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[1] EESG3 Soft Condensed Matter, Forsch ngsJentr m JKlich L mMN, C ilhelmGohnen StraQe, DG5242PJKlich, L erman Q
[2] JFNSG3 REESG3 Neutron Scattering, Forsch ngsJentr m JKlich L mMN, C ilhelmGohnen StraQe, DG5242PJKlich, L erman Q
[3] EESG6 Str ctural Biochemistr Q Forsch ngsJentr m JKlich L mMN, C ilhelmGohnen StraQe, DG5242PJKlich, L erman Q
[4] JKlich Fentre Hor Neutron Science SFNSTat NeinJ MaierGeiMnitJ Zentr m SMUZT, Forsch ngsJentr m JKlich L mMN, UchtenMergstrasse 1, DGP5D4PL arching, L erman Q
[5] EESG5 Molec lar BiophQsics, Forsch ngsJentr m JKlich L mMN, C ilhelmGohnen StraQe, DG5242PJKlich, L erman Q
[6] EWhQsiXalisches Enstit t SEAT, AL BiophQsiX, YC ZN Aachen, SommerHldstrasse 14, DG52[D4 Aachen, L erman Q
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Molecular recogni ion via pro ein-ligand in erac ions is of fundamen al impor ance o numerous processes in living organisms. The behaviour of biomolecules in a empera ure gradien , : no; n as hermodiffusion or hermophoresis, changes ; hen a ligand binds. Microscale hermophoresis <M=T> uses his sensi ivi ? of he hermophore ic response o access informa ion on binding d?namics, al hough he ph?sicochemical processes are s ill unclear @AB Cddi ionall?, hermophoresis is promising as a ool o gain informa ion on he h?dra ion la?er and ho; i changes due o compleD forma ion. E e use infra-red hermal diffusion forced Fa?leigh sca ering <GF-THIF=> in a empera ure range from AJ o KJaL o inves iga e he hermodiffusion proper ies. Gi previous s udies @NB; e used c?clodeDrin-aspirin as a model s?s em for compleDes and sho; ed ha he empera ure dependence of he hermodiffusion behaviour is sensi ive o solu e-solven in erac ions. No; ; e shif our focus o he pro ein s rep avidin <=C> and i s bio in compleD =imilar o he c?clodeDrins, forma ion of he =C-bio in compleD leads o a ; ea: er empera ure sensi ivi ? of he hermodiffusion behaviour, al hough he effec is more pronounced. This indica es a less h?drophilic compleD. To Quan if? he influence of s ruc ural fluc ua ions and conforma ional mo ion of he pro ein on he en rop? change of i s h?dra ion la?er upon ligand binding, ; e combine Quasi-elas ic incoheren neu ron sca ering <PQN=> and iso hermal i ra ion calorime r? <GL> da a. Cs he PQN= measuremen s are onl? possible in heav? ; a er, he GL need o be performed in heav? ; a er as ; ell in order o gain a be er unders anding of he h?dra ion la?er. The aim of his ; or: is o develop a microscopic unders anding of he correla ion be ; een he s reng h of solu e-solven in erac ions and he hermophore ic behaviour.

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