

Efficient determination of diffusion coefficients by monitoring transport during recovery delays in NMR

Rafal Augustyniak,^{a,b,c} Fabien Ferrage,*^{a,b,c} Christian Damblon,^d Geoffrey Bodenhausen^{a,b,c,e} and Philippe Pelupessy^{a,b,c}

^a *Ecole Normale Supérieure, Département de Chimie, 24 rue Lhomond, 75231 Paris Cedex 05, France*

^b *Université Pierre et Marie Curie, Paris, France*

^c *UMR 7203 Laboratoire des Biomolécules CNRS-UPMC-ENS, Paris, France*

^d *Chimie Biologique Structurale, Institut de Chimie, Sart-Tilman (B6c), Université de Liège, 4000 Liège, Belgium*

^e *Institut des Sciences et Ingénierie Chimiques, BCH, Ecole Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland*

* Corresponding author: Fabien.Ferrage@ens.fr

Electronic Supplementary Information

Molecule name	Molecular mass [kDa]	$R_1(^1\text{H})$ [Hz]	$R_1(^{15}\text{N})$ [Hz]	$\kappa = R_1(^1\text{H})/R_1(^{15}\text{N})$
ubiquitin	8.6	4.63 ± 0.16	1.66 ± 0.05	2.79
RNA kissing complex	9.5	17.5 ± 1.1	0.67 ± 0.02	26.1
RKIP	20	10.4 ± 1.4	0.98 ± 0.02	10.6
BS2	25	16.0 ± 1.7	0.85 ± 0.08	18.8
BC3	30	14.1 ± 1.6	0.74 ± 0.03	19.1

Tab. S1. Average experimental longitudinal relaxation rates of amide and imino protons and nitrogen-15 nuclei in human ubiquitin, RKIP, BC2 and BS3 and the RNA kissing complex. The experimental conditions were identical to those employed for measurements of diffusion constants. Experiments on proteins were all carried out at 293 K, those on RNA at 278 K.