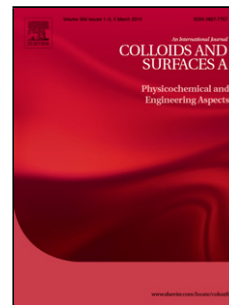


## Accepted Manuscript

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PII: S0927-7757(17)30412-0  
DOI: <http://dx.doi.org/doi:10.1016/j.colsurfa.2017.04.073>  
Reference: COLSUA 21585

To appear in: *Colloids and Surfaces A: Physicochem. Eng. Aspects*

Received date: 16-1-2017  
Revised date: 13-4-2017  
Accepted date: 28-4-2017

Please cite this article as: Alberto Gonzalez-Jordan, Lazhar Benyahia, Taco Nicolai, Cold gelation of water in water emulsions stabilized by protein particles, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* <http://dx.doi.org/10.1016/j.colsurfa.2017.04.073>

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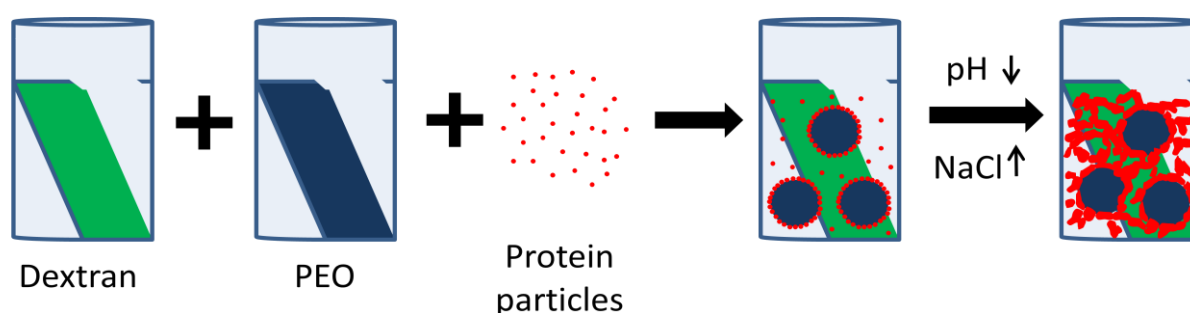
## Cold gelation of water in water emulsions stabilized by protein particles.

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### Graphical abstract



### Highlights

- Reducing pH or adding salt induces gelation of protein fractal and microgels
- Cold gelation can be induced in protein particle stabilized W/W emulsions gels
- Gelation of excess protein particles inhibits creaming in W/W emulsions
- The relative rate of creaming and gelation determines the steady state
- The gel stiffness is increased by the presence of dextran and PEO droplets

### Abstract

Model water in water (W/W) emulsions were formed by mixing polyethylene oxide (PEO) and dextran in aqueous solution. The emulsions were stabilized by addition of 5 g/L fractal aggregates or microgels of proteins that accumulated at the interface between the two polymer phases. Excess protein particles partitioned to the dextran phase for  $\text{pH} > 4.0$ .

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