Contents

Chapter 1 9
General introduction

Chapter 2 21
Rationale and design of the B-PROOF study, a randomized controlled trial on the effect of supplemental intake of vitamin B12 and folic acid on fracture incidence

Chapter 3 41
Cross-sectional and longitudinal association between homocysteine, vitamin B12 and physical performance in older persons

Chapter 4 59
Elevated homocysteine levels are associated with low muscle strength and functional limitations in older persons

Chapter 5 77
Homocysteine and the methylenetetrahydrofolate reductase 677C→T polymorphism in relation to muscle mass and strength, physical performance and postural sway

Chapter 6 95
High circulating folate concentrations are associated with low-grade inflammation: an explanation for the homocysteine paradox?

Chapter 7 109
Effect of daily vitamin B12 and folic acid supplementation on fracture incidence in elderly individuals with an elevated plasma homocysteine level: B-PROOF, a randomized controlled trial

Chapter 8 131
A randomized controlled trial to the effect of 2-year supplementation of B-vitamins on physical functioning, strength, and falling: additional findings from the B-PROOF study

Chapter 9 149
Effect of vitamin B12 and folic acid supplementation on bone mineral density and quantitative ultrasound parameters in older people with an elevated plasma homocysteine level: B-PROOF, a randomized controlled trial

Chapter 10 169
General discussion

Summary 193

Samenvatting 199

Acknowledgements 205
Dankwoord

About the author 211
List op publications