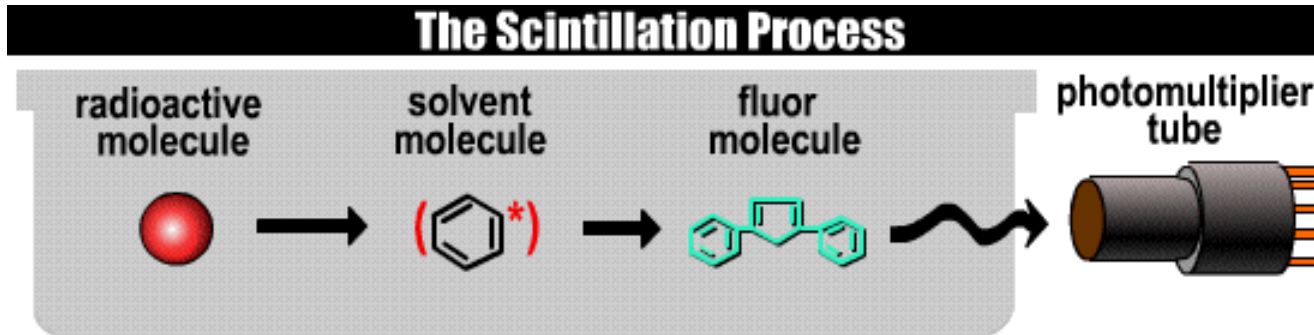


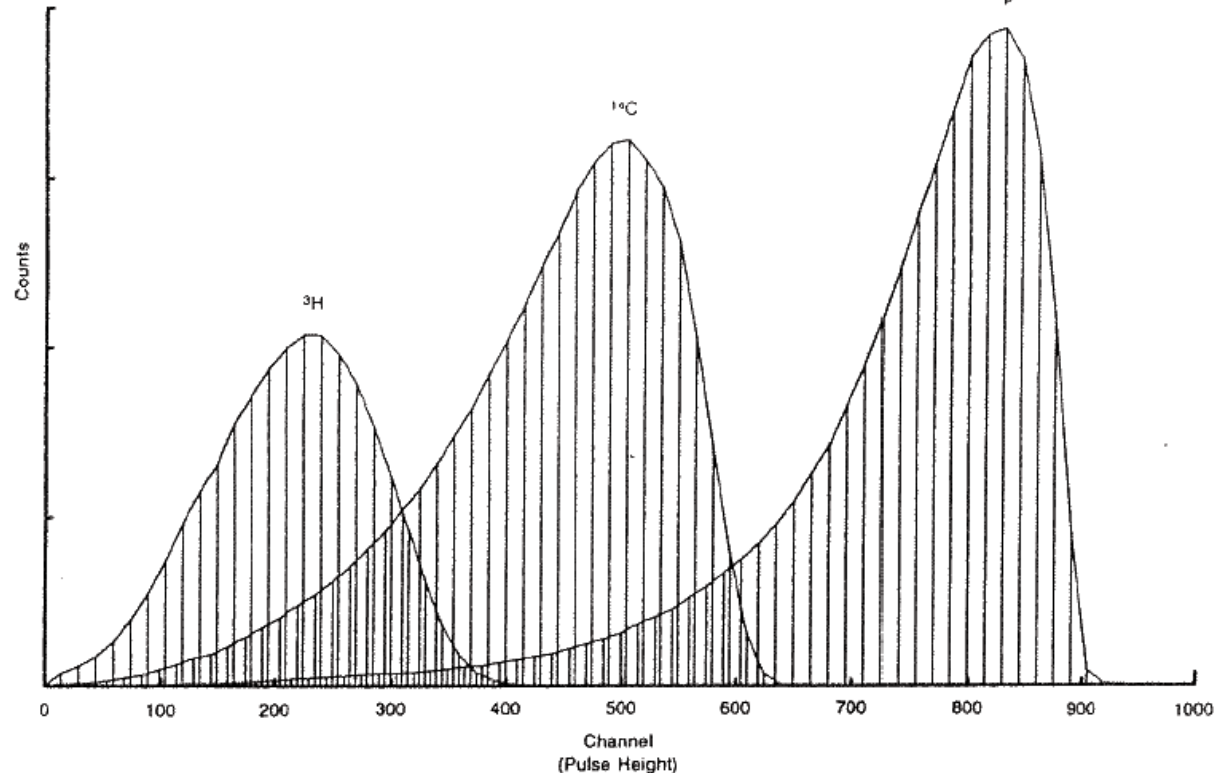
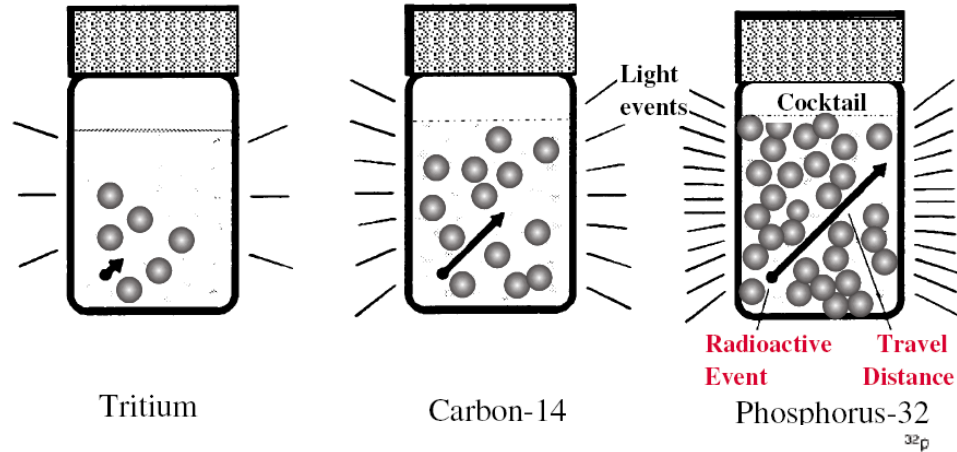
Scintillation Counter



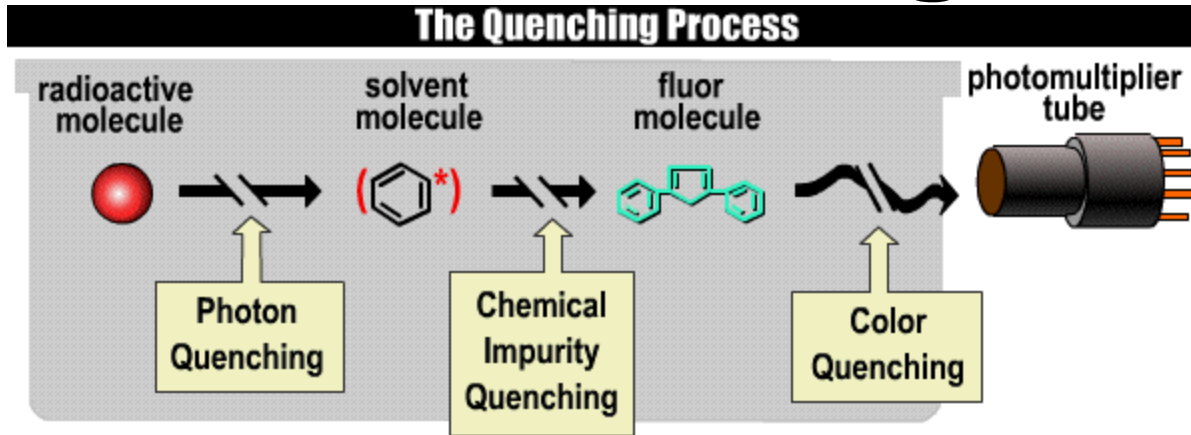
- Scintillation Cocktail contains solvent and fluor (or solute) molecules.
- Solvent is good at capturing energy of β -particle (electron), but often does not produce light.
- A fluor molecule enters an excited state following interaction with excited solvent.
- The excited fluor molecule decays to ground state by emitting light (usually in blue wavelength)
- Blue light is detected by photomultiplier tube (usually two PMT are used to minimize PMT errors).

β -Energy and Light Intensity

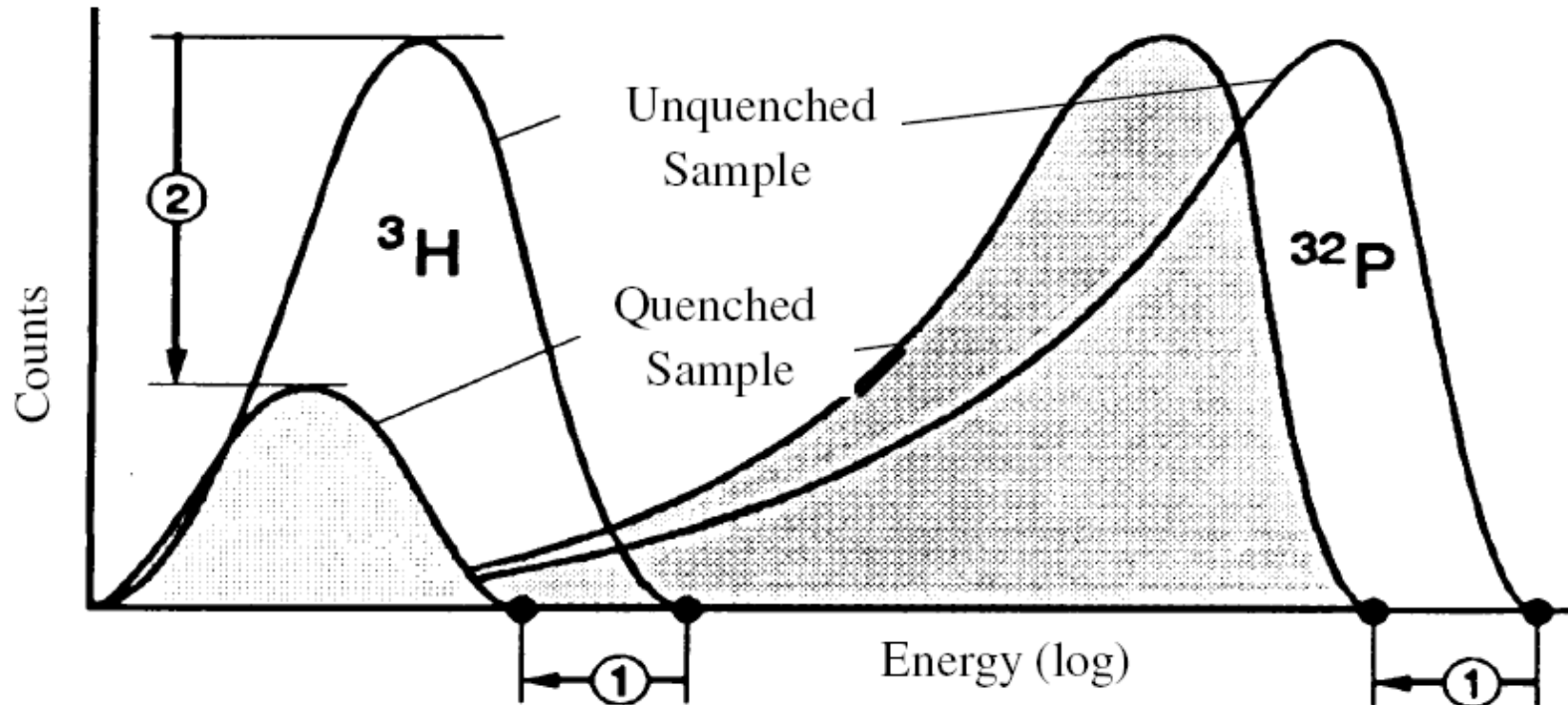
Stronger β emitters generate stronger pulses of light, so that ^3H , ^{14}C , and ^{32}P can all be distinguished and counted at the same time.



Quenching

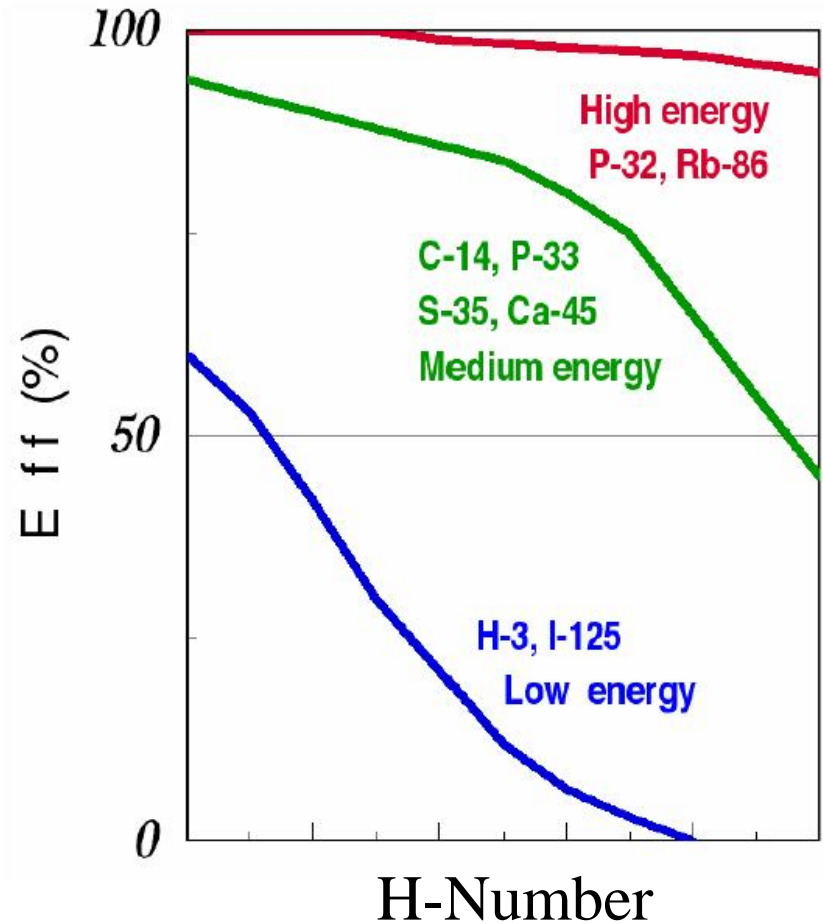
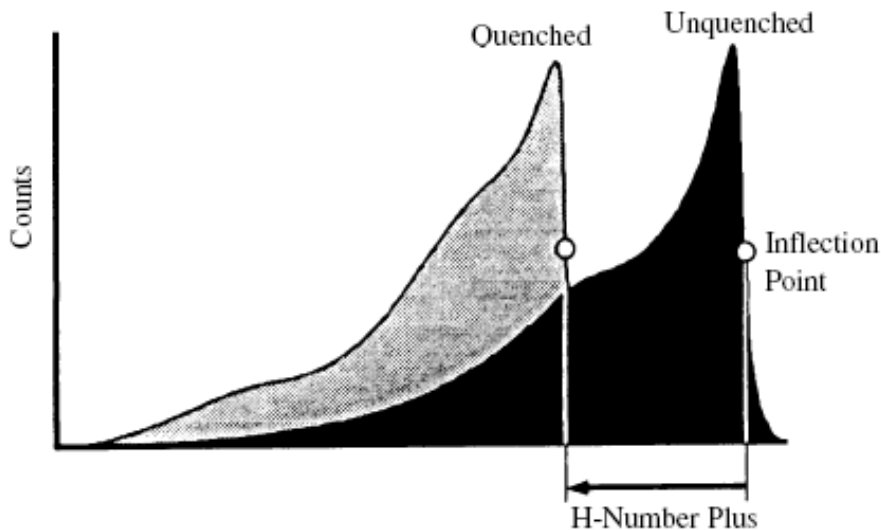
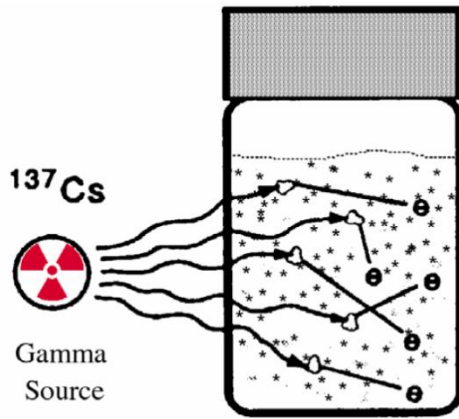


Effects of Quenching



Beckman's H#

Compton electrons



The larger the H number the greater the quenching