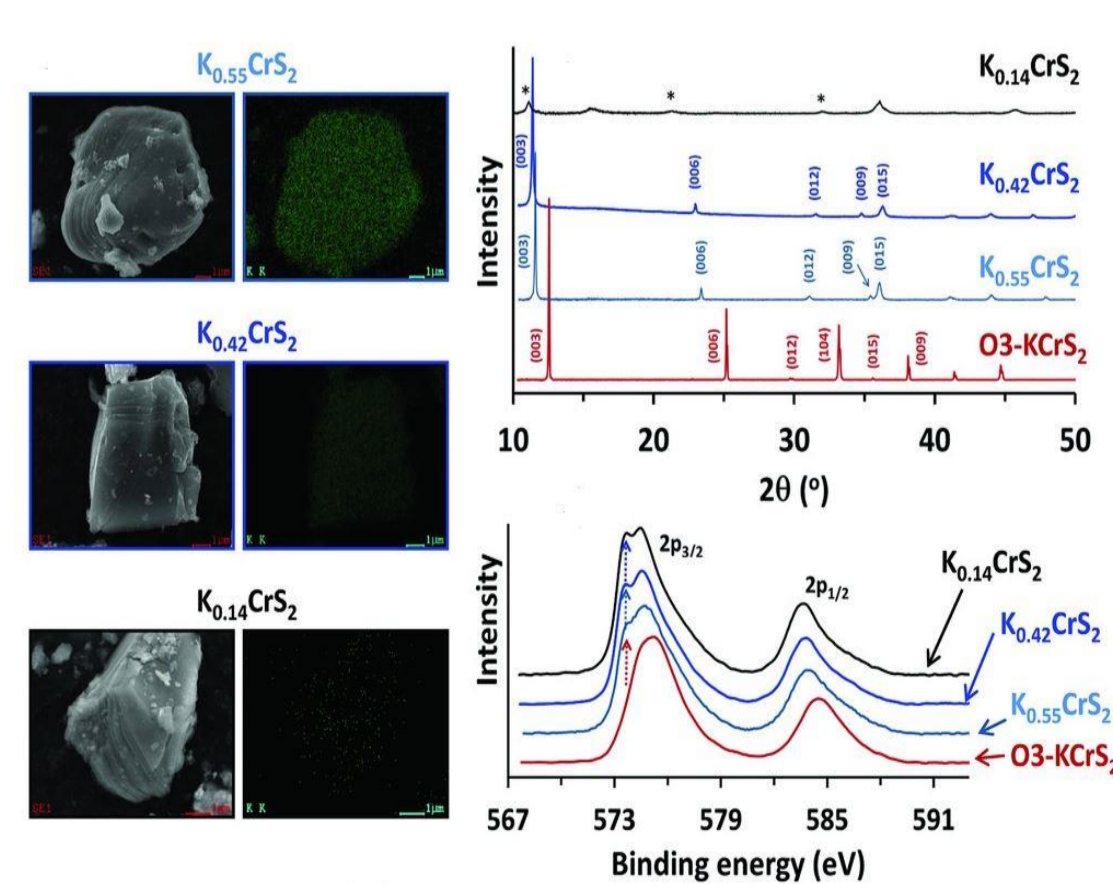


Red phosphor
Crystal structure

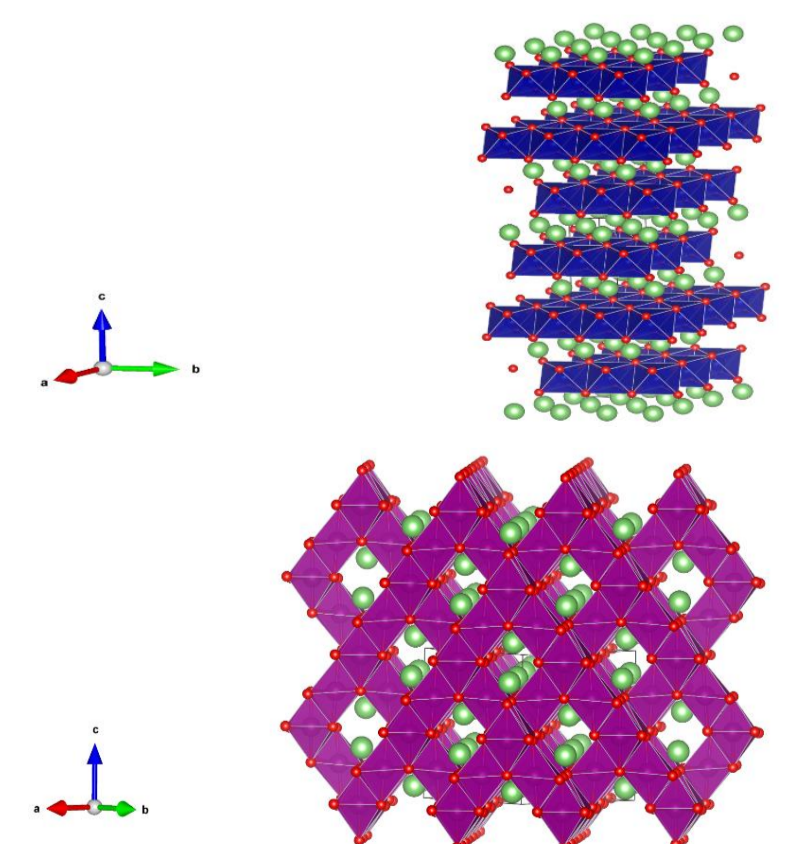
디스플레이, 조명 LED 등 각 분야에 최적화된 특성을 가지는 신규 무기 형광체를 탐색 개발한다.

Secondary battery

Non-lithium secondary battery cathode material



Potassium cathode material



Cathode material structure

대용량 이차전지 시장의 확대에 따라, 리튬 이차전지를 대체할 수 있는 양극 활물 질에 대한 기술수요가 증대하는 것에 대응하여, 리튬에 비해 저렴하여 대용량 이차전지에 적용 수 있는 신물질 탐색 개발한다.