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## Phase-vanishing method with gas evolution and its application to organic synthesis

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### ABSTRACT

Using a phase-vanishing (PV) system, hydrogen, oxygen, and hydrogen sulfide generated in situ from  $\text{CaH}_2$ ,  $\text{KO}_2$ , and  $\text{P}_2\text{S}_5$ , respectively, were directly reacted with substances in the organic phase to afford the desired products. The selective synthesis of sulfides and disulfides was achieved with the evolution of  $\text{H}_2\text{S}$  gas via tuning the bases used in the PV method. Using this PV system, reactions with hazardous gaseous reagents can be carried out easily and safely in a common test tube.

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